

- 5.2 Introduction
- 5.4 Diodes & Rectifiers
- 5.46 Transistors
- 5.124 Triacs, Thyristors and Diacs
- 5.130 Sensors
- 5.130 Cross Reference General Application discretes
- 5.140 Cross Reference Power discretes
- 5.180 Cross Reference RF discretes

## Discrete Components

## EXCEPTIONAL CHOICE IN ... DISCRETE COMPONENTS

Playing an essential role in every application, our complete portfolio contains innovative, highly integrated power discretes including transistors, diodes and triacs; a vast selection of small-signal general application products; and advanced RF devices for base station and broadcast applications. We are continually expanding our offering, introducing new products and packages which continue to push back the boundaries of reliability and performance.

### **Power**

One of Philips Semiconductors' strengths in discrete semiconductors is our power portfolio, backed by a world-renowned reputation for quality that meets even stringent automotive requirements. Proven, state-of-the-art smart power technologies ensure our extensive range of MOSFETs, fast switching bipolar transistors, power diodes, and triacs and thyristors match your power needs in a myriad of applications. With sophisticated design processes, along with excellence in manufacturing, supply chain logistics and support, Philips Semiconductors' commitment continually enhancing and expanding our offering delivers outstanding price / performance power solutions.

### **General application (GA)**

One of the broadest and deepest portfolios of general application discretes enables Philips Semiconductors to service many diverse markets. Continually innovating in what can often be seen as a static market, Philips Semiconductors is recognized for many of the major advances in package options – including the development of surface mount technology – and is actively driving the integration of passive and active components into a single package. Committed to delivering highest quality products at the lowest cost-of-ownership in the industry, a full one-stop-shop capability is supported by world-class service and logistics.

### **RF**

Recognized globally as a leading supplier of RF modules and discretes, Philips Semiconductors offers one of the broadest portfolios, coupled with high volume manufacturing capability - and with our unrivalled understanding of RF, this makes us the ideal one-stop-shop for RF modules and discretes. Setting the performance standards for others follow, based on our world-leading RF design, process and packaging technologies, ensures you benefit from proven, leading-edge products - from single transistors to complex modules. Delivering products dedicated to specific applications, we are committed to supplying you with next-generation solutions which meet tomorrow's market needs - today

**Contents**

<b>1. Diodes &amp; Rectifiers</b>			
• AM pin diodes	5.4	• 75V - 300V MOSFETs (N-channel)	5.72
• Damper & modulator diodes	5.6	• 25V - 300V multi-chip MOSFETs (N-channel/P-channel/complementary)	5.74
• Dual diode - damper / modulator	5.6	• PIP3	5.76
• GA high-speed switching diodes	5.8	• PIP2xx - Philips Intelligent Power, an integrated solution	5.78
• GA low leakage current diodes	5.10	• 30V - 55V N-channel automotive MOSFETs	5.80
• GA filters	5.10	• 75V - 100V N-channel automotive MOSFETs	5.84
• GA low-voltage stabistors	5.10	• Trenchplus - automotive MOSFETs with protection features	5.86
• RF pin diodes	5.12	• TOPFET1 - low side devices	5.88
• Bandswitch diodes	5.12	• TOPFET1 - high side devices	5.88
• Fast soft-recovery rectifiers	5.14	• TOPFET1 - general features	5.90
• General purpose rectifiers	5.16	• TOPFET2 - low side devices	5.92
• High voltage rectifiers	5.18	• TOPFET2 - high side devices	5.94
• PFC & hyperfast recovery rectifiers	5.20	• TOPFET2 - general features	5.96
• Ultrafast recovery diodes	5.22	• GA Resistor-Equipped Transistors (RET)	5.98
• Ripple blocking diodes	5.28	• Cellular base-station amplifier modules	5.102
• GA schottky diodes	5.30	• Cellular base-station RF power transistors	5.104
• Schottky diodes	5.34	• Broadcast RF power transistors	5.106
• TV & satellite varicap diodes - UHF tuning	5.36	• Avionics, L-band and S-band radar power transistors	5.108
• TV & satellite varicap diodes - VHF tuning	5.36	• Power amplifier modules	5.110
• Vco varicap diodes	5.38	• Wideband transistors	5.112
• Radio varicap diodes FM radio tuning	5.38	• MMIC General purpose wideband amplifiers, 50 ohm gain blocks	5.116
• Zenblock™ - zener with integrated blocking diode (one for two - 142) – NEW	5.40	• MMIC Low noise wideband amplifiers	5.116
• GA zener diodes	5.42	• MMIC 2 stage variable gain linear amplifier	5.116
• Zener diodes and transient voltage suppressors	5.44	• MMIC Wideband linear mixer	5.116
		• GA switching transistors	5.118
<b>2. Transistors</b>			
• Horizontal deflection transistors	5.46	<b>3. Triacs, Thyristors and Diacs</b>	
• Dynamic focus transistors	5.46	• Three-quadrant triacs	5.120
• Lighting transistors	5.48	• Four-quadrant triacs	5.122
• GA general purpose transistors	5.50	• Diac	5.124
• GA darlington transistors	5.54	• Thyristors	5.125
• GA high-voltage transistors	5.55	<b>4. Sensors</b>	
• N-channel junction Field-Effect Transistors (small signal)	5.56	• Philips rotational speed sensors	5.126
• P-channel junction Field-Effect Transistors for switching (small signal)	5.56	• Philips angle measurement sensors and signal conditioning ICs	5.128
• N-channel, single gate MOSFETs for switching (small signal)	5.57	• Philips magnetic weak-field sensors	5.128
• N-channel junction Field-Effect Transistors for switching (small signal)	5.57	• Philips Semiconductors' temperature sensors	5.128
• N-channel, dual gate MOSFETs (small signal)	5.58	<b>5. Cross Reference General Application discretes</b>	
• GA low $V_{CESAT}$ (BISS) transistors	5.60	<b>6. Cross Reference Power discretes</b>	
• GA low noise transistor	5.62	<b>7. Cross Reference RF discretes</b>	
• GA medium frequency transistors	5.62		
• GA special solutions	5.63		
• 12V - 300V P-channel MOSFETs	5.64		
• 20V - 50V MOSFETs (N-channel)	5.66		
• 55V - 60V MOSFETs (N-channel)	5.70		

For package outlines, please refer to the package overview at the end of this guide.

# Diodes & Rectifiers

## AM PIN DIODES

CHARGE CARRIER LIFE TIME ( $\mu$ s)	DIODE CAPACITANCE (pF)	100 kHz DIODE SERIES RESISTANCE (MOhm)	1 MHz DIODE SERIES RESISTANCE (kOhm)	PACKAGE		TYPICAL APPLICATION  (Car) Radio R
				SMD SOD106 BAQ806	LEADED SOD81 BAQ800	
25	5*	12*	250*			

\* at VR = 2V

## RELATED LITERATURE

### Title

Philips Comprehensive Product Portfolio (CD-ROM)

### Order code

9397 750 07536

## Why choose

### *Philips Semiconductors'...?*

#### **...SOD106 diodes**

Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series).

These SOD106 rectifiers are the same size as the SMA package but with the SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

#### **Features and benefits**

- \* High carrier life time gives low distortion of AM signals
- \* Large forward resistance change over current range gives large AGC range
- \* Can be used with an active AM antenna (50/75 Ohm) for increased AGC range
- \* Surface mount package helps in miniaturisation of circuit
- \* Low leakage current for optimum sensitivity

# Diodes & Rectifiers

## DAMPER & MODULATOR DIODES

$V_{RRM}$ (V)	$I_{F(av)}$ (A)	$V_{F(max)}$ (V)	$V_{F(typ)}$ (V)	$t_{fr(typ)}$ (ns)	$t_{rr(max)}$ (ns)	LEADED PACKAGES					TYPICAL APPLICATIONS		
						SOD57	SOD64	SOD113 (2-pin SOT186A)		SOD59 (TO220AC)	SOD100 (2-pin SOT186)	TV	Monitor
500	9	1.03	2.5	100	60			BYV29X-500	BYV29-500	BYV29F-500		5	
600	9	1.03	2.5	100	60			BYV29X-600	BYV29-600			5	
200	8	1.85	15	180	135			BY229X-200			2 / 3		
600	8	1.85	15	180	135			BY229X-600	BY229-600	BY229F-600	2 / 3		
800	8	1.85	14	180	135			BY229X-800		BY229F-800	2 / 3		
1500	2	1.85	10	500	500		BY328				2		
1500	2	1.85	10	250	250		BY428				2		
1000	8	1.85	15	180	135				BY329-1000		3	2	
1200	8	1.85	15	180	135			BY329X-1200	BY329-1200		3	2	
1500	7	1.45	17	210	230			BY329X-1500			3	2	
1500	7	1.60	23	220	160			BY329X-1500S	BY329-1500S		3	2	
1500	10	1.50	11	280	600			BY359X-1500	BY359-1500	BY359F-1500	3	6	
1500	10	2.00	17	280	350			BY359X-1500S			3	6	
1500	20	1.30	8	170	350			BY459X-1500	BY459-1500	BY459F-1500	4	6	
1500	20	1.35	11	200	220			BY459X-1500S			4	7	
1650	1	1.60	16	600	1000	BY448					2	1	
1650	2	1.50	12	800	1000		BY228				2		

## DUAL DIODE - DAMPER / MODULATOR

$V_{RRM}$ (V)	$I_{FSM}$ (A)	QS ( $\mu\text{C/nC}$ )	LEADED PACKAGES		TYPICAL APPLICATIONS	
			SOT186A	SOT399 (TOP3D)	TV	Monitor
1500 / 600	60 / 70	2.0 / 70	BYM357X	BYM357DX	2 / 3	2
1500 / 600	60 / 70	0.95 / 70	BYM358X	BYM358DX	2 / 3	2
1500 / 800	60 / 70	2 / 700	BYM359X		2	2
1500 / 800	60 / 70	2 / 700		BYM359DX	2 / 3	2
1500 / 800	60 / 66	0.95 / 200	BYM362X		2 / 3	2

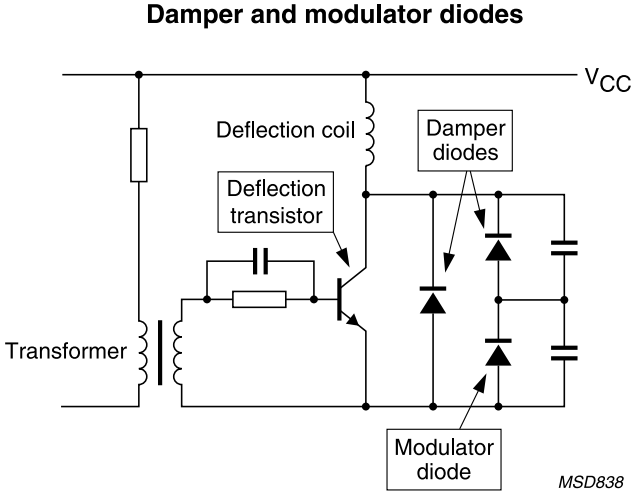
APPLICATIONS KEY

TV

- 1 = Monochrome TV
- 2 = Colour TV
- 3 = Improved Definition TV (IDTV)
- 4 = High Definition TV (HDTV)

Monitor

- 1 = 14" Monitor
- 2 = 14"-15" Monitor
- 3 = 14"-17" Monitor
- 4 = 15" Monitor
- 5 = 15"-17" Monitor
- 6 = 17" Monitor
- 7 = 17"-19" Monitor
- 8 = 19"-21" Monitor



Why choose  
*Philips Semiconductors'...?*

- ...Damper and modulator diodes**
- \* Complete range of high voltage damper diodes ranging from 500 to 1700V.
  - \* Low loss, low Vf and fast switching characteristics ideally suited for all TV and Monitor applications.
  - \* Full range of industry standard packages.
  - \* Fully compatible with Philips Semiconductors Range of Deflection Transistors.
  - \* The BYM range offers dual damper/modulator diode combinations, simplifying circuit layout and reducing component count.

# Diodes & Rectifiers

## GA HIGH-SPEED SWITCHING DIODES

V <sub>r</sub> max. (V)	I <sub>F(AV)</sub> max. (mA)	I <sub>FRM</sub> max. (mA)	I <sub>FSM</sub> max. (A)	I <sub>RRM</sub> max. (mA)	V <sub>F</sub> @ I <sub>F</sub>		C <sub>j</sub> max. (pF)	t <sub>r</sub> max. (ns)	LEADED				
					(mV)	(mA)			SOD68 DO-34	SOD27 DO-35 1N4151	SOD80C	SOD523 SC-79	
50	200..215	450..500	4	-	880..1000	50	2	4					
50	215	450	4	-	1000	100	1.5	4					
50	250	625	9	-	1000	100	5	50					
50	300	450	4	-	1000	200	2.5	6					
50	300	600	4	-	1000	200	2.5	6					
60	300	600	9	-	1000	200	2.5	6					
70	215	450..500	4	-	1000	50	1.5	4					
75	75	225	4	-	1000	10	4	4					
75	200	450	4	-	1000	10	2.4	2..4					
75	150..250	450..500	4	-	1000	50	1..2	4	1N4531 1N4532	1N914 1N914A 1N914B 1N4148	PMLL4151 PMLL4153 BAV100 PMLL4148L LL4148**		BAS516
75	200	450	4	-	930..1000	100	2..4	4		1N4448 BAW62	BAS32L PMLL4448 LL4448**		
75	500	2000	55	-	1000	300	35	50		BAX18			
80	200..250	500	4	-	1000	50	1.5..2	4					
90	250	500	10	600	1000	200	35	50					
90	400	800	55	600	1000	200	35	50		BAX12 BAX12A			
100	215	450	4	-	1000	50	1.5	4					
100	250	625	9	-	1000	100	5	50					
100	200	625	9	-	1000	100	5	50					
150	250	625	9	-	1000	100	5	50					
150	200	625	9	-	1000	100	5	50					
200	250	625	9	-	1000	100	5	50					
200	200..250	625	9	-	1000	100	2..5	50					
200	300	1000	20	-	1400	300	2	50					

c.c. - common cathode  
c.a. = common anode

ser. = series  
rev. = reverse pinning

\*\*under development

SMD									
SOT490 SC-89	SOT416 SC-75	SOD323 SC-76	SOT323 SC-70	SOT363 SC-88	SOD110	SOT23	SOT143	SOT346 SC-59	
						BAL74 (rev.) BAV74 (2 c.c.)			
							BAS56 (2 par.)		
						BAL99 (rev.) PMBD6050 PMBD6100 (2 c.c.) PMBD914			
	BAS16T BAV70T (2 c.c.) BAW56T (2 c.a.)	BAS316	BAL74W (rev.) BAL99W (rev.) BAS16W BAV70W (2 c.c.) BAV99W (2 ser.) BAW56W (2 c.a.)	BAV70S (4 c.c./c.c.) BAV756S (4 c.a./c.c.) BAW56S (4 c.a./c.a.) BAV99S (4 ser./ser.)	BAS216	BAS16 BAV70 (2 c.c.) BAV99 (2 ser.) BAW56 (2 c.a.)	BAS28 (2 par.)		
1PS89SS04 (2 ser.) 1PS89SS05 (2 c.c.) 1PS89SS06 (2 c.a.)				1PS300 (2 c.a.) 1PS301 (2 c.c.) 1PS302 (2 ser.)				1PS193 1PS181 (2 c.a.) 1PS184 (2 c.c.) 1PS226 (2 ser.)	
						BAS29 BAS31 (2 ser.) BAS35 (2 c.a.)			
						PMBD7000 (2 ser.)			
						BAS19			
						BAS20			
		BAS321				BAS21 BAV23S (2 ser.)	BAV23		
					BAS221				

# Diodes & Rectifiers

## GA LOW LEAKAGE CURRENT DIODES

$V_r$ max. (V)	$I_r$ (AV) max. (mA)	$I_{FRM}$ max. (mA)	$I_{FSM}$ max. (A)	$V_f$ @ max. (mV)	$I_f$ (mA)	$I_r$ @ max. (nA)	$V_r$ (V)	$C_d$ max. (pF)	$t_r$ max. (ns)	LEADED	SMD		
										SOD68 DO-34 BAS45A	SOT323 SC-70	SOT23	SOD80C
75	160..215	500	4	1	10	5	75	2..3typ.	3			BAS116 BAS170 (2 c.c.) BAV199 (2 ser.) BAW156 (2 c.a.)	BAS45AL
75	135	500	4	1	10	5	75	2typ.	3		BAV199W (2 ser.)		

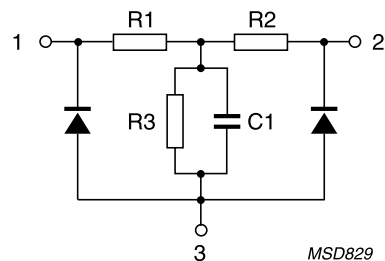
c.c. - common cathode

c.a. = common anode

ser. = series

## GA FILTERS

Description	Operating Volt.	R1	R2	R3	C1	SMD
		( $\Omega$ )	( $\Omega$ )	( $\Omega$ )	(pF)	SOT23
Clock Terminator with ESD protection	0 .. 5 V	45..55	45..55	41.7..51	120..180	PSSI3120CA



## GA LOW-VOLTAGE STABISTORS

$V_r$ max. (V)	$I_{F(AV)}$ max. (mA)	$C_d$ @ $V_r$ max. (pF)	$V_f$ @ $I_f = 5$ mA		$S_r$ @ $I_f$ (mV/K)	$I_f$ (mA)	$r_{on}$ @ $I_f$ and $f = 1$ kHz max.		SMD
			min. (mV)	max. (mV)			( $\Omega$ )	(mA)	SOT23
5	200	140	725	805	-1.8	1	80 typ.	2	BAS17



# Diodes & Rectifiers

## RF PIN DIODES

Type	Package	Conf*	Limits		Rd W type @			Cd (pF) typ @		
			V <sub>r</sub> (V)	I <sub>r</sub> (mA)	0.5 mA	1 mA	10 mA	0 V	1 V	20 V
BAP27-01	SOD723	S	20	50	1.7	1.3	0.7	0.55	0.45	0.37
BAP50-02	SOD523	S	50	50	25	14	3	0.4	0.3	0.22 @ 5 V
BAP50-03	SOD323	S	50	50	25	14	3	0.4	0.3	0.2 @ 5 V
BAP50-04	SOT23	SS	50	50	25	14	3	0.45	0.35	0.3 @ 5 V
BAP50-04W	SOT323	SS	50	50	25	14	3	0.45	0.35	0.3 @ 5 V
BAP50-05	SOT23	CC	50	50	25	14	3	0.45	0.35	0.3 @ 5 V
BAP50-05W	SOT323	CC	50	50	25	14	3	0.45	0.35	0.3 @ 5 V
BAP51-02	SOD523	S	60	60	5.5	3.6	1.5	0.4	0.3	0.2 @ 5 V
BAP51-03	SOD323	S	60	60	5.5	3.6	1.5	0.4	0.3	0.2 @ 5 V
BAP51-05W	SOT323	CC	60	60	5.5	3.6	1.5	0.4	0.3	0.2 @ 5 V
BAP63-01	SOD723	S	50	100	2.5	1.95	1.17	0.36	0.32	0.25
BAP63-02	SOD523	S	50	100	2.5	1.95	1.17	0.36	0.32	0.25
BAP63-03	SOD323	S	50	100	2.5	1.95	1.17	0.4	0.35	0.27
BAP63-05W	SOT323	CC	50	100	2.5	1.95	1.17	0.4	0.35	0.3
BAP64-02	SOD523	S	200	175	20	10	2	0.52	0.37	0.23
BAP64-03	SOD323	S	200	175	20	10	2	0.52	0.37	0.23
BAP64-04	SOT23	SS	200	175	20	10	2	0.52	0.37	0.23
BAP64-04W	SOT323	SS	200	100	20	10	2	0.52	0.37	0.23
BAP64-05	SOT23	CC	200	175	20	10	2	0.52	0.37	0.23
BAP64-05W	SOT323	CC	200	100	20	10	2	0.52	0.37	0.23
BAP64-06	SOT23	CA	200	175	20	10	2	0.52	0.37	0.23
BAP64-06W	SOT323	S	100	100	20	10	2	0.52	0.37	0.23
BAP65-01	SOD723	S	30	100	-	1	0.56	0.65	0.6	0.375
BAP65-02	SOD523	S	30	100	-	1	0.56	0.65	0.6	0.375
BAP65-03	SOD323	S	30	100	-	1	0.56	0.65	0.6	0.375
BAP65-05	SOT23	CC	30	100	-	1	0.56	0.65	0.6	0.375
BAP65-05W	SOT323	CC	30	100	-	1	0.56	0.65	0.6	0.375
BAP70-02	SOD523	S	70	100	70	27	4.5	0.29	0.2	0.125
BAP70-03	SOD323	S	70	100	70	27	4.5	0.29	0.2	0.125
BAP1321-01	SOD723	S	60	100	3.4	2.4	1.2	0.4	0.35	0.25
BAP1321-02	SOD523	S	60	100	3.4	2.4	1.2	0.4	0.35	0.25
BAP1321-03	SOD323	S	60	100	3.4	2.4	1.2	0.4	0.35	0.25
BAP1321-04	SOT23	SS	60	100	3.4	2.4	1.2	0.4	0.35	0.25

## BANDSWITCH DIODES

Type	Package	MAXIMUM RATINGS		CHARACTERISTICS; maximals					
		V <sub>r</sub> (V)	I <sub>r</sub> (mA)	Rd @ IF and f		Cd @ VR and f			
				(mA)	(MHz)	(pF)	(V)	(MHz)	
BA277-01	SOD723	35	100	0.7	2	100	1.2	6	1
BA277	SOD523, SC79	35	100	0.7	2	100	1.2	6	1
BA278	SOD523, SC79	35	100	0.7	2	100	1.2	6	1
BA891	SOD523, SC79	35	100	0.7	3	100	0.9	3	1
BA591	SOD323, SC76	35	100	0.7	3	100	0.9	3	1
BA792	SOD110	35	100	0.7	3	200	1.1	3	1 to 100
BAT18	SOT23	35	100	0.7	5	200	1.0	20	1

## APPLICATIONS KEY

### Telecom

1 = Antenna switch

### Radio

1 = RF Attenuator

### CATV / TV / VCR / DVD, Set top box, Cable modem

1 = RF Attenuator  
2 = Switch

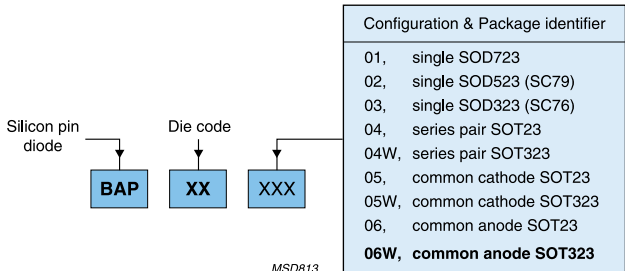
## RELATED LITERATURE

### Title

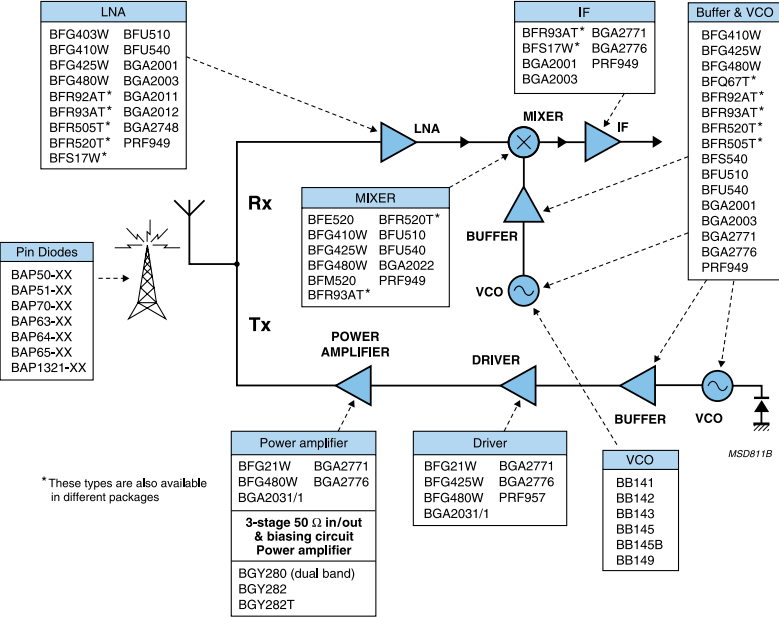
- Philips Comprehensive Product Portfolio (CD-ROM)
- Small-signal Field-effect Transistors and Diodes (databook)
- Discrete Semiconductor Packages (brochure)
- Your PeRFect discretes partner (brochure)
- PeRFectly tuned into your ideas (brochure)
- The PeRFect connection (brochure)
- PIN Diodes replacement card
- PIN Diodes designed for RF applications up to 3Ghz

### Order code

- 9397 750 07536
- 9397 750 06017
- 9397 750 05011
- 9397 750 04634
- 9397 750 07019
- 9397 750 07928
- 9397 750 08573
- 9397 750 08008



## GENERIC CELL-PHONE FRONT-END APPLICATION DIAGRAM.



## Why choose

### Philips Semiconductors'...?

#### ...PIN Diodes and Bandswitch Diodes

\* Our portfolio offers unrivalled performance in a wide variety of RF applications.

#### Benefits

- \* Volume delivery
- \* Short leadtimes
- \* Low series inductance
- \* Low insertion loss
- \* Low capacitance
- \* High reverse isolation

# Diodes & Rectifiers

## FAST SOFT-RECOVERY RECTIFIERS

V <sub>RRM</sub> (V)	I <sub>O(AV)</sub> / I <sub>F(AV)</sub> (A)	trr (ns)	PACKAGE								TYPICAL APPLICATIONS		
			SURFACE MOUNT			LEADED					General	Lighting	
			SOD87	SOD106	SMA (SOD124)	SOD81	SOD57	SOD64	SOD59	SOD100			SOD113
50	1	250			RS1A							G	
100	1	250			RS1B							G	
200	1	250			RS1D							G	
200	1.6	250	BYD37D			BYD33D						G	
200	1.9	250		BYG60D								G	
200	2	250					BYV95A					G	
200	3.7	250						BYW95A				G	
200	8	135								BY229X-200		G	
400	1	250			RS1G							G	
400	1.6	250	BYD37G			BYD33G						G	
400	1.9	250		BYG60G								G	
400	2	250					BYV95B					G	
400	3.7	250						BYW95B				G	
600	1	250			RS1J							G	1 / 2
600	1.6	250	BYD37J			BYD33J						G	1 / 2
600	1.8	100					BYV36C					G	1
600	1.9	250		BYG60J								G	1 / 2
600	2	250					BYV95C					G	1 / 2
600	3.5	100						BYM36C				G	1
600	3.7	250						BYW95C				G	1
600	8	135							BY229-600	BY229F-600	BY229X-600	G	
800	1	300			RS1K							G	1 / 2
800	1.9	300		BYG60K								G	1 / 2
800	8	135								BY229F-800	BY229X-800	G	
1000	1	300			RS1M							G	1 / 2
1000	1.6	300	BYD37M			BYD33M						G	1 / 2
1000	1.8	150					BYV36E					G	1
1000	1.9	300		BYG60M								G	1 / 2
1000	2	300					BYV96E					G	1 / 2
1000	3.5	150						BYM36E				G	1
1000	3.7	300						BYW96E				G	1
1000	8	135							BY329-1000			G	
1200	8	135							BY329-1200		BY329X-1200	G	
1400	1.5	250				BYD43V						G	1 / 2
1400	1.5	500				BYD33V						G	1 / 2
1400	1.8	250					BYV36G					G	1
1400	2	500					BYV97G					G	1
1400	3.5	250						BYM36G				G	1
1400	3.7	500						BYW97G				G	1
2000	0.8	300	BYD47-20			BYD43-20						G	1 / 2
2000	1.2	300					BYV98					G	

Why choose

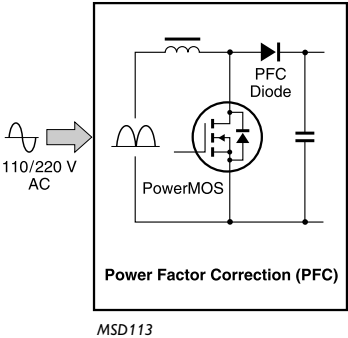
APPLICATIONS KEY

Power Supply

- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecom supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode

Lighting

- 1 = HF electronic ballast
- 2 = Compact fluorescent lamp (CFL)



RELATED LITERATURE 

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Power in Lighting (folder)	9397 750 05312
Power & Battery Management Semiconductors (folder)	9397 750 06394
FS046, An Electronic Ballast: Base Drive Optimisation (factsheet)	9397 750 03653
SMA - rectifiers and zeners in industry-standard packaging (leaflet)	9397 750 06731
Ultrafast epitaxial diodes for Power Factor Correction (application note)	9397 750 03097

Philips Semiconductors'...?

...SMA diodes

- \* Ideal for a broad range of applications in the general, industrial and automotive areas
- \* Industry-standard packaging allows easy pick-and-place
- \* High maximum operating temperature
- \* Low leakage current
- \* Excellent capability
- \* Guaranteed avalanche energy absorption capability

...SOD106 diodes

Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series). These SOD106 rectifiers are the same size as the SMA package but with SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

...SOD87

- \* Better Current/Power Capability than SMA
  - Can be used in a wider range of applications with higher current/power than a standard 1A SMA
- \* Smaller than SMA equivalents
  - Aids miniaturisation of board space requirements, key to most SMD applications

Features and benefits over plastic devices

- \* Device Hermetically sealed
  - No moisture ingress. Better than plastic equivalents
- \* Good Avalanche Energy Absorption
  - This benefit overcomes problems caused by noisy lines in various circuitry such as input rectification
- \* Glass Package
  - Reduced risk of diode thermal runaway, due to a higher maximum operating temperature of the device compared to plastic equivalents

# Diodes & Rectifiers

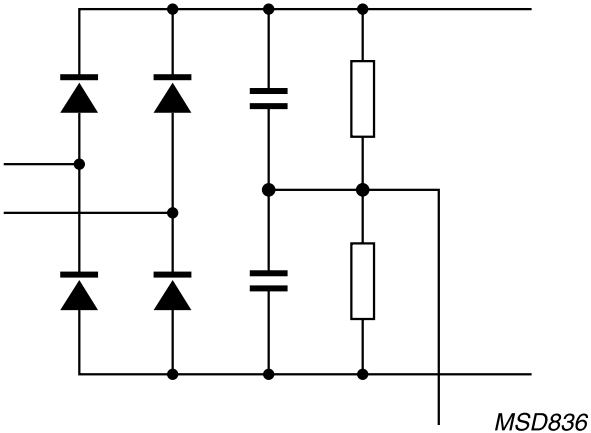
## GENERAL PURPOSE RECTIFIERS

V <sub>RRM</sub> (V)	I <sub>O(AV)</sub> / I <sub>F(AV)</sub> (A)	V <sub>F</sub> (V)	@ I <sub>F</sub> (A)	SINGLE/ DUAL	PACKAGE						TYPICAL APPLICATIONS	
					SURFACE MOUNT			LEADED				
					SOD87	SOD106	SMA (SOD124)	SOD57	SOD81	SOD64	SOD59 (TO220AC)	General Purpose
50	1	1.1	1	SINGLE			S1A					G
50	1.6	1.1	1	SINGLE	PRLL4001							G
100	1	1.1	1	SINGLE			S1B					G
100	1.6	1.1	1	SINGLE	PRLL4002							G
200	1	1.1	1	SINGLE			S1D					G
200	1.4	1.05	1	SINGLE	BYD17D							G
200	1.8	1	1	SINGLE				1N5059				G
200	2.1	1	1	SINGLE		BYG50D						G
400	1	1.1	1	SINGLE			S1G					G
400	1.4	1.05	1	SINGLE	BYD17G							G
400	1.8	1	1	SINGLE				1N5060				G
400	2.1	1	1	SINGLE		BYG50G						G
400	3.6	1.15	3	SINGLE						BYM56B		G
600	1	1.1	1	SINGLE			S1J					G
600	1.4	1.05	1	SINGLE	BYD17J				BYD13J			G
600	1.8	1	1	SINGLE				1N5061				G
600	1.8	1	1	SINGLE				BYW54				G
600	2.1	1	1	SINGLE		BYG50J						G
600	3.6	1.15	3	SINGLE						BYM56C		G
600	7	1.05	5	SINGLE							BY249-600	G
800	1	1.1	1	SINGLE			S1K					G
800	1.4	1.05	1	SINGLE	BYD17K				BYD13K			G
800	1.8	1	1	SINGLE				1N5062				G
800	1.8	1	1	SINGLE				BYW55				G
800	2.1	1	1	SINGLE		BYG50K						G
800	3.6	1.15	3	SINGLE						BYM56D		G
1000	1	1.1	1	SINGLE			S1M					G
1000	1.4	1.05	1	SINGLE	BYD17M				BYD13M			G
1000	1.8	1	1	SINGLE				BYW56				G
1000	2.1	1	1	SINGLE		BYG50M						G
1000	3.6	1.15	3	SINGLE						BYM56E		G
1250	1.8	1	1	SINGLE				BY527				G
1600	1.1	1.5	2	SINGLE				BYX10G				G

Why choose

RELATED LITERATURE 

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Power in Lighting (folder)	9397 750 05312
Power in Home Appliances (brochure)	9397 750 05986
SMA - rectifiers and zeners in industry-standard packaging (leaflet)	9397 750 06731



Philips Semiconductors'...?

...SMA diodes

- \* Ideal for a broad range of applications in the general, industrial and automotive areas
- \* Industry-standard packaging allows easy pick-and-place
- \* High maximum operating temperature
- \* Low leakage current
- \* Excellent capability
- \* Guaranteed avalanche energy absorption capability

...SOD106 diodes

Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series). These SOD106 rectifiers are the same size as the SMA package but with SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

....SOD87

- \* Better Current/Power Capability than SMA
  - Can be used in a wider range of applications with higher current/power than a standard 1A SMA
- \* Smaller than SMA equivalents
  - Aids miniaturisation of board space requirements, key to most SMD applications

Features and benefits over plastic devices

- \* Device Hermetically sealed
  - No moisture ingress. Better than plastic equivalents
- \* Good Avalanche Energy Absorption
  - This benefit overcomes problems caused by noisy lines in various circuitry such as input rectification
- \* Glass Package
  - Reduced risk of diode thermal runaway, due to a higher maximum operating temperature of the device compared to plastic equivalents

# Diodes & Rectifiers

## HIGH VOLTAGE RECTIFIERS

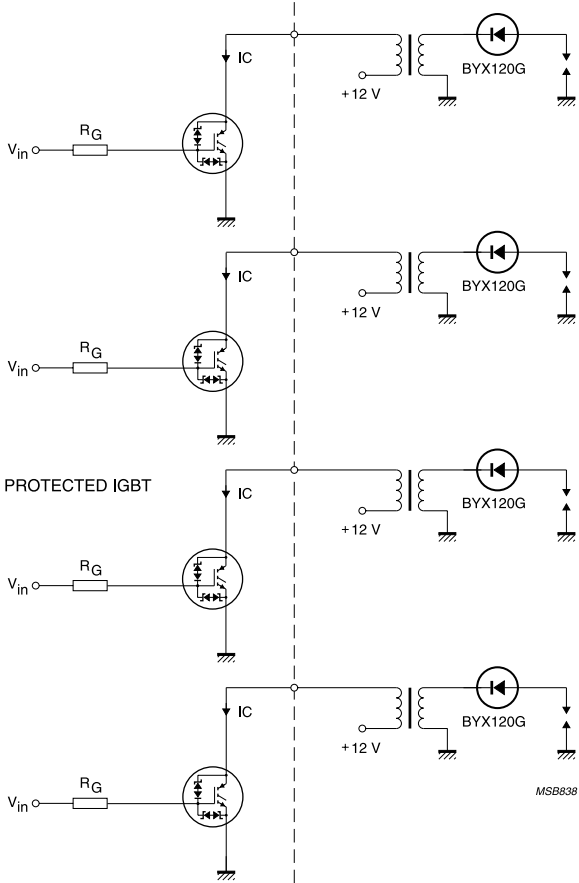
V <sub>RWM</sub> (kV)	V <sub>RRM</sub> (kV)	I <sub>F(AV)</sub> (mA)	trr (ns)	TECHNOLOGY	LEADED PACKAGES							TYPICAL APPLICATIONS			
					SOD61	SOD118A	SOD125	SOD107A	SOD88	SOD119	SOD83	General	Auto	Medical	
					1.5	1.8	85	200*		BY584					
2	2	50	5000	controlled avalanche	BYX132G	BYX132GPS	BYX132GPL	BYX132GP		BYX132GL				A	
2	2.2	50	300		BY614								G		
2	2.2	85	200*		BY505								G		
3	3	50	5000	controlled avalanche	BYX133G	BYX133GPS	BYX133GPL	BYX133GP		BYX133GL				A	
3	3	100	5000	controlled avalanche					BYX120G					A	
4	4	50	5000	controlled avalanche	BYX134G	BYX134GPS	BYX134GPL	BYX134GP		BYX134GL				A	
4	5	20	60	controlled avalanche	BY8104								G		
4	5	20	75		BY715								G		
4	5	20	100	controlled avalanche	BY8004								G		
4	5	20	100		BY8404								G		
4.5	5	340	50	controlled avalanche					BYX108G						M
4.5	5	480	175	controlled avalanche					BYX107G						M
4.5	5	575	350	controlled avalanche					BYX106G						M
4.5	5	650	600	controlled avalanche					BYX105G						M
5	5	50	5000	controlled avalanche	BYX135G	BYX135GPS	BYX135GPL	BYX135GP		BYX135GL				A	
5	6	20	75		BY716								G		
6	7.5	550	350	controlled avalanche							BYX90G				M
6	8	10	60	controlled avalanche	BY8106								G		
6	8	10	100	controlled avalanche	BY8006								G		
6	8	10	100		BY8406								G		
8	10	5	60	controlled avalanche	BY8108								G		
8	10	5	100	controlled avalanche	BY8008								G		
8	10	5	100		BY8408								G		
9	10	225	50	controlled avalanche					BYX104G						M
9	10	4	75		BY717								G		
9	10	310	175	controlled avalanche					BYX103G						M
9	10	360	350	controlled avalanche					BYX102G						M
9	10	400	600	controlled avalanche					BYX101G						M
10	12	5	60	controlled avalanche	BY8110								G		
10	12	4	75		BY718								G		
10	12	5	100	controlled avalanche	BY8010								G		
10	12	5	100		BY8410								G		
12	14	5	60	controlled avalanche	BY8112								G		
12	14	4	75		BY719								G		
12	14	5	100	controlled avalanche	BY8012								G		
12	14	5	100		BY8412								G		
14	17	5	60	controlled avalanche	BY8114								G		
14	17	3	75		BY720								G		
14	17	5	100	controlled avalanche	BY8014								G		
14	17	5	100		BY8414								G		
16	19	3	60	controlled avalanche	BY8116								G		
16	19	3	75		BY721								G		
16	19	3	100	controlled avalanche	BY8016								G		

V <sub>RWM</sub> (kV)	V <sub>RRM</sub> (kV)	I <sub>F(AV)</sub> (mA)	t <sub>rr</sub> (ns)	TECHNOLOGY	LEADED PACKAGES						TYPICAL APPLICATIONS			
					SOD61	SOD118A	SOD125	SOD107A	SOD88	SOD119	SOD83	General	Auto	Medical
16	19	3	100		BY8416									
18	22	3	75		BY722									
18	22	3	100		BY8418									
20	24	3	75		BY723									
20	24	3	100		BY8420									
24	30	3	75		BY724									
24	30	3	100		BY8424									

\* = typical

## RELATED LITERATURE

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Custom-made Stacks (leaflet)	9397 750 06549
Rectifier diodes for high voltage generation in TV sets and monitors (brochure)	9397 750 03737
SKN002, Pre-spark blocking diode BYX120G (factsheet)	9397 750 00261



# Diodes & Rectifiers

## PFC & HYPERFAST RECOVERY RECTIFIERS

V <sub>RRM</sub> (V)	I <sub>O(AV)</sub> / I <sub>F(AV)</sub> (A)	trr (ns)	PACKAGES						TYPICAL APPLICATIONS		
			SURFACE MOUNT			LEADED			Power Supply	Lighting	
			SOD87	SOD106	D <sup>2</sup> PAK (SOT404)	SOD81	SOD57	SOD64			TO220AC SOD59
100	1.7	10	BYD1100			BYV1100				4 / 9	
100	2.3	12.5		BYG85B			BYV2100			9	
100	4.2	15					BYV4100			3	
600	0.9	15					BYV99			1 / 2 / 3	1
600	1.7	15						BYM99		1 / 2 / 3	1
600	5	19			BYC5B-600*				BYC5-600*	3	1
600	8	19			BYC8B-600*				BYC8-600*	3	
600	10	19			BYC10B-600*				BYC10-600*	3	
600	2 x 5	19							BYC10-600CT*	3	1

\* Power Factor Corrections Diodes

Why choose

APPLICATIONS KEY

Power Supply

- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecom supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode

Lighting

- 1 = HF electronic ballast
- 2 = Compact fluorescent lamp (CFL)

RELATED LITERATURE 

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Power in Lighting (folder)	9397 750 05312
Power & Battery Management Semiconductors (folder)	9397 750 06394
FS046, An Electronic Ballast: Base Drive Optimisation (factsheet)	9397 750 03653
SMA - rectifiers and zeners in industry-standard packaging (leaflet)	9397 750 06731
Ultrafast epitaxial diodes for Power Factor Correction (application note)	9397 750 03097
SKN003, BYV2100 - The Ultrafast Alternative (factsheet)	9397 750 00344
SKN004: converter diodes for PFC	9397 750 00597

Philips Semiconductors'...?

Benefits of Hyperfast Recovery Diodes

- \* 600V Hyperfast diodes are optimised for power factor correction (PFC) circuits. They feature:
  - fast reverse recovery (trr) of typically 19 ns.
  - max forward Vf.
- \* 100V Hyperfast diodes are optimised for low power battery chargers.

...SOD106 diodes

Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series). These SOD106 rectifiers are the same size as the SMA package but with SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

....SOD87

- \* Better Current/Power Capability than SMA
  - Can be used in a wider range of applications with higher current/power than a standard 1A SMA
- \* Smaller than SMA equivalents
  - Aids miniaturisation of board space requirements, key to most SMD applications

Features and benefits over plastic devices

- \* Device Hermetically sealed
  - No moisture ingress. Better than plastic equivalents
- \* Good Avalanche Energy Absorption
  - This benefit overcomes problems caused by noisy lines in various circuitry such as input rectification
- \* Glass Package
  - Reduced risk of diode thermal runaway, due to a higher maximum operating temperature of the device compared to plastic equivalents

# Diodes & Rectifiers

## ULTRAFAST RECOVERY DIODES

V <sub>RRM</sub> (V)	I <sub>O(AV)</sub> / I <sub>F(AV)</sub> (A)	V <sub>F</sub> (V)	@ I <sub>F</sub> (A)	trr (ns)	SINGLE/ DUAL	SURFACE MOUNT PACKAGES					
						SOD106	SMA (SOD124)	SOT223	SOD87	DPAK (SOT428)	D <sup>2</sup> PAK (SOT404)
50	1	1.1	1	25	SINGLE		ES1A				
50	1	1.1	1	50	SINGLE		US1A				
50	1.9	0.98	1	25	SINGLE				BYD77A		
50	2.4	0.93	1	25	SINGLE	BYG80A					
50	2.4	0.98	2	25	SINGLE						
50	4.5	1.02	3.5	25	SINGLE						
100	1	1.1	1	25	SINGLE		ES1B				
100	1	1.1	1	50	SINGLE		US1B				
100	1.9	0.98	1	25	SINGLE				BYD77B		
100	2.4	0.98	1	25	SINGLE	BYG80B					
100	2.4	0.98	2	25	SINGLE						
100	4.5	1.02	3.5	25	SINGLE						
100	8	0.895	8	25	SINGLE						
100	20	0.95	8	25	DUAL (2 x 10 A)						
150	1	1.1	1	25	SINGLE		ES1C				
150	1.5	0.7	0.5	25	DUAL (2 x 0.75 A)			BYV40E-150			
150	1.9	0.98	1	25	SINGLE				BYD77C		
150	2.4	0.93	1	25	SINGLE	BYG80C					
150	2.4	0.98	2	25	SINGLE						
150	4.5	1.02	3.5	25	SINGLE						
150	8	0.895	8	25	SINGLE					BYW29ED-150	
150	14	0.9	14	30	SINGLE						
150	20	0.85	8	25	DUAL (2 x 10 A)						
150	30	0.85	15	28	DUAL (2 x 15 A)						
200	1	1.1	1	25	SINGLE		ES1D				
200	1	1.1	1	50	SINGLE		US1D				
200	1	3.6	1	30	SINGLE		BYG26D				
200	1.5	2.5	1	30	SINGLE						
200	1.5	3.6	1	30	SINGLE	BYG70D					
200	1.9	0.93	1	25	SINGLE				BYD127		
200	1.9	0.98	1	25	SINGLE				BYD77D		
200	2.4	0.93	1	25	SINGLE	BYG80D					
200	2.4	0.98	2	25	SINGLE						
200	2.8	2.65	2	30	SINGLE						
200	4.5	1.02	3.5	25	SINGLE						
200	8	0.895	8	25	SINGLE					BYW29ED-200	
200	10	0.895	5	25	DUAL (2 x 5 A)					BYQ28ED-200	
200	14	0.9	14	30	SINGLE						
200	16	0.95	8	25	DUAL (2 x 8 A)					BYQ30ED-200	BYQ30EB-200
200	20	0.85	8	25	DUAL (2 x 10 A)						BYV32EB-200
200	30	0.82	15	28	DUAL (2 x 15 A)						
200	30	0.85	15	28	DUAL (2 x 15 A)						
200	40	0.85	20	30	DUAL (2 x 20 A)						
200	60	0.85	30	35	DUAL (2 x 30 A)						

LEADED PACKAGES											TYPICAL APPLICATIONS	
SOD57	SOD81	SOD64	SOD100	SOD113 (2-pin SOT186A)	SOD59 (TO220AC)	SOT186A (isolated TO220AB)	SOT186	TO220AB (SOT78)	TO247 (SOT429)	Power Supply	Lighting	
										4		
		BYD73A								4		
	BYV27-050									4		
			BYV28-050							4		
										4		
		BYD73B								4		
	BYV27-100									4		
			BYV28-100							4		
					BYW29E-100					5		
								BYV32E-100		5		
										4		
		BYD73C								4	1	
	BYV27-150									4		
			BYV28-150							4		
				BYW29F-150		BYW29E-150 BYV79E-150				5		
										5		
								BYV32E-150 BYV42E-150		5		
										6		
										4		
										4		
	BYV26A									4		
										2		
										2		
		BYD123 BYD73D								4		
										4		
	BYV27-200									4		
			BYM26A BYV28-200							4		
				BYW29F-200	BYW29EX-200 BYQ28X-200	BYW29E-200	BYQ28EX-200	BYQ28F-200	BYQ28E-200	5		
										5		
										5		
								BYV32EX-200	BYV32F-200	5		
									BYQ30E-200 BYV32E-200	5		
										6		
									BYV72EW-200	6		
									BYV42E-200	6		
										6		
									BYQ40EW-200 BYQ60EW-200	6		

continued on next page

# Diodes & Rectifiers

## ULTRAFAST RECOVERY DIODES

V <sub>RRM</sub> (V)	I <sub>O(AV)</sub> / I <sub>F(AV)</sub> (A)	V <sub>F</sub> (V)	@ I <sub>F</sub> (A)	trr (ns)	SINGLE/ DUAL	SURFACE MOUNT PACKAGES					
						SOD106	SMA (SOD124)	SOT223	SOD87	(SOT428)	(SOT404)
300	9	1.03	8	60	SINGLE						
300	10	1.05	5	60	DUAL (2 x 5 A)						
300	30	1.12	15	60	DUAL (2 x 15 A)						
400	1	1.1	1	50	SINGLE		US1G				
400	1	3.6	1	30	SINGLE		BYG26G		BYD57G		
400	1.5	2.5	1	30	SINGLE						
400	1.5	3.6	1	30	SINGLE	BYG70G					
400	1.7	1.15	1	50	SINGLE				BYD147		
400	1.9	1.05	1	50	SINGLE				BYD77G		
400	2.4	0.98	1	50	SINGLE	BYG80G					
400	2.4	1.05	2	50	SINGLE						
400	2.8	2.65	2	30	SINGLE						
400	4.5	1.05	3.5	50	SINGLE						
400	9	1.03	8	60	SINGLE						
400	10	1.05	5	60	DUAL (2 x 5 A)						
400	20	1.05	10	60	DUAL (2 x 10 A)						
400	30	1.12	15	60	DUAL (2 x 15 A)						
500	9	1.03	8	60	SINGLE						
500	10	1.05	5	60	DUAL (2 x 5 A)						
500	14	1.05	15	60	SINGLE						
500	20	1.05	10	60	DUAL (2 x 10 A)						
500	30	1.12	15	60	DUAL (2 x 15 A)						
600	1	1.4	1	50	SINGLE		US1J				
600	1	3.6	1	30	SINGLE		BYG26J		BYD57J		
600	1.5	2.5	1	30	SINGLE						
600	1.5	3.6	1	30	SINGLE	BYG70J					
600	1.6	1.25	1	50	SINGLE				BYD167		
600	2.4	1.2	1	50	SINGLE	BYG80J					
600	2.4	1.2	2	50	SINGLE						
600	2.4	1.25	2	50	SINGLE						
600	2.8	2.65	2	30	SINGLE						
600	4.5	1.25	3.5	50	SINGLE						
600	8	1.50	8	75	SINGLE						
600	9	1.0	5	55	SINGLE						
700	8	1.50	8	75	SINGLE						
800	1	3.6	1	75	SINGLE				BYD57K		
800	1.5	2.5	1	75	SINGLE						
800	2.8	2.65	2	75	SINGLE						
800	8	1.50	8	75	SINGLE						
1000	1	3.6	1	75	SINGLE				BYD57M		
1000	1.5	2.5	1	75	SINGLE						
1000	2.8	2.65	2	75	SINGLE						
1400	1	3.6	1	150	SINGLE				BYD57V		
1400	1.5	2.5	1	150	SINGLE						
1400	2.8	2.3	2	150	SINGLE						

LEADED PACKAGES											TYPICAL APPLICATIONS	
SOD57	SOD81	SOD64	SOD100	SOD113 (2-pin SOT186A) BYV29X-300	SOD59 (TO220AC)	SOT186A (isolated TO220AB)	SOT186	TO220AB (SOT78)	TO247 (SOT429)	Power Supply	Lighting	
								BYT28-300		5		
								BYV44-300		5		
										6		
										1 / 2		
BYV26B	BYD53G									1 / 2	1 / 2	
										1 / 2		
	BYD143									4	1	
	BYD73G									1 / 4		
BYV27-400										1		
										1 / 4		
		BYM26B								4		
		BYV28-400								1 / 2		
			BYV29F-400		BYV29-400					5		
								BYT28-400		5		
								BYV34-400		5		
									BYV74W-400	6		
			BYV29F-500	BYV29X-500	BYV29-500					5		
								BYT28-500		5		
										5		
								BYV34-500		5		
								BYV44-500	BYV74W-500	6		
										1 / 2	1 / 2	
BYV26C	BYD53J									1 / 2	1 / 2	
										1	1	
	BYD163									1 / 2	1	
										2	1	
										1 / 4	1	
BYV160										1 / 2	1	
BYV27-600										2	1	
		BYM26C								1 / 2	1	
		BYV28-600								2	1	
			BYR29F-600		BYR29-600					5		
				BYV29X-600	BYV29-600					5		
			BYR29F-700		BYR29-700					5		
BYV26D	BYD53K									1 / 2		
										1		
		BYM26D								1 / 2		
			BYR29F-800		BYR29-800					5		
	BYD53M									1 / 2		
BYV26E										1		
		BYM26E								1 / 2		
	BYD53V									1 / 2		
BYV26G										1		
		BYM26G								1 / 2		

continued on next page

# Diodes & Rectifiers

## **ULTRAFAST RECOVERY DIODES**

Why choose

APPLICATIONS KEY

Power Supply

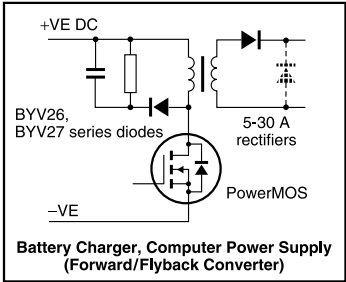
- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecom supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode

Lighting

- 1 = HF electronic ballast
- 2 = Compact fluorescent lamp (CFL)

RELATED LITERATURE 

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Power in Lighting (folder)	9397 750 05312
FS046, An Electronic Ballast: Base Drive Optimisation (factsheet)	9397 750 03653
SMA - rectifiers and zeners in industry-standard packaging (leaflet)	9397 750 06731
FS080, High-quality, glass-passivated diodes (glass bead) - BYV27-200 (factsheet)	9397 750 06323



MSD115

Philips Semiconductors'...?

...SMA diodes

- \* Ideal for a broad range of applications in the general, industrial and automotive areas
- \* Industry-standard packaging allows easy pick-and-place
- \* High maximum operating temperature
- \* Low leakage current
- \* Excellent capability
- \* Guaranteed avalanche energy absorption capability

...SOD106 diodes

Where added functionality or an SMB package is required, Philips Semiconductors offers the SOD106 range (BYG series). These SOD106 rectifiers are the same size as the SMA package but with SMB ratings, thus offering a smaller, cost-effective alternative to SMB.

....SOD87

- \* Better Current/Power Capability than SMA
  - Can be used in a wider range of applications with higher current/power than a standard 1A SMA
- \* Smaller than SMA equivalents
  - Aids miniaturisation of board space requirements, key to most SMD applications

Features and benefits over plastic devices

- \* Device Hermetically sealed
  - No moisture ingress. Better than plastic equivalents
- \* Good Avalanche Energy Absorption
  - This benefit overcomes problems caused by noisy lines in various circuitry such as input rectification
- \* Glass Package
  - Reduced risk of diode thermal runaway, due to a higher maximum operating temperature of the device compared to plastic equivalents

# Diodes & Rectifiers

## RIPPLE BLOCKING DIODES

$I_{O(AV)}/I_{F(AV)}$ (A)	$V_{RRM}$ (V)	$V_f$ (V)	@ $I_f$ (A)	SMD		LEADED		TYPICAL APPLICATIONS Power Supply
				SOD87 BYD67	SOD57 BYQ63	SOD81 BYD63	SOD64 BYM63	
1	300	2.3	1.7					11
1.5	300	2.15	1					11
2.7	300	2.3	2					11

APPLICATIONS KEY

Power Supply

- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecom supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode

RELATED LITERATURE 

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
SKN001, Ripple blocking diodes BYD63 and BYM63 (factsheet)	9397 750 00157

Why choose

Philips Semiconductors'...?

Ripple Blocking Diodes

- \* Glass passivated for excellent stability under all conditions.
- \* Fast rectifier with guaranteed minimum turn-on time for absorbing forward current transients and oscillations.

...SOD87

- \* even smaller package than SMA
- \* better current handling capability than SMA (1.5 A SOD87 vs 1 A SMA)

# Diodes & Rectifiers

## GA SCHOTTKY DIODES

V <sub>r</sub> max. (V)	I <sub>F(AV)</sub> max. (mA)	I <sub>FSM</sub> max. (A)	V <sub>F</sub> max. (mV)	@ I <sub>F</sub> (mA)	C <sub>d</sub> max. (pF)	@ V <sub>r</sub> (V)	LEADED		SMD			
							SOD68 DO-34	SOD81	SOD523 SC-79	SOT666	SOT416 SC-75	SOT490 SC-89
4	30	-	450	1	1	0						
5	50	-	250	1	0.5	0				1PS79SB63*		
15	30	-	340	1	1	0						
20	1000	25	450	1000	80typ.	4		1N5817				
(20)	1000	-	550	1000	220typ.	0		BYV10-20				
20	1000	5	550	1000	25	5				BAT960**		
25	1000	(10)	300..450	100	100	4						
30	200	-	260	1	10	1						
30	200	-	320	1	10	1	BAT85		1PS79SB10	BAT74V** (2 par.)		1PS89SB14 (2 ser.) 1PS89SB15 (2 c.c.) 1PS89SB16 (2 c.a.)
30	200	1	300	10	25	1			1PS79SB31*			
30	1000	25	550	1000	50typ.	4		1N5818				
(30)	1000	-	550	1000	220typ.	0		BYV10-30				
40	1000	27	500	1	80	4						
40	20	-	800	2	0.6	0			1PS79SB62*			
40	30	-	410	1	1.6	1	BAT81					
40	120	-	380	1	5	0			1PS79SB40	BAS40-05V** (2 c.c.) BAS40-07V** (2 par.)	1PS75SB45 (2 c.c.)	
40	200	-	300	10	50	0						

c.c. - common cathode  
c.a. = common anode

ser. = series  
par. = parallel

\* new product  
\*\* under development

SMD											
SOD323 SC-76	SOT323 SC-70	SOT363 SC-88	SOD110	SOT23	SOT143	SOT346 SC-59	SOT457 SC-74	SOD80C	SOD87	SOT223 SC-73	
1PS76SB17				BAT17 PMBD353 (2 ser.)							
	1PS70SB82* 1PS70SB84 (1 ser.)* 1PS70SB85 (2 c.c.)* 1PS70SB86 (2 c.a.)*	1PS88SB82 (3 par.)*							PRLL5817		
BAT760							1PS74SB23			BAT120A (2 c.a.) BAT120C (2 c.c.) BAT120S (2 ser.)	
		BAT754L (3 par.)		BAT754 BAT754A (2 c.a.) BAT754C (2 c.c.) BAT754S (2 ser.)							
1PS76SB10	1PS70SB10 1PS70SB14 (2 ser.) 1PS70SB15 (2 c.c.) 1PS70SB16 (2 c.a.) BAT54W BAT54AW (2 c.a.) BAT54CW (2 c.c.) BAT54SW (2 ser.)	BAT74S (2 par.)	BAT254	BAT54 BAT54A (2 c.a.) BAT54C (2 c.c.) BAT54S (2 ser.)	BAT74 (2 par.)	1PS59SB10 1PS59SB14 (2 ser.) 1PS59SB15 (2 c.c.) 1PS59SB16 (2 c.a.)		BAS85			
									PRLL5818		
1PS76SB62*							1PS74SB43				
1PS76SB40	1PS70SB40 1PS70SB44 (2 ser.) 1PS70SB45 (2 c.c.) 1PS70SB46 (2 c.a.) BAS40W BAS40-04W (2 ser.) BAS40-05W (2 c.c.) BAS40-06W (2 c.a.)	1PS88SB48 (4 c.c./c.c.)	BAS240	BAS40 BAS40-04 (2 ser.) BAS40-05 (2 c.c.) BAS40-06 (2 c.a.)	BAS40-07 (2 par.)			BAS81			
1PS76SB21				BAT721 BAT721A (2 c.a.) BAT721C (2 c.c.) BAT721S (2 ser.)		1PS59SB21					

continued on next page

# Diodes & Rectifiers

## GA SCHOTTKY DIODES

V <sub>r</sub> max. (V)	I <sub>F(AV)</sub> max. (mA)	I <sub>FSM</sub> max. (A)	V <sub>F</sub> max. (mV)	@ I <sub>F</sub> (mA)	C <sub>j</sub> max. (pF)	@ V <sub>r</sub> (V)	LEADED		SMD			
							SOD68 DO-34	SOD81	SOD523 SC-79	SOT666	SOT416 SC-75	SOT490 SC-89
40	200	1	550	500	20	1						
40	200	1	360	10	20	1			1PS79SB30*			
40	500	-	550	500	90	0						
40	1000	10..25	500..600	1000	50..80	4		1N5819				
(40)	1000	-	550	1000	220typ.	0		BYV10-40				
40	1000	-	560	1000	250	0						
50	30	-	410	1	1.6	1	BAT82					
50	200	-	380	1	8	1	BAT86					
60	30	-	410	1	1.6	1	BAT83					
60	1000	10	650	1000	60	4						
70	70	-	410	1	2	0			1PS79SB70	BAS70-07V** (2 par.)		1PS89SB74 (2 ser.)*

c.c. - common cathode  
c.a. = common anode

ser. = series  
par. = parallel

\* new product  
\*\* under development

SMD										
SOD323 SC-76	SOT323 SC-70	SOT363 SC-88	SOD110	SOT23	SOT143	SOT346 SC-59	SOT457 SC-74	SOD80C	SOD87	SOT223 SC-73
	BAT854W BAT854AW (2 c.a.) BAT854CW (2 c.c.) BAT854SW (2 ser.)									
	1PS70SB20			BAT720		1PS59SB20				
									PRLL5819	BAT140A (2 c.a.) BAT140C (2 c.c.) BAT140S (2 ser.)
										PZTM1101 (Trans.+Diode) PZTM1102 (Trans.+Diode)
								BAS82 BAS86 BAS83		
										BAT160A (2 c.a.) BAT160C (2 c.c.) BAT160S (2 ser.)
1PS76SB70	BAS70V BAS70-04W (2 ser.) BAS70-05W (2 c.c.) BAS70-06W (2 c.a.)	BAS70-07S (2)	BAS270*	BAS70 BAS70-04 (2 ser.) BAS70-05 (2 c.c.) BAS70-06 (2 c.a.)	BAS70-07 (2 par.)					

# Diodes & Rectifiers

## SCHOTTKY DIODES

V <sub>RRM</sub> (V)	I <sub>Di(AV)</sub> / I <sub>F(AV)</sub> (A)	V <sub>r</sub> (mV)	@ I <sub>F</sub> (A)	SINGLE/ DUAL	SURFACE MOUNT PACKAGES			LEADED PACKAGES						TYPICAL APPLICATIONS		
					SOT223	D <sup>2</sup> PAK (SOT404)	DPAK (SOT428)	TO220AC (SOD59)	TO220AB (SOT78)	SOD100 (2-pin SOT186)	SOT186	SOD113 (2-pin SOT186A)	SOT186A (isolated TO220AB)	TO247 (SOT429)	Power Supply	Motherboard
20	6	440	3	DUAL (2 x 3 A)			PBYR620CTD									4
20	16	460	16	SINGLE		PBYL1620B									10	
20	25	430	12.5	DUAL (2 x 12.5 A)					PBYL2520CT						10	
20	70	460	35	DUAL (2 x 35 A)										PBYR7020WT	7	
25	3	400	1.5	DUAL (2 x 1.5 A)			PBYR325CTD									4
25	6	440	3	DUAL (2 x 3 A)			PBYR625CTD									4
25	7.5	400	7.5	SINGLE			PBYR725D									5
25	10	400	5	DUAL (2 x 5 A)			PBYR1025CTD									5
25	10	400	10	SINGLE		PBYL1025B		PBYL1025								5
25	10	410	10	SINGLE			PBYR1025D									5
25	10	540	5	DUAL (2 x 5 A)		BYV116B-25										5
25	15	420	7.5	DUAL (2 x 7.5 A)		PBYL1525CTB			PBYL1525CT						10	
25	16	460	16	SINGLE		PBYL1625B		PBYL1625							10	
25	20	430	20	SINGLE		PBYL2025B		PBYL2025							10	
25	25	430	12.5	DUAL (2 x 12.5 A)		PBYL2525CTB			PBYL2525CT						10	
25	30	430	15	DUAL (2 x 15 A)		PBYL3025CTB			PBYL3025CT						8	
25	40	460	20	DUAL (2 x 20 A)										PBYR4025WT	7	
25	70	460	35	DUAL (2 x 35 A)										PBYR7025WT	7	
40	2	450	1	DUAL (2 x 1 A)	PBYR240CT										9	
40	3	570	1.5	DUAL (2 x 1.5 A)			PBYR340CTD								9	
40	6	600	3	DUAL (2 x 3 A)			PBYR640CTD								9	
40	10	570	10	SINGLE				PBYR1040							9	
40	15	570	7.5	DUAL (2 x 7.5 A)									PBYR1540CTX		10	
40	20	570	10	DUAL (2 x 10 A)		PBYR2040CTB									10	
40	40	600	20	DUAL (2 x 20 A)										PBYR4040WT	7	
40	60	600	30	DUAL (2 x 30 A)										PBYR6040WT	7	
45	2	450	1	DUAL (2 x 1 A)	PBYR245CT										9	
45	3	570	1.5	DUAL (2 x 1.5 A)			PBYR345CTD								9	
45	6	600	3	DUAL (2 x 3 A)			PBYR645CTD								9	
45	7.5	570	7.5	SINGLE			PBYR745D	PBYR745		PBYR745F		PBYR745X			9	
45	10	570	10	SINGLE		PBYR1045B	PBYR1045D	PBYR1045							9	
45	10	590	10	SINGLE								PBYR1045X			9	
45	10	600	5	DUAL (2 x 5 A)			PBYR1045CTD								9	
45	15	570	7.5	DUAL (2 x 7.5 A)		PBYR1545CTB			PBYR1545CT						10	
45	16	570	16	SINGLE		PBYR1645B		PBYR1645							10	
45	16	600	16	SINGLE						PBYR1645F					10	
45	20	570	10	DUAL (2 x 10 A)		PBYR2045CTB			PBYR2045CT						10	
45	25	650	20	DUAL (2 x 12.5 A)						PBYR2545CTF					10	
45	30	600	20	DUAL (2 x 15 A)										PBYR3045WT	8	
45	30	620	20	DUAL (2 x 15 A)		PBYR2545CTB			PBYR2545CT						8	
45	40	600	20	DUAL (2 x 20 A)										PBYR4045WT	7	
45	60	600	30	DUAL (2 x 30 A)										PBYR6045WT	7	
60	10	700	10	SINGLE				PBYR1060							9	

V <sub>RRM</sub> (V)	I <sub>O(AV)</sub> / I <sub>F(AV)</sub> (A)	V <sub>F</sub> (mV)	@ I <sub>F</sub> (A)	SINGLE/ DUAL	SURFACE MOUNT PACKAGES			LEADED PACKAGES					TYPICAL APPLICATIONS				
					SOT223	D <sup>2</sup> PAK (SOT404)	DPAK (SOT428)	TO220AC (SOD59)	TO220AB (SOT78)	SOD100 (2-pin SOT186)	SOT186	SOD113 (2-pin SOT186A)	SOT186A (isolated TO220AB)	TO247 (SOT429)	Power Supply	Motherboard	
100	10	700	10	SINGLE				PBYR10100					PBYR10100X			9	
100	20	700	10	DUAL (2 x 10 A)		PBYR20100CTB			PBYR20100CT							10	
100	30	700	15	DUAL (2 x 15 A)										PBYR30100WT		8	

## APPLICATIONS KEY

### Power Supply

- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecom supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode

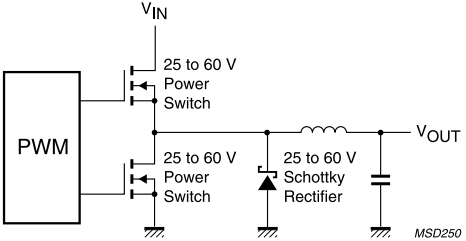
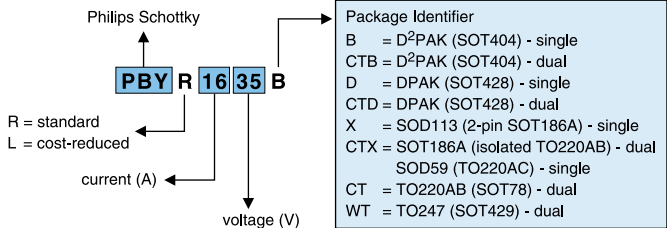
### Motherboard

- 1 = Laptop DC-DC converters
- 2 = Desktop PC server- DC-DC converters
- 3 = Desktop PC linear regulators
- 4 = Low power non-synchronous DC-DC converters
- 5 = Medium power non-synchronous DC-DC converters

## RELATED LITERATURE

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Power & Battery Management Semiconductors (folder)	9397 750 06394

## SCHOTTKY DIODE PART NUMBERING



**Why choose Philips Semiconductors'...?**

- \* Special 25V technology for low voltage supplies
- \* Lowest forward drop of any rectifier gives lower losses
- \* Full range of LEADED and surface mount packages
- \* Guaranteed repetitive ruggedness, typically 1A repetition reverse surge capability

# Diodes & Rectifiers

## VARIABLE CAPACITANCE DIODES (Varicaps)

Broad portfolio available in smallest packages. Applications for TV, Radio, Satellite Receiver, Set Top Box, and VCO

### TV & SATELLITE VARICAP DIODES - UHF TUNING

Type	Package	C <sub>v</sub> @ V <sub>r</sub> (pF)			TUNING RANGE Cd over voltage range (V)			r <sub>s</sub> (Ω) max	MATCHED SETS %	TYPICAL APPLICATIONS			
		min	max	(V)	ratio	V1 to V2				TV	VCO	SAT.	STB
<b>Matched</b>													
BB154	SOD323 (SC76)	1.90	2.00	28	9.7	1	28	0.75	2.0	X		X	X
BB134	SOD323 (SC76)	1.70	2.10	28	10.0	0.5	28	0.75	0.5	X		X	X
BB146	SOD323 (SC76)	1.70	2.10	28	23.0	0.5	28	1.40	1.6	X			X
BB149	SOD323 (SC76)	1.90	2.25	28	9.0	1	28	0.75	1.0	X			X
BB149A	SOD323 (SC76)	1.95	2.22	28	9.7	1	28	0.75	2.0	X			X
BB179	SOD523 (SC79)	1.95	2.22	28	9.7	1	28	0.75	2.0	X	X		X
BB179B	SOD523 (SC79)	1.90	2.25	28	9.2	1	28	0.75	2.0	X			X
<b>Unmatched</b>													
BB135	SOD323 (SC76)	1.70	2.10	28	10.0	0.5	28	0.75		X	X		
BB159	SOD323 (SC76)	1.90	2.25	28	9.0	1	28	0.75		X			
BBY31 BBY39(1)	SOT23	1.60	2.00	28	8.3	1	28	1.20	-	X			X
BBY62(3)	SOT143												

### TV & SATELLITE VARICAP DIODES - VHF TUNING

Type	Package	C <sub>v</sub> @ V <sub>r</sub> (pF)			TUNING RANGE Cd over voltage range (V)			r <sub>s</sub> (Ω) max	MATCHED SETS %	TYPICAL APPLICATIONS			
		min	max	(V)	ratio	V1 to V2				TV	VCO	SAT.	STB
<b>Matched</b>													
BB132	SOD323 (SC76)	2.3	2.75	28	26	0.5	28	2	1	X			X
BB133	SOD323 (SC76)	2.2	2.75	28	16	0.5	28	0.9	0.7	X			X
BB147	SOD323 (SC76)	2.4	2.80	28	40	0.5	28	2.8	2	X			X
BB148	SOD323 (SC76)	2.4	2.75	28	15	1	28	0.9	1	X			X
BB152	SOD323 (SC76)	2.48	2.89	28	>20.6	1	28	1.2	2	X			X
BB153	SOD323 (SC76)	2.36	2.75	28	>13.5	1	28	0.8	2	X			X
BB157	SOD323 (SC76)	2.57	2.92	25	11	2	25	0.75	2	X			X
BB164	SOD323 (SC76)	2.9	3.40	28	>19.5	1	28	1.4	2	X			X
BB178	SOD523 (SC79)	2.36	2.75	28	>13.5	1	28	0.8	2	X			X
BB182	SOD523 (SC79)	2.48	2.89	28	>20.6	1	28	1.2	2	X			X
BB182B	SOD523 (SC79)	2.65	3.00	25	17	2	25	1.1	2	X			X
BB187	SOD523 (SC79)	2.57	2.92	25	11	2	25	0.75	2	X			X
<b>Unmatched</b>													
BB131	SOD323 (SC76)	0.7	1.055	28	14	0.5	28	3				X	
BB158	SOD323 (SC76)	2.4	2.75	28	15	1	28	0.9		X		X	
BB181	SOD523	0.7	1.055	28	14	0.5	28	3				X	
BBY40	SOT23	4.3	6.00	25	5.5	3	25	0.7	-	X			X
BBY42	SOT23	2.4	3.00	28	14	1	28	1	-	X			X



# Diodes & Rectifiers

## VARIABLE CAPACITANCE DIODES (Varicaps)

Broad portfolio available in smallest packages. Applications for TV, Radio, Satellite Receiver, Set Top Box, and VCO

### VCO VARICAP DIODES

Type	Package	C <sub>v</sub> @ V <sub>r</sub> (pF)			C <sub>v</sub> @ V <sub>r</sub> (pF)			TUNING RANGE C <sub>d</sub> over voltage range (V)			r <sub>s</sub> (Ω)
		min	max	(V)	min	max	(V)	ratio	V1 to V2		
BB145B-01	SOD723	6.4	7.4	1	2.55	2.95	4	>2.2	1	4	0.6
BB141	SOD523 (SC79)	3.9	4.5	1	2.22	2.55	4	1.76	1	4	0.4
BB142	SOD523 (SC79)	4	4.9	1	1.85	2.35	4	2.2	1	4	0.5
BB143	SOD523 (SC79)	4.75	5.75	1	2.05	2.55	4	2.35	1	4	0.5
BB145	SOD523 (SC79)	6.4	7.4	1	2.75	3.25	4	2	1	4	0.6
BB145B	SOD523 (SC79)	6.4	7.4	1	2.55	2.95	4	2.2	1	4	0.6
BB145C	SOD523 (SC79)	6.4	7.4	1	2.55	2.85	4	2.39 - 2.53	1	4	0.6
BB202	SOD523 (SC79)	28.2	33.5	0.2	7.2	11.2	2.3	2.5	0.2	2.3	0.35
BB151	SOD323 (SC76)	15.4	17	1	9 type		4	1.8	1	4	0.4
BB156	SOD323 (SC76)	14.4	17.6	1	7.6	9.6	4	1.86	1	4	0.4
BB190	SOD323 (SC76)	18	20	1	10.1	11.6	4	1.55 <sup>2)</sup>	1	4	0.26
BB155	SOD323 (SC76)	45.2	49.8	0.34	24.55	26.70	2.82	-	-	-	0.35

### RADIO VARICAP DIODES FM RADIO TUNING

Type	Package	C <sub>v</sub> @ V <sub>r</sub> (pF)			C <sub>v</sub> @ V <sub>r</sub> (pF)			TUNING RANGE C <sub>d</sub> over voltage range (V)			r <sub>s</sub> (Ω)
		min	max	(V)	min	max	(V)	ratio (min)	V1 to V2		
BB804 <sup>1)</sup>	SOT23	42	46.5	2	26 type		8	1.75	2	8	0.2
BB804V <sup>1)</sup>	SOT23	44	45.5	2	26 type		8	1.75	2	8	0.2
BB200 <sup>1)</sup>	SOT23	65.8	74.2	1	12	14.8	4.5	5	1	4.5	0.43
BB201 <sup>1)</sup>	SOT23	89	102	1	25.5	29.7	7.5	3.1	1	7.5	0.3
BB202	SOD523	28.2	33.5	0.2	7.2	11.2	2.3	2.5	0.2	2.3	0.35
BB156	SOD323	14.4	17.6	1	7.6	9.6	4	3.3	1	7.5	0.4

Notes: <sup>1)</sup> Double diode with common cathode.

<sup>2)</sup> Minimum value.

<sup>3)</sup> Dual independent diodes.

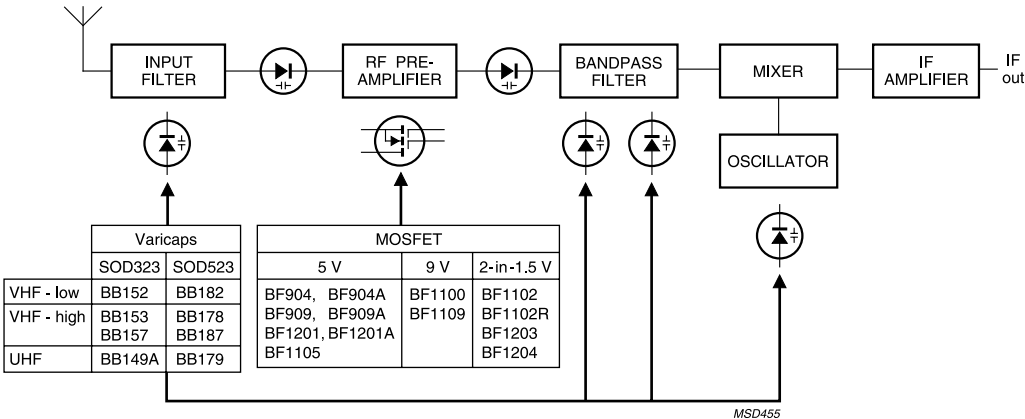
## APPLICATIONS KEY

**Telecom**  
1 = Oscillator

**Radio**  
1 = Filter  
2 = Oscillator

**TV / VCR / DVD, Set Top Box, Satellite Receiver, Cable Modem**  
1 = Filter  
2 = Oscillator

TV/VCR/DVD TUNING APPLICATION DIAGRAM



## RELATED LITERATURE

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Small-signal Field-effect Transistors and Diodes (databook)	9397 750 06017
Discrete Semiconductor Packages (brochure)	9397 750 05011
Your PeRFect discretes partner (brochure)	9397 750 04634
PeRFectly tuned into your ideas (brochure)	9397 750 07019
The PeRFect connection (brochure)	9397 750 07928

Why choose

**Philips Semiconductors'...?**

**Varicaps**  
\* Our broad portfolio offers high volume and flexibility at high performance.

**Benefits**  
\* Volume delivery  
\* Short leadtimes  
\* Direct matching process  
\* Small tolerances

# Diodes & Rectifiers

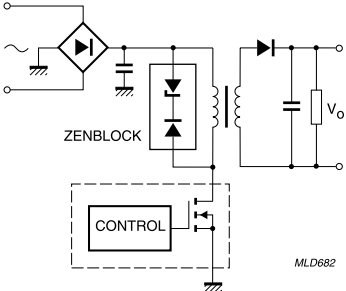
## ZENBLOCK™ - ZENER WITH INTEGRATED BLOCKING DIODE (ONE FOR TWO - 142) - NEW

Zener diode				Blocking diode		SMD		TYPICAL APPLICATION
working voltage (V)	power dissipation (W)	TVS-stand-off voltage (V)	TVS-peak power-rating (W)	V <sub>r</sub> (V)	Ersm (mJ)	SOD87	SMA (SOD124)	Power supply
68	1.5	56	100	600	10	BZD142W-68		12
100	1.5	82	100	600	10	BZD142W-100		12
160	1.5	130	100	600	10	BZD142W-160		12
180	1.5	150	100	600	10	BZD142W-180		12
200	1.5	160	100	600	10	BZD142W-200		12
68	1.8	56	150	600	7.5		BZG142-68	12
91	1.8	75	150	600	7.5		BZG142-91	12
100	1.8	82	150	600	7.5		BZG142-100	12
120	1.8	100	150	600	7.5		BZG142-120	12
150	1.8	120	150	600	7.5		BZG142-150	12
160	1.8	130	150	600	7.5		BZG142-160	12
180	1.8	150	150	600	7.5		BZG142-180	12
200	1.8	160	150	600	7.5		BZG142-200	12

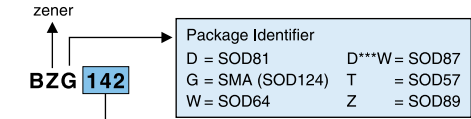
## APPLICATIONS KEY

### Power Supply

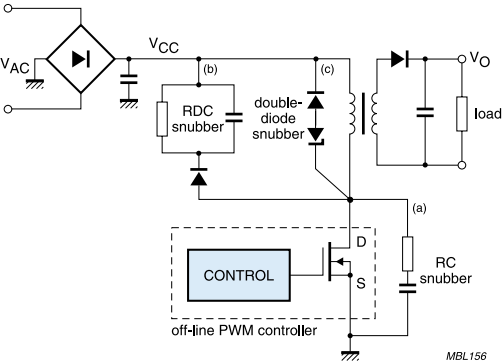
- 1 = Primary side voltage clamp for isolated power supply units
- 2 = Low power, power factor correction
- 3 = Medium/ high power, power factor correction
- 4 = Output rectifiers for low wattage power supplies
- 5 = Output rectifiers for medium power telecom supplies
- 6 = Output rectifiers for high power telecoms supplies
- 7 = High power workstation telecoms, and server power supply units
- 8 = Medium power desktop PC power supply units
- 9 = Low power chargers and laptop power supply units
- 10 = Medium power chargers and general lower voltage power supply units
- 11 = Auxiliary voltage
- 12 = Snubber diode



### ZenBlock™ part numbering



"One for two": use one package for two functions!



## RELATED LITERATURE

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Zenblock™: zener with integrated blocking diode (leaflet)	9397 750 07017
Zenblock™: zener with integrated blocking diode (application note)	9397 750 06903

### Why choose

#### Philips Semiconductors' ...?

#### ZenBlock

- \* Zener & Blocking function in one package, means fewer components, leading to a reduction in space used on circuit boards
- \* Benefits of ZenBlock over RCD or RC snubber
  - Lowered EMI by reducing the drain clamp circuit length & area
  - Optimal clamp performance at all loads
  - Higher efficiency at low loads
- \* Excellent stability due to glass passivation technology

# Diodes & Rectifiers

## GA ZENER DIODES

I <sub>F(AV)</sub> max. (mA)	P <sub>tot</sub> @		P <sub>ZSM</sub> @ T <sub>j</sub> and t <sub>p</sub>			V <sub>z</sub> (nom.) (V)	tol. +-%	LEADED		SMD	
	(mW)	T <sub>amb</sub> (°C)	(W)	(°C)	(ms)			SOD27 DO-35	SOD66 DO-41	SOD523 SC-79	SOT663
-	-	-	20	-	1	+5	-				
100	-	-	24	-	1	5.6	-				
100	-	-	24	-	1	6.2	-				
100	-	-	25	-	1	6.8	-				
100	-	-	19.6	-	1	20	-				
200	220	25	-	-	-	2.4...15	3				
200	250	25	40	25	0.1	2.4...75	1; 2; 5				
200	300	25	17	150	0.1	2.4...15	2; 5			BZX585	
200							5				
200							5				
200							5				
200	335	25	24	150	1	20	5				
200	335	25	24	150	1	5.6	5				
200	335	25	24	150	1	6.2	5				
200	335	25	24	150	1	6.8	5				
200	350	25	40	150	0.1	2.4...15	5				
200	400	25	-	-	-	2.4...36	2				
200	425	25	40	150	0.1						BZB984 (2 c.a.) *
200	-	-	27.5	-	1	6.8	-				
250	250	25	30	150	0.1	5...6.8	+0.2V				
250	250	25	10	55	8.3	3.3...33	5				
250	300	25	-	-	-	2.4...36	3; 5				
250	300	25	-	-	-	1.8...43					
250	400	25	-	-	-	(V <sub>z</sub> @ I <sub>z</sub> =50μA) 2.4...75	5				
250	500	50	40	25	0.1	2.4...75	2; 5				
250	1000	25	40	25	0.1	2.4...75	2; 5	BZX79			
300	300	25	-	-	-	2.4...15	5				
400	1500	25	40	25	0.1	(V <sub>z</sub> @ I <sub>z</sub> =50μA) 2.4...75	5				
500	1000	50	-	-	-	3.3...24	5			1N47nnA	
500	1300	55	60	25	0.1	3.6...75	5			BZV85	

\* new product

\*\* under development



# Diodes & Rectifiers

## ZENER DIODES AND TRANSIENT VOLTAGE SUPPRESSORS

ZENER TOTAL POWER RATING		PACKAGE							TYPICAL APPLICATIONS	
		LEADED			SURFACE MOUNT					
		SOD64	SOD57	SOD81	SOD87	SOD106		SMA (SOD124)		
TVS PEAK POWER RATING		6W	3.25W	1.7W - 2.3W	1.7W - 2.3W	3W	-	-	2.5W	General Purpose
ZENER WORKING VOLTAGE (V)	TVS STAND-OFF VOLTAGE (V)	500W	300W	150W	150W	-	300W	400W	-	
7.5	6.2		BZT03-C7V5		BZD27-C7V5					1 / 2 / 3
8.2	6.8		BZT03-C8V2		BZD27-C8V2					1 / 2 / 3
9.1	7.5		BZT03-C9V1		BZD27-C9V1					1 / 2 / 3
10	8.2		BZT03-C10		BZD27-C10	BZG03-C10	BZG04-8V2		BZG01-C10	1 / 2 / 3
11	9.1		BZT03-C11		BZD27-C11	BZG03-C11	BZG04-9V1		BZG01-C11	1 / 2 / 3
12	10	BZW03-C12	BZT03-C12	BZD23-C12	BZD27-C12	BZG03-C12	BZG04-10		BZG01-C12	1 / 2 / 3
13	11		BZT03-C13		BZD27-C13	BZG03-C13	BZG04-11		BZG01-C13	1 / 2 / 3
15	12	BZW03-C15	BZT03-C15	BZD23-C15	BZD27-C15	BZG03-C15	BZG04-12		BZG01-C15	1 / 2 / 3
16	13		BZT03-C16		BZD27-C16	BZG03-C16	BZG04-13		BZG01-C16	1 / 2 / 3
18	15		BZT03-C18		BZD27-C18	BZG03-C18	BZG04-15		BZG01-C18	1 / 2 / 3
20	16		BZT03-C20		BZD27-C20	BZG03-C20	BZG04-16		BZG01-C20	1 / 2 / 3
22	18	BZW03-C22	BZT03-C22	BZD23-C22	BZD27-C22	BZG03-C22	BZG04-18		BZG01-C22	1 / 2 / 3
24	20	BZW03-C24	BZT03-C24	BZD23-C24	BZD27-C24	BZG03-C24	BZG04-20		BZG01-C24	1 / 2 / 3
27	22		BZT03-C27		BZD27-C27	BZG03-C27	BZG04-22		BZG01-C27	1 / 2 / 3
30	24		BZT03-C30		BZD27-C30	BZG03-C30	BZG04-24		BZG01-C30	1 / 2 / 3
	26							PSMA26A		2 / 3
33	27		BZT03-C33		BZD27-C33	BZG03-C33	BZG04-27		BZG01-C33	1 / 2 / 3
36	30		BZT03-C36	BZD23-C36	BZD27-C36	BZG03-C36	BZG04-30		BZG01-C36	1 / 2 / 3
39	33		BZT03-C39		BZD27-C39	BZG03-C39	BZG04-33		BZG01-C39	1 / 2 / 3
43	36		BZT03-C43		BZD27-C43	BZG03-C43	BZG04-36		BZG01-C43	1 / 2 / 3
47	39	BZW03-C47	BZT03-C47	BZD23-C47	BZD27-C47	BZG03-C47	BZG04-39		BZG01-C47	1 / 2 / 3
51	43		BZT03-C51		BZD27-C51	BZG03-C51	BZG04-43		BZG01-C51	1 / 2 / 3
56	47		BZT03-C56		BZD27-C56	BZG03-C56	BZG04-47		BZG01-C56	1 / 2 / 3
62	51		BZT03-C62		BZD27-C62	BZG03-C62	BZG04-51		BZG01-C62	1 / 2 / 3
68	56	BZW03-C68	BZT03-C68	BZD23-C68	BZD27-C68	BZG03-C68	BZG04-56		BZG01-C68	1 / 2 / 3
75	62		BZT03-C75		BZD27-C75	BZG03-C75	BZG04-62		BZG01-C75	1 / 2 / 3
82	68		BZT03-C82		BZD27-C82	BZG03-C82	BZG04-68		BZG01-C82	1 / 2 / 3
91	75		BZT03-C91		BZD27-C91	BZG03-C91	BZG04-75		BZG01-C91	1 / 2 / 3
100	82		BZT03-C100		BZD27-C100	BZG03-C100	BZG04-82		BZG01-C100	1 / 2 / 3
110	91		BZT03-C110		BZD27-C110	BZG03-C110	BZG04-91		BZG01-C110	1 / 2 / 3
120	100		BZT03-C120		BZD27-C120	BZG03-C120	BZG04-100		BZG01-C120	1 / 2 / 3
130	110		BZT03-C130		BZD27-C130	BZG03-C130	BZG04-110		BZG01-C130	1 / 2 / 3
150	120	BZW03-C150	BZT03-C150	BZD23-C150	BZD27-C150	BZG03-C150	BZG04-120		BZG01-C150	1 / 2 / 3
160	130		BZT03-C160		BZD27-C160	BZG03-C160	BZG04-130		BZG01-C160	1 / 2 / 3
180	150	BZW03-C180	BZT03-C180	BZD23-C180	BZD27-C180	BZG03-C180	BZG04-150		BZG01-C180	1 / 2 / 3
200	160	BZW03-C200	BZT03-C200	BZD23-C200	BZD27-C200	BZG03-C200	BZG04-160		BZG01-C200	1 / 2 / 3
220	180	BZW03-C220	BZT03-C220	BZD23-C220	BZD27-C220	BZG03-C220	BZG04-180		BZG01-C220	1 / 2 / 3
240	200		BZT03-C240	BZD23-C240	BZD27-C240	BZG03-C240	BZG04-200		BZG01-C240	1 / 2 / 3
270	220	BZW03-C270	BZT03-C270	BZD23-C270	BZD27-C270	BZG03-C270	BZG04-220		BZG01-C270	1 / 2 / 3
300	240				BZD27-C300					1 / 2 / 3

		PACKAGE							TYPICAL APPLICATIONS
		LEADED			SURFACE MOUNT				
		SOD64	SOD57	SOD81	SOD87	SOD106		SMA (SOD124)	
ZENER TOTAL POWER RATING		6W	3.25W	1.7W - 2.3W	1.7W - 2.3W	3W	-	-	2.5W
TVS PEAK POWER RATING		500W	300W	150W	150W	-	300W	400W	-
ZENER WORKING VOLTAGE (V)	TVS STAND-OFF VOLTAGE (V)								
330	270				BZD27-C330				General Purpose 1 / 2 / 3
360	300				BZD27-C360				1 / 2 / 3
390	330				BZD27-C390				1 / 2 / 3
430	360				BZD27-C430				1 / 2 / 3
470	390				BZD27-C470				1 / 2 / 3
510	430				BZD27-C510				1 / 2 / 3

## APPLICATIONS KEY

### General Purpose

- 1 = Voltage regulation
- 2 = Voltage clamping
- 3 = Surge protection

Why choose

*Philips Semiconductors'...?*

**....SOD87**

- \* Better Current/Power Capability than SMA
  - Can be used in a wider range of applications with higher current/power than a standard 1A SMA
- \* Smaller than SMA equivalents
  - Aids miniaturisation of board space requirements, key to most SMD applications

**Features and benefits over plastic devices**

- \* Device Hermetically sealed
  - No moisture ingress. Better than plastic equivalents
- \* Good Avalanche Energy Absorption
  - This benefit overcomes problems caused by noisy lines in various circuitry such as input rectification
- \* Glass Package
  - Reduced risk of diode thermal runaway, due to a higher maximum operating temperature of the device compared to plastic equivalents

# Transistors

## HORIZONTAL DEFLECTION TRANSISTORS

V <sub>CESM</sub> (V)	I <sub>C [DC]</sub> (A)	tf [max] (μs)	LEADED PACKAGES				SUGGESTED APPLICATIONS				
			TO220AB (SOT78)	SOT186A (isolated TO220AB)	SOT199	SOT399 (TOP3D)	TO247 (SOT429)	TV		Monitor	
								IC(SAT) (A)	FREQ. (kHz)	IC(SAT) (A)	FREQ. (kHz)
1000	5	0.2		BUT11APX				2.5	16		
1200	6	0.3		BUT11APX-1200				2	16		
1500	2.5	0.9	BU505					2	16		
1500	5	0.4		BU4506DZ	BU4506DF	BU4506DX		3	16		
1500	5	0.45		BU4506AZ	BU4506AF	BU4506AX		3	16		
1500	5	0.5			BU2506DF	BU2506DX		3	16		
1500	8	0.4				BU4507DX		4	16	4	56
1500	8	0.45				BU4507AX		4	16	4	56
1500	8	0.5		BU1507AX		BU2507AX		4	16	4	56
1500	8	0.5				BU2507DX		4	16	4	56
1500	8	0.6		BU1508AX	BU2508AF	BU2508AX		4.5	16	4	38
1500	8	0.6		BU1508DX	BU2508DF	BU2508DX		4.5	16	4	38
1500	8	0.7			BU508AF		BU508AW	4.5	16		
1500	8	0.7			BU508DF		BU508DW	4.5	16		
1500	8	0.4		BU4508DZ	BU4508DF	BU4508DX		5	16	4	64
1500	8	0.48			BU4508AF	BU4508AX		5	16	4	64
1500	9	0.4				BU2515DX		6	16	5	64
1500	9	0.5			BU4515AF	BU4515AX		6	16	5	64
1500	10	0.25			BU2522AF	BU2522AX		7	16	6	64
1500	10	0.5			BU2520AF	BU2520AX		6	16	5	64
1500	10	0.5			BU2520DF	BU2520DX	BU2520DW	6	16	5	64
1500	10	0.4			BU4522AF	BU4522AX		7	16	6	64
1500	11	0.3			BU2523AF	BU2523AX		8	16	6.5	70
1500	11	0.4				BU4523AX		8	16	6.5	70
1500	12	0.35			BU2525AF	BU2525AX	BU2525AW	8	16	7	70
1500	12	0.2			BU2527AF	BU2527AX		9	32	7	90
1500	12	0.2				BU2527DX		9	32	7	90
1500	12	0.55				BU4525AX		9	16	7	70
1500	16	0.1					BU2532AW	10	32	9	90
1500	16	0.25					BU2530AW	10	32	8	90
1500	16	0.4					BU4530AW	10	32	8	90
1700	8	0.52			BU2708AF			4	16		
1700	10	0.9				BU2720DX		5.5	16		
1700	12	0.8				BU2725DX		7	16		

New Product, for electronic focusing of CRT spot as it moves about screen.

## DYNAMIC FOCUS TRANSISTORS

V <sub>CESM</sub> (V)	BV <sub>CEO</sub> (V)	I <sub>C [DC]</sub> (A)	H <sub>feo</sub> (50mA/5V)	LEADED PACKAGE	TYPICAL APPLICATIONS	
				TO220AB (SOT78)	TV	Monitor
					BUX87-1100	All
1100	700	0.5	26-125			

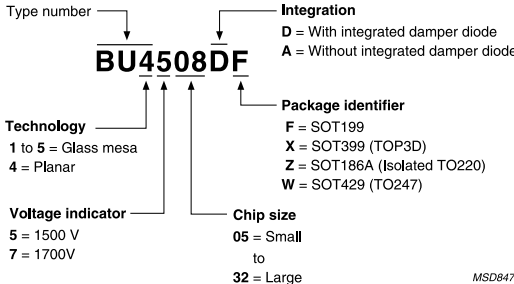
Why choose

Philips Semiconductors'...?

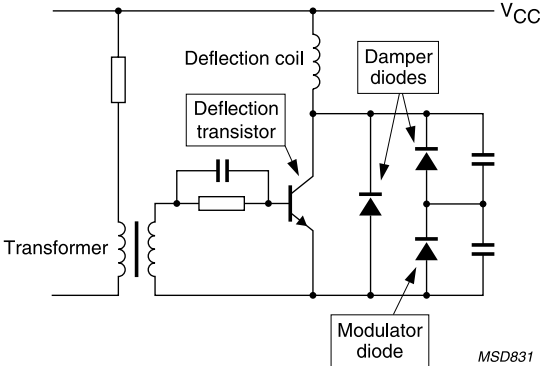
Deflection

- \* Complete portfolio of industry benchmark deflection transistors for all CTV and Monitor applications.
- \* Proven glass mesa process utilised to produce very good switching characteristics.
- \* Improved emitter design enhances ruggedness in the BU45 series.
- \* Optimised for low loss in applications from 1000 to 1700 V.
- \* Full range of industry standard packages offered with or without integrated damper diodes.

DEFLECTION TRANSISTOR PART NUMBERING



DEFLECTION CIRCUIT



# Transistors

## LIGHTING TRANSISTORS

V <sub>CESM</sub> (V)	I <sub>C [DC]</sub> (A)	I <sub>C [SAT]</sub> (A)	tf [max] (μs)	LEADED PACKAGES						TYPICAL APPLICATIONS
				SOT82	TO220AB (SOT78)	SOT186	SOT186A (isolated TO220AB)	TO92 (SOT54)	I-PAK (SOT533)	D <sup>2</sup> PAK (SOT404)
700	1	0.75	0.05					BUJ100 BUJ100B		2
700	1	0.5	0.05						BUJ101AU	1 / 2
700	1.5	0.75	0.05							1 / 2
700	4	3	0.033		BUJ103A		BUJ103AX			1 / 2
700	4	2	0.16		PHE13005					1
700	8	4	0.05		BUJ105A		BUJ105AX		BUJ105AB	1
700	8	5	0.04		PHE13007					1
700	10	6	0.05		BUJ106A					1
700	12	6	0.15		PHE13009					1
800	0.5	--	0.28	BUX86P						1
850	6	4	0.15		BUJ204A					1
850	8	6	0.8			BUT12F				1
1000	0.5	-	0.28	BUX87P						1
1000	2	1	0.4		BUX85					1
1000	5	2.5	0.15		BUT11A	BUT11AF	BUT11AX			1
1000	5	2.5	0.8		BUT11AI					1
1000	5	3	0.145		BUJ303A		BUJ303AX			1
1000	6	4	0.03		BUJ304A		BUJ304AX			1
1000	6	4	0.8		BUT18A	BUT18AF				1
1000	8	5	0.8		BUT12A	BUT12AF				1
1000	8	5	0.8		BUT12AI					1
1200	6	2	0.3		BUJ403A					1
1200	6	2	0.17		BUJ403B		BUJ403BX			1
1750	5	1.5	0.6						BU1706AB	1

## APPLICATIONS KEY

### Lighting

- 1 = HF electronic ballast
- 2 = Compact fluorescent lamp (CFL)

## RELATED LITERATURE

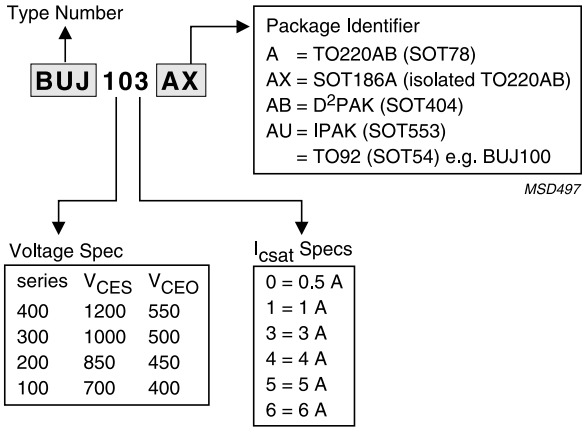
### Title

- Philips Comprehensive Product Portfolio (CD-ROM)
- Power in Lighting (folder)
- FS046, An Electronic Ballast: Base Drive Optimisation (factsheet)
- Philips BUJ100 transistor in TO92 suits all Compact Fluorescent Lamp powers (application note)

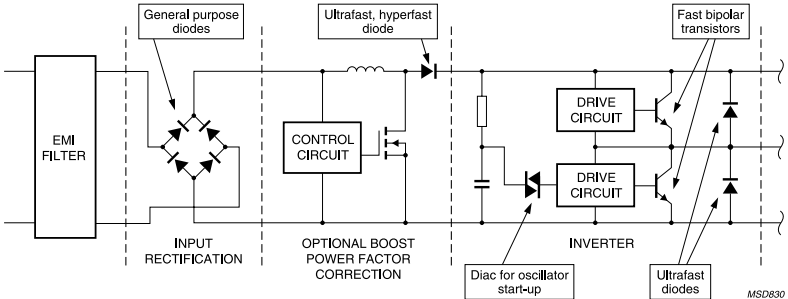
### Order code

- 9397 750 07536
- 9397 750 05312
- 9397 750 03653
- 9397 750 07909

## BUJ PART NUMBERING



## ELECTRONIC LIGHTING BALLAST



### Why choose

### Philips Semiconductors'...?

#### ... BUJ range of Bipolar Transistors

- Benefits:**
- \*Wide choice of current ratings and packages meets all self-oscillating ballast requirements
  - \* Planar passivation technology offers stable voltage blocking at elevated temperature for longterm reliability and long life
  - \* Transistor design optimised for the lowest power dissipation in lighting ballasts
  - \* Very fast, smooth turn-off performance yields the lowest switching dissipation
  - \* Very low V<sub>CESAT</sub> yields low ON-state losses
  - \* Very fast turn-off is maintained, even when base is driven hard to minimise ON-state losses
  - \* BUJ100 in TO92 is suitable for all Compact Fluorescent Lamps and ballasts up to at least 26 W @ 230 V AC
  - \* Tightly-controlled gain makes selection and gain banding unnecessary
  - \* Flat gain characteristic over a wide range of IC guarantees correct operation under all conditions

# Transistors

## GA GENERAL PURPOSE TRANSISTORS

I <sub>c</sub> max. (mA)	V <sub>CE0</sub> max. (V)	hFE min.	hFE max.	f <sub>r</sub> min. (MHz)	POLARITY	Single SMD		
						LEADED SOT54 / TO-92 <i>Ptot max. 500/625 mW</i>	SOT89 / SC-62 <i>Ptot max. 1100/2000 mW</i>	SOT223 / SC-73 <i>Ptot max. 1300/1370 mW</i>
<b>Low Power</b>								
25	20	48..105	127..210	825 max.	NPN	ED1502x		
100	20	125..223	190..475	100	PNP	ED1602x		
100	25	450	>450	100	NPN			
100	30	200	450	100	NPN	JC548B		
100	30	220	475	100	(2) PNP	JC558B		
100	30	350	>350	100	NPN			
100	30	420	800	100	(2) NPN	BC549C		
100	30	420	800	100	(2) PNP	BC559C		
100	32	110..420	220..800	100	NPN			
100	32	120..215	260..500	100	PNP			
100	32	180..380	310..630	100	NPN			
100	32	180..380	310..630	100	PNP			
100	32	200	450	100	NPN			
100	40	100	300	180	NPN			
100	40	100	300	150	PNP			
100	45	200	450	100	NPN	PSS9014C*		
100	40..50	120..270	270..560	100	(2) NPN			
100	40..50	120..270	270..560	100	NPN/PNP			
100	40..50	120..270	270..560	100	(2) PNP			
100	45	110	220	100	NPN			
100	45	125	250	100	PNP			
100	45	110	800	100	NPN	BC547		
100	45	125	800	100	PNP	BC557		
100	45	120	260	100	PNP			
100	45	120..380	220..630	100	NPN			
100	45	120..380	220..630	100	PNP			
100	45	200	450	100	(2) NPN			
100	45	200	450	100	NPN/PNP			
100	45	200..220	475..500	100	(2) PNP	BC557B		
100	45	420	800	100	NPN	BC547C		
100	45	420	800	100	PNP	BC557C		
100	45	500	1250	100	NPN			
100	45..50	160..290	260..460	60	PNP			
100	45..50	160..290	260..460	100	NPN			
100	50	200	400	150	NPN	2PC945P		
100	50	135..200	400..600	100	PNP	2PA733/P		
100	50	250	650	100	NPN			
100	60	110..200	220..450	100	NPN			
100	60	120	260	100	PNP			
100	65	110	220	100	NPN	BC546A		
100	65	125	250	100	PNP	BC556A		

\* new product

\*\* Device is under development

Single SMD					Double SMD		
SOT23 <i>Ptot max. 250 mW</i>	SC-59 / SOT346 <i>Ptot max.250 mW</i>	SC-70 / SOT323 <i>Ptot max. 200 mW</i>	SC-75 / SOT416 <i>Ptot max. 150 mW</i>	SC-89 / SOT490 <i>Ptot max. 250 mW</i>	SC-74 / SOT457 <i>Ptot max. 600 mW</i>	SC-88 / SOT363 <i>Ptot max. 200 mW</i>	SOT666 <i>Ptot max. 300 mW</i>
		PMST5089					
BC849B		BC849BW					
BC859B		BC859BW					
		PMST5088					
BC849C		BC849CW					
BC859C		BC859CW					
BCW31/32/33							
BCW29/30							
BCW60B/C/D							
BCW61B/C/D							
BCF32							
PMBS3904							
PMBS3906							
		2PC4081Q/R/S	2PC4617Q/R/S	2PC4617QJ/RJ/SJ		PUMX1	PEMX1*
		2PA1576Q/R/S	2PA1774Q/R/S	2PA1774QJ/RJ/SJ	PIMT1	PUMZ1	PEMZ1*
BC847A / BCW71		BC847AW	BC847AT	BC847AF		PUMT1	PEMT1*
BC857A		BC857AW	BC857AT	BC857AF			
BC847		BC847W					
BC857		BC857W					
BCW69							
BCX70G/H/J/K							
BCX71H/J/K							
BC847B / BCW72		BC847BW	BC847BT	BC847BF		BC847BS	BC847BV*
						BC847BPN	BC847BVN*
BC857B / BCW70		BC857BW	BC857BT	BC857BF		BC857BS	BC857BV*
BC847C		BC847CW	BC847CT	BC847CF			
BC857C		BC857CW	BC857CT	BC857CF			
PMBT6429		PMST6429					
	2PB709AQ/R/S	2PB709AQ/R/SW**					
	2PD601AQ/R/S	2PD601AQ/R/SW*					
PMBT6428		PMST6428					
BCV71/72							
BCW89							
BC846A		BC846AW	BC846AT			BC846S	
BC856A		BC856AW	BC856AT				

continued on next page

# Transistors

## GA GENERAL PURPOSE TRANSISTORS

I <sub>c</sub> max. (mA)	V <sub>CE0</sub> max. (V)	hFE min.	hFE max.	f <sub>r</sub> min. (MHz)	POLARITY	Single SMD		
						LEADED SOT54 / TO-92 <i>Ptot max. 500/625 mW</i>	SOT89 / SC-62 <i>Ptot max. 1100/2000 mW</i>	SOT223 / SC-73 <i>Ptot max. 1300/1370 mW</i>
<b>Low Power</b>								
100	65	110	450	100	NPN			
100	65	125	475	100	PNP	BC556		
100	65	200	290	100	NPN	JC546B		
100	65	200	450	100	NPN	BC546B		
100	65	220	475	100	PNP	BC556B / JC556B		
150	50	120..350	240..700	80	NPN	2PC1815Y/GR/BL		
150	50	120..200	240..400	80	PNP	2PA1015Y/GR		
200	20	150..290	225..490	100 max.	NPN	ED1402x		
500	25	100	600	80	PNP			
500	25	170..230	230..300	80	PNP	ED1802x		
500	25	132..213	189..300	80	NPN	ED1702x		
500	45	100..250	250..600	100	NPN	BC337/-16/-25/-40		
500	45	100..250	250..600	80	PNP	BC327/-16/-25/-40		
500	45	100	600	100	NPN			
500	45	100	600	80	PNP			
500	45	160	400	80	PNP	JC327-25		
500	50	85..170	170..340	140..150	NPN			
500	50	85..170	170..340	100..140	PNP			
500	60	50	>50	100	NPN			
500	60	50	>50	50	PNP			
500	60	160	400	100	NPN	JC337-25		
500	80	50..100	>50..100	100	NPN	MPSA06		
500	80	50..100	>50..100	50	PNP	MPSA56		
<b>Medium power</b>								
1.000	20	85..160	> 160	40	NPN	BC368	BC868/-25	BCP68/-25
1.000	20	85..160	> 160	40	PNP	BC369/-16/-25	BC869/-16/-25	BCP69/-16/-25
1.000	45	40..100	160..250	130..250 typ.	NPN	BC635/-16	BCX54/-10/-16	BCP54/-16
1.000	45	40..100	160..250	50..115 typ.	PNP	BC636/-10/-16	BCX51/-10/-16	BCP51/-16
1.000	60	40..100	160..250	100..130 typ.	NPN	BC637/-16	BCX55/-10/-16	BCP55/-10/-16
1.000	60	40..100	160..250	50..100 typ.	PNP	BC638/-16	BCX52/-10/-16	BCP52-16
1.000	60	40..100	120..300	100	NPN		BSR40/41	BSP41
1.000	60	40..100	120..300	100	PNP		BSR30/31	BSP31
1.000	80	40..100	160..250	100..250 typ.	NPN	BC639/-10/-16	BCX56/-10/-16	BCP56/-10/-16
1.000	80	40..100	160..250	50..115 typ.	PNP	BC640/-16	BCX53/-10/-16	BCP53/-10/-16
1.000	80	40..100	120..300	100	NPN		BSR42/43	BSP43
1.000	80	40..100	120..300	100	PNP		BSR33	BSP32/33
3.000	45	40	>40	60	NPN			BDP31
3.000	45	40	>40	60	PNP			BDP32
5.000	10	180	>180	100	PNP			BDL32
5.000	10	200	>200	100	NPN			BDL31

Single SMD					Double SMD			
SOT23 <i>Ptot max. 250 mW</i>	SC-59 / SOT346 <i>Ptot max.250 mW</i>	SC-70 / SOT323 <i>Ptot max. 200 mW</i>	SC-75 / SOT416 <i>Ptot max. 150 mW</i>	SC-89 / SOT490 <i>Ptot max. 250 mW</i>	SC-74 / SOT457 <i>Ptot max. 600 mW</i>	SC-88 / SOT363 <i>Ptot max. 200 mW</i>	SOT666 <i>Ptot max. 300 mW</i>	
BC846		BC846W				BC856S		
BC856		BC856W						
BC846B		BC846BW	BC846BT					
BC856B		BC856BW	BC856BT					
BCX18								
BC817/-16/-25/-40		BC817W/-16W/-25W/-25W						
BC807/-16/-25/-40		BC807W/-16W/-25W/-40W						
BCX19								
BCX17								
	2PD602AQ/R/S	2PD1820AQ/R/S						
	2PB710AQ/R/S	2PB1219AQ/R/S						
		PMSTA05						
		PMSTA55						
PMBTA06		PMSTA06						
PMBTA56		PMSTA56						

# Transistors

## GA DARLINGTON TRANSISTORS

I <sub>c</sub> max. (mA)	V <sub>ce0</sub> max. (V)	hFE min.	hFE max.	f <sub>r</sub> min. (MHz)	POLARITY	LEADED	SMD		
						SOT54 / TO-92x <i>Ptot max.500/830mW</i>	SOT223 / SC-73 <i>Ptot max. 1250 mW</i>	SOT89 / SC-62 <i>Ptot max. 1300 mW</i>	SOT23 <i>Ptot max. 250 mW</i>
<b>Low Power</b>									
500	30	5000	>5000	125	NPN				PMBTA13
500	30	10000..20000	>10000..20000	125	NPN	MPSA14	PZTA14	PXTA14	PMBTA14
500	30	10000	>10000	125	PNP	MPSA64			PMBTA64
500	30	20000	>20000	220 typ.	NPN			BCV29	BCV27
500	30	20000	>20000	220 typ.	PNP			BCV28	BCV26
500	30	30000	>30000	220 typ.	NPN	BC517			
500	30	30000	>30000	220 typ.	PNP	BC516			
500	45	2000	>2000	200 typ.	NPN			BST50	
500	45	2000	>2000	200 typ.	PNP		BSP60	BST60	
500	50	10000	>10000	125	NPN	MPSA26			
500	60	2000	>2000	200 typ.	NPN			BST51	
500	60	2000	>2000	200 typ.	PNP		BSP61	BST61	
500	60	10000	>10000	220 typ.	NPN			BCV49	BCV47
500	60	10000	>10000	220 typ.	PNP			BCV48	BCV46
500	80	2000	>2000	200 typ.	NPN		BSP52	BST52	
500	80	2000	>2000	200 typ.	PNP		BSP62	BST62	
800	55	2000	>2000	155	NPN	BC618			
<b>Medium Power</b>									
1.000	45	1000	>1000	200 typ.	NPN	BC875			
1.000	45	2000	>2000	200 typ.	NPN		BSP50		
1.000	45	2000	>2000	200 typ.	PNP				
1.000	80	1000	>1000	200 typ.	NPN	BC879			
1.000	60	2000	>2000	200 typ.	NPN		BSP51		
1.000	80	2000	>2000	200 typ.	NPN	BSR52	BSP52		
1.000	80	2000	>2000	200 typ.	PNP	BSR62			

## GA HIGH-VOLTAGE TRANSISTORS

V <sub>CEO</sub> max. (V)	I <sub>c</sub> max. (mA)	hFE min.	hFE max.	f <sub>r</sub> min. (MHz)	POLARITY	Single					Double
						LEADED	SMD				SMD
						TO-92 / SOT54 <i>Ptot max. 830 mW</i>	SOT223 / SC-73 <i>Ptot max. 1200/1350 mW</i>	SOT89 / SC-62 <i>Ptot max. 1300 mW</i>	SOT23 <i>Ptot max. 250 mW</i>	SC-70 / SOT323 <i>Ptot max. 200 mW</i>	SC-74 / SOT457 <i>Ptot max. 600 mW</i>
80	100	20	80	60	NPN				BSS64		
100	100	30	>30	85 typ.	PNP				BSS63		
100	100	150	>150	150	NPN	BFV420					
100	100	150	>150	150	PNP	BFV421					
120	300	40	180	100	PNP				BSR20		
140	300	60	250	100	NPN	2N5550			PMBT5550 / BSR19	PMST5550	
150	300	60	240	100	PNP	2N5401			PMBT5401 / BSR20A	PMST5401	
160	300	80	250	100	NPN	2N5551			PMBT5551 / BSR19A	PMST5551	
200	100	40	>40	50	NPN	MPSA43					
200	200	30	150	15	PNP			BST15			
250	50	40	>40	70	NPN		BSP20				
250	50	50	>50	70	NPN	BF483					
250	50	50	>50	60	PNP	BF422/L	BF722	BF622	BF822	BF822W	
250	50	50	>50	60	PNP	BF423/L	BF723	BF623	BF823		
250	100	26	>26	90 typ.	NPN						
250	100	40	>40	70	NPN			BST40			
250	100..300	45 typ.	>45	90 typ.	NPN						
300	50	30	120	15	PNP		BSP16				
300	50	50	>50	60	NPN	BF420	BF720	BF620	BF820	BF820W	
300	50	50	>50	60	PNP	BF421/L		BF621	BF821		
300	50	50	>50	70	NPN	BF485					
300	50	50	>50	70	PNP						
300	100	26	>26	90 typ.	NPN						
300	100..500	40	>40	50	NPN	MPSA42	PZTA42	PXTA42	PMBTA42 / MMBTA42	PMSTA42	
300	100..500	25..40	>25..40	50	PNP	MPSA92	PZTA92	PXTA92	PMBTA92 / MMBTA92	PMSTA92	
300	200	30	120	15	PNP			BST16			
350	50	40..50	>40..50	70	NPN	BF487	BSP19				
350	200	25	>25	50	NPN/PNP						BF485PN
350	50	50	>50	70	PNP	BF488					
350	100	40	>40	70	NPN			BST39			
400	300	40	>40	20	NPN	MPSA44	PZTA44				

## RELATED LITERATURE

### Title

BF485PN dual surface-mount transistor brochure

### Order code

9397 750 08177

# Transistors

## N-CHANNEL JUNCTION FIELD-EFFECT TRANSISTORS (SMALL SIGNAL)

Type	Package	CHARACTERISTICS								
		$V_{DS}$ (V)	$I_G$ (Ma)	$I_{DSS}$ (mA)		$V_{(p)GS}$ (V)		Yfs  (mS)		$C_{rs}$ (Pf)
				min	max	min	max	min	max	min
<b>DC, LF and HF amplifiers</b>										
BF245A	SOT54	30	10	2	6.5		<8	3	6.5	1.1
BF245B	SOT54	30	10	6	15		<8	3	6.5	1.1
BF245C	SOT54	30	10	12	25		<8	3	6.5	1.1
BF545A	SOT23	30	10	2	6.5	0.4	7.5	3	6.5	0.8
BF545B	SOT23	30	10	6	15	0.4	7.5	3	6.5	0.8
BF545C	SOT23	30	10	12	25	0.4	7.5	3	6.5	0.8
BF556A	SOT23	30	10	3	7	0.5	7.5		4.5	0.8
BF556B	SOT23	30	10	6	13	0.5	7.5		4.5	0.9
BF556C	SOT23	30	10	11	18	0.5	7.5		4.5	0.8
<b>Preamplifiers for AM tuners in car radios</b>										
BF861A	SOT23	25	10	2	6.5	0.2	1.0		12	2.1
BF861B	SOT23	25	10	6	15	0.5	1.5		16	2.1
BF861C	SOT23	25	10	12	25	0.8	2		20	2.1
BF862	SOT23	20	10	13	25		<20		35	2.5
<b>RF stages FM portables, car radios, main radios and mixer stages</b>										
BF510 <sup>1)</sup>	SOT23	20	10	0.7	3		typ. 0.8		2.5	0.4
BF511 <sup>1)</sup>	SOT23	20	10	2.5	7		typ. 1.5		4	0.4
BF512 <sup>1)</sup>	SOT23	20	10	6	12		typ. 2.2		6	0.4
BF513 <sup>1)</sup>	SOT23	20	10	10	18		typ. 3		7	0.4
<b>Low level general purpose amplifiers</b>										
BFR30	SOT23	25	5	4	10		<5	1	4	1.5
BFR31	SOT23	25	5	1	5		<2.5	1.5	4.5	1.5
<b>General purpose amplifiers</b>										
BFT46	SOT23	25	5	0.2	1.5		<1.2		>1	1.5
<b>AM input stages UHF/VHF amplifiers</b>										
PMBFJ308	SOT23	25	50	12	60	1	6.5		>10	1.3
PMBFJ309	SOT23	25	50	12	30	1	4		>10	1.3
PMBFJ310	SOT23	25	50	24	60	2	6.5		>10	1.3

## P-CHANNEL JUNCTION FIELD-EFFECT TRANSISTORS FOR SWITCHING (SMALL SIGNAL)

Type	Package	CHARACTERISTICS									
		$V_{DS}$ (V)	$I_G$ (Ma)	$I_{DSS}$ (mA)		$V_{(p)GS}$ (V)		$R_{DS(on)}$ ( $\Omega$ )	$C_{rs}$ (Pf)	$t_{on}$ (ns)	$t_{off}$ (ns)
				min	max	min	max				
PMBFJ174	SOT23	30	50	20	135	5	10	85	typ.4	7	15
PMBFJ175	SOT23	30	50	7	70	3	6	125	typ.4	15	30
PMBFJ176	SOT23	30	50	2	35	1	4	250	typ.4	35	35
PMBFJ177	SOT23	30	50	1.5	20	0.8	2.25	300	typ.4	45	45
J174	SOT54	30	50	20	135	5	10	85	typ.4	7	15
J175	SOT54	30	50	7	70	3	6	125	typ.4	15	30
J176	SOT54	30	50	2	35	1	4	250	typ.4	35	35
J177	SOT54	30	50	1.5	20	0.8	2.25	300	typ.4	45	45

**N-CHANNEL, SINGLE GATE MOSFETS FOR SWITCHING (SMALL SIGNAL)**

Type	Package	CHARACTERISTICS											MODE	
		V <sub>DS</sub> (V)	I <sub>G</sub> (Ma)	I <sub>DSS</sub> (mA)	V <sub>(p)GS</sub> (V)		R <sub>DS(ON)</sub> ( $\Omega$ )	C <sub>rs</sub> (Pf)		t <sub>on</sub> (ns)	t <sub>off</sub> (ns)	S <sub>21(on)</sub>   <sup>2</sup> (dB)		S <sub>21(off)</sub>   <sup>2</sup> (dB)
					max	min		max	min					
BSD22	SOT143	20	50	-	-	2	30	typ.0.6		1	5	-	-	depl.
BSS83	SOT143	10	50	-	0.1 <sup>2)</sup>	2 <sup>1)</sup>	45	typ.0.6		1	5	-	-	enh.
<b>SILICON RF SWITCHES</b>														
BF1107	SOT23	3	10	100 <sup>3)</sup>	-	7 <sup>4)</sup>	20	-	-	-	-	2.5	30	depl.
BF1108 <sup>5)</sup>	SOT143B	3	10	100 <sup>3)</sup>	-	7 <sup>4)</sup>	20	-	-	-	-	3	30	depl.
BF1108R <sup>5)</sup>	SOT143R	3	10	100 <sup>3)</sup>	-	7 <sup>4)</sup>	20	-	-	-	-	3	30	depl.

**N-CHANNEL JUNCTION FIELD-EFFECT TRANSISTORS FOR SWITCHING (SMALL SIGNAL)**

Type	Package	CHARACTERISTICS									
		V <sub>DS</sub> (V)	I <sub>G</sub> (Ma)	I <sub>DSS</sub> (mA)		V <sub>(p)GS</sub> (V)		R <sub>DS(ON)</sub> ( $\Omega$ )	C <sub>rs</sub> (Pf)	t <sub>on</sub> (ns)	t <sub>off</sub> (ns)
				min	max	min	max				
BSR56	SOT23	40	50	50	-	4	10	25	-	-	-
BSR57	SOT23	40	50	20	100	2	6	40	-	-	-
BSR58	SOT23	40	50	8	80	0.8	4	60	-	-	-
PMBFJ108	SOT23	25	50	80	-	3	10	8	-	4	6
PMBFJ109	SOT23	25	50	40	-	2	6	12	-	4	6
PMBFJ110	SOT23	25	50	10	-	0.5	4	18	-	4	6
PMBFJ111	SOT23	40	50	20	-	3	10	30	-	13	35
PMBFJ112	SOT23	40	50	5	-	1	5	50	-	13	35
PMBFJ113	SOT23	40	50	2	-	0.5	3	100	-	13	35
J108	SOT54	25	50	80	-	3	10	8	-	4	6
J109	SOT54	25	50	40	-	2	6	12	-	4	6
J110	SOT54	25	50	10	-	0.5	4	18	-	4	6
J111	SOT54	40	50	20	-	3	10	30	-	13	35
J112	SOT54	40	50	5	-	1	5	50	-	13	35
J113	SOT54	40	50	2	-	0.5	3	100	-	13	35
PMBF4391	SOT23	40	50	50	150	4	10	30	-	-	-
PMBF4392	SOT23	40	50	25	75	2	5	60	-	-	-
PMBF4393	SOT23	40	50	5	30	0.5	3	100	-	-	-
PN4391	SOT54	40	50	50	-	4	10	30	-	-	-
PN4392	SOT54	40	50	25	-	2	5	60	-	-	-
PN4393	SOT54	40	50	5	-	0.5	3	100	-	-	-

# Transistors

## N-CHANNEL, DUAL GATE MOSFETS (SMALL SIGNAL)

Type	Package	CHARACTERISTICS										TYPICAL APPLICATIONS		
		$V_{DS}$		$I_D$		$I_{DSS}$		$V_{(DSS)}$	$ Y_{fs} $	$C_{in}$	$C_{out}$	$F @ 800 \text{ MHz}$	VHF	UHF
		(V)	(Ma)	min	max	max	min	typ.	typ.	typ.				
<b>With external bias</b>														
BF901	SOT143	12	30	2	18	0.7 <sup>6)</sup>	25	2.35	1.4	1.7	X	X		
BF901R	SOT143R	12	30	2	18	0.7 <sup>6)</sup>	25	2.35	1.4	1.7	X	X		
BF908	SOT143	12	40	3	27	2	36	3.1	1.7	1.5	X	X		
BF908R	SOT143R	12	40	3	27	2	36	3.1	1.7	1.5	X	X		
BF908VWR	SOT343R	12	40	3	27	2	36	3.1	1.7	1.5	X	X		
BF989	SOT143	20	20	2	20	2.7	9.5	1.8	0.9	2.8		X		
BF991	SOT143	20	20	4	25	2.5	10	2.1	1.1	0.7 <sup>7)</sup>	X			
BF992	SOT143	20	40	-	-	1.3	20	4	2	1.2 <sup>7)</sup>	X			
BF994S	SOT143	20	30	4	20	2.5	15	2.5	1	1 <sup>7)</sup>	X			
BF996S	SOT143	20	30	4	20	2.5	15	2.3	0.8	1.8		X		
BF998	SOT143	12	30	2	18	2.5	21	2.1	1.05	1	X	X		
BF998R	SOT143R	12	30	2	18	2.5	21	2.1	1.05	1	X	X		
BF998VWR	SOT343R	12	30	2	18	2.5	22	2.1	1.05	1	X	X		
<b>Partly internal bias</b>														
BF904(A)	SOT143	7	30	8	13	1 <sup>6)</sup>	22	2.2	1.3	2	X	X		
BF904(A)R	SOT143R	7	30	8	13	1 <sup>6)</sup>	22	2.2	1.3	2	X	X		
BF904(A)VWR	SOT343R	7	30	8	13	1 <sup>6)</sup>	22	2.2	1.3	2	X	X		
BF909(A)	SOT143	7	40	12	20	1 <sup>6)</sup>	36	3.6	2.3	2	X	X		
BF909(A)R	SOT143R	7	40	12	20	1 <sup>6)</sup>	36	3.6	2.3	2	X	X		
BF909(A)VWR	SOT343R	7	40	12	20	1 <sup>6)</sup>	36	3.6	2.3	2	X	X		
BF1100	SOT143	14	30	8	13	1 <sup>6)</sup>	24	2.2	1.4	2	X	X		
BF1100R	SOT143R	14	30	8	13	1 <sup>6)</sup>	24	2.2	1.4	2	X	X		
BF1100VWR	SOT343R	14	30	8	13	1 <sup>6)</sup>	24	2.2	1.4	2	X	X		
BF1101	SOT143	7	30	8	16	1 <sup>6)</sup>	25	2.2	1.2 <sup>8)</sup>	1.7	X	X		
BF1101R	SOT143R	7	30	8	16	1 <sup>6)</sup>	25	2.2	1.2 <sup>8)</sup>	1.7	X	X		
BF1101VWR	SOT343R	7	30	8	16	1 <sup>6)</sup>	25	2.2	1.2 <sup>8)</sup>	1.7	X	X		
BF1102(R)	SOT363	7	40	12	20	1.2 <sup>6)</sup>	36	2.8 <sup>9)</sup>	1.6 <sup>8)</sup>	2	Note 10			
BF1201	SOT143	10	301	11	19	1.2 <sup>6)</sup>	23	2.6	0.9	1.9	X	X		
BF1201R	SOT143R	10	301	11	19	1.2 <sup>6)</sup>	23	2.6	0.9	1.9	X	X		
BF1201VWR	SOT343R	10	301	11	19	1.2 <sup>6)</sup>	23	2.6	0.9	1.9	X	X		
BF1202	SOT143	10	30	8	16	1.2 <sup>6)</sup>	25	1.7	0.85	1	X	X		
BF1202R	SOT143R	10	30	8	16	1.2 <sup>6)</sup>	25	1.7	0.85	1	X	X		
BF1202VWR	SOT343R	10	30	8	16	1.2 <sup>6)</sup>	25	1.7	0.85	1	X	X		
BF12031 <sup>1)</sup>	SOT363	10	30	11	19	1.2 <sup>6)</sup>	23	2.6	0.9	1.8	X	X		
BF12041 <sup>1)</sup>	SOT363	10	30	8	16	1.2 <sup>6)</sup>	25	1.7	0.85	1	X	X		
<b>Fully internal bias</b>														
BF1105	SOT143	7	30	8	16	-	25	2.2 <sup>9)</sup>	1.2 <sup>8)</sup>	1.7	X	X		
BF1105R	SOT143R	7	30	8	16	-	25	2.2 <sup>9)</sup>	1.2 <sup>8)</sup>	1.7	X	X		
BF1105VWR	SOT343R	7	30	8	16	-	25	2.2 <sup>9)</sup>	1.2 <sup>8)</sup>	1.7	X	X		
BF1109	SOT143	11	30	8	16	1.2 <sup>6)</sup>	24	2.2 <sup>9)</sup>	1.3 <sup>8)</sup>	1.5	X	X		
BF1109R	SOT143R	11	30	8	16	1.2 <sup>6)</sup>	24	2.2 <sup>9)</sup>	1.3 <sup>8)</sup>	1.5	X	X		
BF1109VWR	SOT343R	11	30	8	16	1.2 <sup>6)</sup>	24	2.2 <sup>9)</sup>	1.3 <sup>8)</sup>	1.5	X	X		

<sup>1)</sup> Asymmetrical

<sup>2)</sup> VGS(th)

<sup>3)</sup> ID

<sup>4)</sup> VSG

<sup>5)</sup> Depletion FET plus diode in one package

<sup>6)</sup> VGS(th)

<sup>7)</sup> 200 mHz

<sup>8)</sup> COSS

<sup>9)</sup> Cig

<sup>10)</sup> Two equal dual gate MOSFETs in one package

<sup>11)</sup> Two low noise gain amplifier in a single package

## APPLICATIONS KEY

### TV / VCR / DVD, Set Top Box, Cable Modem

- 1 = Low noise amplifier
- 2 = Switch

### Car radio

- 1 = Low noise amplifier

## RELATED LITERATURE

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
Small-signal Field-effect Transistors and Diodes (databook)	9397 750 06017
Discrete Semiconductor Packages (brochure)	9397 750 05011
Your PeRFect discretes partner (brochure)	9397 750 04634
PeRFectly tuned into your ideas (brochure)	9397 750 07019
The PeRFect connection (brochure)	9397 750 07928

### NOTES

- 1 = Asymmetrical
- 2 = VGS(th)
- 3 = ID
- 4 = VSG
- 5 = Depletion FET plus diode in one package
- 6 = VGS(th)
- 7 = @ 200 MHz
- 8 = COSS
- 9 = Cig
- 10 = Two equal dual gate MOSFETs in one package
- 11 = Two low noise gain amplifier in a single package

Why choose

**Philips Semiconductors'...?**

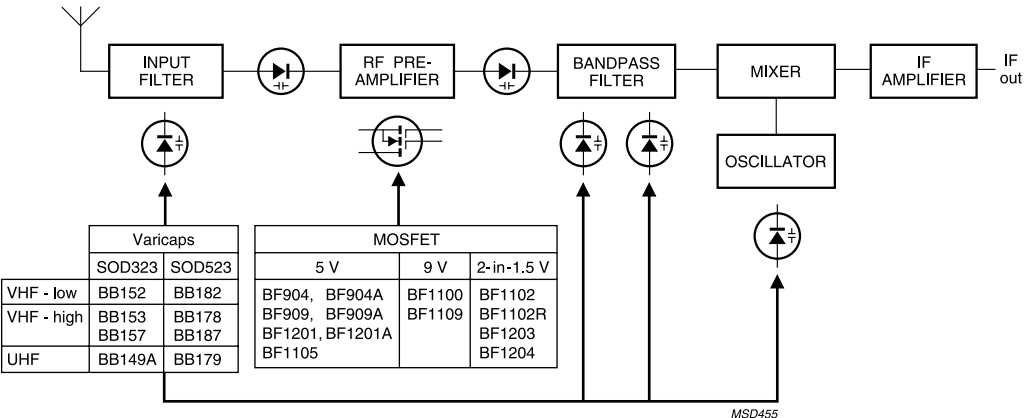
**...Fet's**

\* Our broad portfolio offers high flexibility in biasing circuitry with the lowest total cost of ownership.

**Benefits**

- Volume delivery
- Short leadtimes
- Broad portfolio
- Fet's for tuner applications with optimised performance
- 2 in 1 Fet's for tuner applications
- Smallest packages

TV/VCR/DVD TUNING APPLICATION DIAGRAM



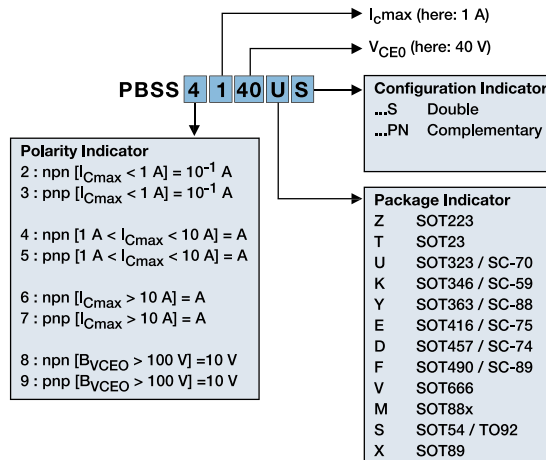
# Transistors

## GA LOW $V_{CEsat}$ (BISS) TRANSISTORS

Breakthrough in Small Signal (BISS) Transistors

$I_c$ max. (A)	$I_c$ peak (mA)	$V_{CE0}$ max. (V)	$V_{CEsat}$ (mV) @ $I_C=100mA$ / $I_B=1mA$	$V_{CEsat}$ (mV) @ $I_C=200mA$ / $I_B=10mA$	$V_{CEsat}$ (mV) @ $I_C=500mA$ / $I_B=50mA$	$V_{CEsat}$ (mV) @ $I_C=1A$ / $I_B=50mA$	$V_{CEsat}$ (mV) @ $I_C=1A$ / $I_B=100mA$	$V_{CEsat}$ (mV) @ $I_C=2A$ / $I_B=200mA$	$V_{CEsat}$ (mV) @ $I_C=3A$ / $I_B=300mA$	$V_{CEsat}$ (mV) @ $I_C=5A$ / $I_B=200mA$	hFE min	hFE max	fT min	POLARITY
<b>Low Power</b>														
500	1.000	15		150	250						200	-	250	NPN
500	1.000	15		150	250						200	-	250	NPN / PNP
500	1.000	15		150	250						200	-	250	PNP
500	1.000	40		200	250						200	-	250	NPN
500	1.000	40		200	350						200	-	250	PNP
1.000	2.000	40	100		180		360				300	900	150	NPN
1.000	2.000	40	150		220		420				300	800	150	PNP
1.000	2.000	40	200		250		500				300	900	150	NPN
1.000	2.000	40	200		250		500				300	800	150	NPN / PNP
1.000	2.000	40	200		250		500				300	800	150	PNP
<b>Medium Power</b>														
2.000	3.000	40	70		100	180		320			350	-	100	NPN
2.000	3.000	40	100		110	225		350			300	-	100	PNP
3.000	5.000	20				160		210	300		220	-	100	NPN
3.000	5.000	20						210	310		220	-	100	PNP
3.000	5.000	50				120		260	370		300	-	100	NPN
3.000	5.000	50				130		270	390		300	-	100	PNP
3.000	5.000	50			90	170		290			200	-	100	NPN
3.000	5.000	50			100	180		300			200	-	100	PNP
5.000	10.000	40						150		355	250	-	70	NPN
5.000	10.000	40						160		375	150	-	60	PNP

### BREAKTHROUGH IN SMALL SIGNAL (BISS) PART NUMBERING



### RELATED LITERATURE

**Title**  
Breakthrough In Small  
Signal Transistors (BISS)

**Order code**  
9397 750 08188

	Single SMD									Double SMD		
	LEADED	SOT223 / SC-73	SOT89 / SC-62	SOT23	SOT323 / SC-70	SOT363 / SC-88	SOT457 / SC-74	SOT490 / SC-89	SOT666 / SS-Mini	SOT457 / SC-74	SOT363 / SC-88	SOT666 / SS-Mini
	Ptot max. 830 mW	Ptot max. 2000 mW	Ptot max. 1300 mW	Ptot max. 300..480 mW	Ptot max. 350..480 mW	Ptot max. 430 mW	Ptot max. 750 mW	Ptot max. 250 mW	Ptot max. 300 mW	Ptot max. 750 mW	Ptot max. 430 mW	Ptot max. 300 mW
									PBSS2515F			PBSS2515VS*
									PBSS3515F		PBSS2515YPN	PBSS2515VPN*
									PBSS2540F			PBSS3515VS*
									PBSS3540F			
									PBSS4140V*			
									PBSS5140V*			
PBSS4140S				PBSS4140T	PBSS4140U							
PBSS5140S				PBSS5140T	PBSS5140U		PBSS5140D			PBSS4140DPN*		
				PBSS4240T		PBSS4240Y						
				PBSS5240T		PBSS5240Y						
			PBSS4320X**	PBSS4320T**								
			PBSS5320X**	PBSS5320T**								
			PBSS4350X**	PBSS4350T**								
			PBSS5350X**	PBSS5350T**								
PBSS4350S	PBSS4350Z							PBSS4350D				
PBSS5350S	PBSS5350Z							PBSS5350D				
	PBSS4540Z	PBSS4540X**										
	PBSS5540Z	PBSS5540X**										

\*new product    \*\* device is under development

### PERFORMANCE COMPARISON BETWEEN BISS AND CONVENTIONAL SMALL-SIGNAL TRANSISTORS

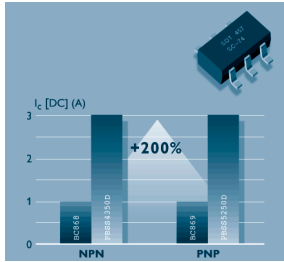


Figure 1: Continuous collector-current rating up by 200% in SC-74 package

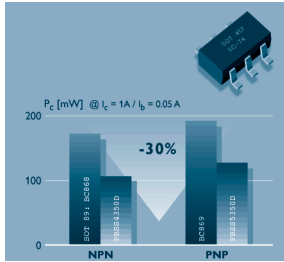


Figure 2: To reduce the power dissipation leading to reduced heat generation

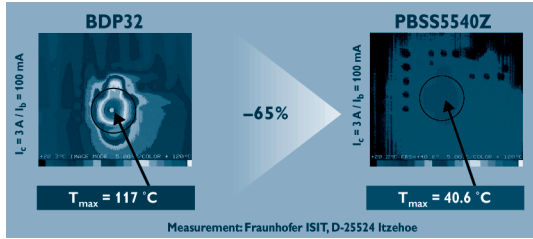


Figure 3: SOT 223 transistors on PCB - Heat generation reduced by around 65% (see infrared pictures)

# Transistors

## GA LOW NOISE TRANSISTOR

$I_c$ max (mA)	$V_{CE0}$ max. (V)	hFE min.	hFE max.	$f_t$ min. (MHz)	POLARITY	Single		
						LEADED	SMD	
						SOT54 / TO-92 <i>Ptot max. 500/625 mW</i>	SOT23 <i>Ptot max 250 mW</i>	SC-70 / SOT323 <i>Ptot max 200 mW</i>
100	30	200	500	100	NPN		BC849B	BC849BW
100	30	200	500	100	PNP		BC859B	BC859BW
100	30	200	500	100	NPN	BC549C	BC849C	BC849CW
100	30	200	500	100	PNP	BC559C	BC859C	BC859CW
100	45	420	800	100	NPN		BC850B	BC850BW
100	45	420	800	100	PNP		BC860B	BC860BW
100	45	420	800	100	NPN		BC850C	BC850CW
100	45	420	800	100	PNP	BC550C	BC860C	BC860CW

## GA MEDIUM FREQUENCY TRANSISTORS

$I_c$ max (mA)	$V_{CE0}$ max. (V)	hFE min.	hFE max.	$f_t$ min. (MHz)	POLARITY	Single		
						LEADED	SMD	
						SOT54 / TO-92 <i>Ptot max. 300/500 mW</i>	SOT23 <i>Ptot max 250 mW</i>	SC-70 / SOT323 <i>Ptot max 200 mW</i>
150	40	25	67	220	NPN	BF240		
260 typ.	20	30	65	225	NPN		BFS19	
325..350 typ.	40	25	50	>50	PNP	BF450	BF550	
380 typ.	40	25	76	222	NPN		BF840	
400..450 typ.	30	25	25	>25	PNP	BF324	BF824	BF824W
450 typ.	20	25	40	>85	NPN		BFS20	BFS20W
490	15	100	40	>40	NPN	BF370	BF570	
550 typ.	25	25	38	>38	NPN	BF199		

**GA SPECIAL SOLUTIONS**

I <sub>c</sub> max. (mA)	V <sub>CE0</sub> max. (V) for Transistor 1 and Transistor 2	hFE min.	hFE max.	f, min. (MHz)	POLARITY	SMD	
						SOT143 <i>Ptot max. 250 mW</i>	SOT353 / SC-88A <i>Ptot max. 200 mW</i>
<b>Current Mirror</b>							
100	30/30	110	800	100	NPN	BCV61	
100	30/30	110	220	100	NPN	BCV61A	
100	30/30	200	450	100	NPN	BCV61B	
100	30/30	420	800	100	NPN	BCV61C	
100	30/30	125	800	100	PNP	BCV62	
100	30/30	125	250	100	PNP	BCV62A	
100	30/30	220	475	100	PNP	BCV62B	
100	30/30	420	800	100	PNP	BCV62C	
<b>Schmitt Trigger</b>							
100	30/6	110	800	100	NPN	BCV63	
100	30/6	200	450	100	NPN	BCV63B	
100	30/6	220	475	100	PNP	BCV64B	
<b>Matched Transistor Pair</b>							
200	30/30	75	800	-	NPN/PNP	BCV65	
<b>Constant Current Source</b>							
I <sub>stab</sub> / μA	I <sub>supply</sub> max / μA						SOT353 / SC-88A
10 ... 20	370						PSSI2021SAY

# Transistors

## 12V - 300V P-CHANNEL MOSFETS

V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@ V <sub>GS</sub> (V)	I <sub>DS</sub> (A)	TECHNOLOGY	PACKAGE					TYPICAL APPLICATIONS		
					SURFACE MOUNT				LEADED	General	PC Peripherals	Telecom
					SOT223	SOT23	TSOP6 (SOT457)	SOT96 (SO8)	TO92 (SOT54)			
12	0.15	2.5	2	VDMOS			BSH207				1	6
30	0.12	10	4	VDMOS				PHP212		G	1	5
30	0.25	10	2.5	VDMOS				PHP125			1	3 / 6
30	0.25	10	2 × 2.5	VDMOS				PHP225*			1	3 / 6
30	0.25	10	3	VDMOS	BSP250					G	1	3 / 6
30	1.1	2.5	0.57	VDMOS		BSH203				G		6
50	10	10	0.13	VDMOS		BSS84				G		2 / 3
200	12	10	0.225	VDMOS	BSP220					G		2 / 3
250	15	10	0.225	VDMOS	BSP225				BSP254A	G		3 / 4 / 7
300	17	10	0.21	VDMOS	BSP230					G		3 / 4 / 7

\* Dual

APPLICATIONS KEY

PC Peripherals

- 1 = 3.5" disk drive, CD, hard disk drive
- 2 = Uninterruptible power supplies (UPSs)
- 3 = Mains powered battery chargers, laptop PSUs, desktop PC PSUs and general PSUs

Telecom

- 1 = Mobile phone and laptop power management
- 2 = Line switching protection
- 3 = Power conversion
- 4 = Telecoms DC-DC converters
- 5 = Synchronous rectifiers in telecoms converters
- 6 = Power (battery) management
- 7 = Line card switching

Automotive

- 1 = Electronic Power Assisted Steering (EPAS)
- 2 = Heater
- 3 = Ignition
- 4 = Motor
- 5 = Motor Switch
- 6 = Protected Motor Switch
- 7 = AC Motor Control
- 8 = Motor Driver
- 9 = Relay Driver
- 10 = Solenoid Driver
- 11 = Lamp Driver

RELATED LITERATURE



- Title**
- Philips Comprehensive Product Portfolio (CD-ROM)
- Power & Battery Management Semiconductors (folder)
- Low-ohmic power-switching MOSFETs -
- Extending battery life in mobile equipment (leaflet)

- Order code**
- 9397 750 07536
- 9397 750 06394
- 9397 750 05335

Why choose

Philips Semiconductors'...?

...MiniMOS

\* A comprehensive range of MOSFET's in SOT223 and below for level shifting, load switching, battery management and motor control applications

Benefits

- \* Volume delivery
- \* short leadtimes
- \* 200 - 300V devices niche product, no competitors,

# Transistors

## 20V - 50V MOSFETS (N-CHANNEL)

V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@V <sub>GS</sub> (V)	I <sub>b</sub> (max) @ 25°C (A)	Technology	SURFACE MOUNT PACKAGES					LEADED PACKAGES		TYPICAL APPLICATIONS				
					SOT223	SO8 (SOT96)	SOT23	D*PAK (SOT404)	DPAK (SOT428)	TO220AB (SOT78)	TO247 (SOT429)	General Purpose	PC Peripherals	Telecom	Motherboard	
20	0.085	4.5	2.5	TrenchMOS			SI2302DS								1	
20	0.02	5	2 x 6	TrenchMOS		PHKD6N02LT									1	
20	0.05	4.5	2 x 5	TrenchMOS		SI9925DY						√	√	√	√	
20	0.1	10	2 x 3.5	TrenchMOS		SI9956DY						√	√	√	√	
20	0.25	2.5	1.05	VDMOS			BSH105								1	
25	0.0032	10	100	TrenchMOS											5	
25	0.004	10	75	TrenchMOS				PHB152NQ03LT		PHP152NQ03LT						2
25	0.0059	10	75	TrenchMOS				PHB98N03LT		PHP98N03LT						2
25	0.0059	10	75	TrenchMOS					PHD98N03LT							2
25	0.00495	10	75	TrenchMOS				PHB96NQ03LT		PHP96NQ03LT						2
25	0.00495	10	75	TrenchMOS					PHD96NQ03LT							2
25	0.006	10	75	TrenchMOS				PHB108NQ03LT	PHD108NQ03LT	PHP108NQ03LT						2
25	0.007	10	75	TrenchMOS				PHB95N03LT	PHD95N03LT	PHP95N03LT						2
25	0.009	10	75	TrenchMOS				PHB83N03LT	PHD83N03LT	PHP83N03LT						2
25	0.009	10	75	TrenchMOS				PHB78N03LT	PHD78N03LT	PHP78N03LT						2
25	0.0058	10	75	TrenchMOS						PSMN005-25D					5	
25	0.012	10	66	TrenchMOS				PHB66NQ03LT	PHD66NQ03LT	PHP66NQ03LT						2
30	0.0105	10	12	TrenchMOS		SI4884										2
30	0.0105	10	12	TrenchMOS		PHK12NQ03LT										2
25	0.014	10	55	TrenchMOS				PHB55N03LTA	PHD55N03LTA	PHP55N03LTA						2
25	0.021	10	45	TrenchMOS				PHB45N03LTA	PHD45N03LTA	PHP45N03LTA						2
25	0.056	5	20	TrenchMOS					PHD24N03LT						5	
25	0.035	10	5.8	FETKY		PHN103S								1		
30	0.0055	10	20	TrenchMOS		PSMN005-30K								√		
30	0.117	10	1.7	TrenchMOS			SI2304DS					√				
30	0.009	10	12.5	TrenchMOS		SI4420DY						√	√	√	√	
30	0.0135	10	10	TrenchMOS		SI4410DY						√	√	√	√	
30	0.018	10	9	TrenchMOS		SI4416DY						√	√	√	√	
30	0.018	10	9	TrenchMOS		SI4800						√	√	√	√	
30	0.03	10	7	TrenchMOS		SI9410DY						√	√	√	√	
30	0.05	10	2 x 5	TrenchMOS		SI9936DY						√	√	√	√	
30	0.0053	10	75	TrenchMOS				PHB160N03T							5	
30	0.0055	10	75	TrenchMOS				PHB101NQ03LT	PHD101NQ03LT	PHP101NQ03LT		√	√	√	√	
30	0.008	10	75	TrenchMOS				PHB82NQ03LT	PHD82NQ03LT	PHP82NQ03LT		√	√	√	√	
30	0.01	10	71	TrenchMOS				PNB71NQ03LT	PHD71NQ03LT	PHP71NQ03LT		√	√	√	√	
30	0.013	10	63	TrenchMOS				PHB63NQ03LT	PND63NQ03LT	PHP63NQ03LT		√	√	√	√	
30	0.15	5	10.3	TrenchMOS					PHD11N03LT							1
30	0.03	10	11	TrenchMOS	BSP030	PHN103T								1	1	
30	0.12	10	1.9	TrenchMOS											1	
30	0.5	2.5	0.85	VDMOS			BSH108	BSH103							1	
30	0.1	10	6	TrenchMOS	BSP100									1		
30	0.1	10	2 x 3.4	TrenchMOS		PHN210T									1	
35	0.014	10	55	TrenchMOS				PHB55N04LT	PHD55N04LT	PHP55N04LT						2

V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@V <sub>GS</sub> (V)	I <sub>b</sub> (max) @ 25°C (A)	Technology	SURFACE MOUNT PACKAGES				LEADED PACKAGES		TYPICAL APPLICATIONS				
					SOT223	SO8 (SOT96)	SOT23	D <sup>2</sup> PAK (SOT404)	DPAK (SOT428)	TO220AB (SOT78)	TO247 (SOT429)	General Purpose	PC Peripherals	Telecom	Motherboard
36	0.004	10	75	TrenchMOS				PSMN004-36B		PSMN004-36P		√			
50	15	10	0.17	TrenchMOS			BSN20					√			

## APPLICATIONS KEY

### PC Peripherals

- 1 = 3.5" disk drive, CD, hard disk drive
- 2 = Uninterruptible power supplies (UPSs)
- 3 = Mains powered battery chargers, laptop PSUs, desktop PC PSUs and general PSUs

### Telecom

- 1 = Mobile phone and laptop power management
- 2 = Line switching protection
- 3 = Power conversion
- 4 = Telecoms DC-DC converters
- 5 = Synchronous rectifiers in telecoms converters
- 6 = Power (battery) management
- 7 = Line card switching

### Motherboard

- 1 = Laptop DC-DC converters
- 2 = Desktop PC & server - DC-DC converters
- 3 = Desktop PC linear regulators
- 4 = Low power non-synchronous DC-DC converters
- 5 = Medium power non-synchronous DC-DC converters

## RELATED LITERATURE

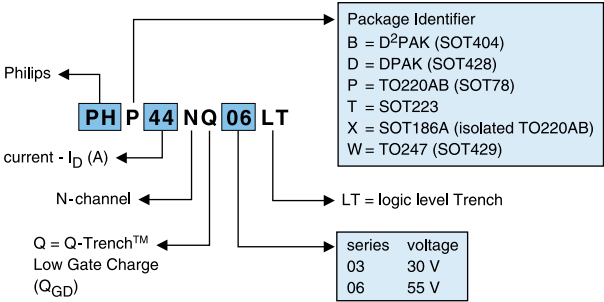
Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
SiliconMAX™: ultra-low R <sub>DS(ON)</sub> MOSFETs to 200 V (leaflet)	9397 750 05724
TrenchMOS™: innovative technology, world-class performance (folder)	9397 750 03984
Power in Lighting (folder)	9397 750 05312
Low-ohmic power-switching MOSFETs -	9397 750 05335
Extending battery life in mobile equipment (leaflet)	

continued on next page

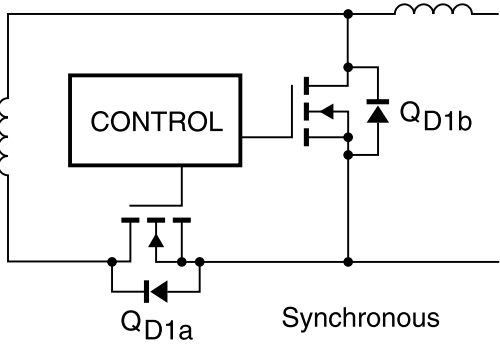
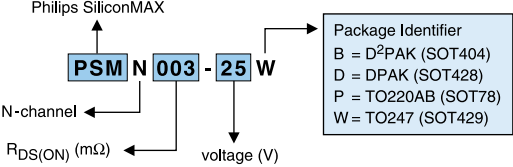
# Transistors

**20V - 50V MOSFETS (N-CHANNEL)**

### TRENCHMOS PART NUMBERING - PH TYPES



### SILICONMAX PART NUMBERING



MSD837

### Why choose

#### Philips Semiconductors'...?

##### ...SiliconMAX

- \* For applications, where  $R_{DS(ON)}$  is the key factor
- \* Lower  $R_{DS(ON)}$  for the same size Mosfet package, reduced gate charge (QGD) but not optimised - see Q Trench below
- \* Smaller package can replace larger package for same  $R_{DS(ON)}$  value and/or reduced component count
- \* Comprehensive range of D<sup>2</sup>PAK, DPAK, TO220, TO247 AND SO8 package options
- \* Replacement of through-hole mounting power packages with surface mount devices
- \* Reduced heat-sinking requirement

##### ...Q Trench

- \* Lower QGD for a given  $R_{DS(ON)}$
- \* Optimised for high speed, lower switching loss performance
- \* Runs cooler at higher frequencies
- \* Lower system loss and higher performance

# Transistors

## 55V - 60V MOSFETS (N-CHANNEL)

V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@V <sub>GS</sub> (V)	I <sub>D</sub> (max) @ 25°C (A)	TECHNOLOGY	SURFACE MOUNT PACKAGES				LEADED PACKAGES				TYPICAL APPLICATIONS								
					SOT323	SOT223	SOT23	D <sup>2</sup> PAK (SOT404)	DPAK (SOT428)	TO220AB (SOT78)	SOT186A (isolated TO220AB)	TO247 (SOT429)	TO92 (SOT54)	General Purpose	Telecom	Motherboard	Home Appliance				
55	0.0042	10	100	TrenchMOS																	
55	0.0058	10	75	TrenchMOS				PSMN005-55B		PSMN005-55P										5	
55	0.0105	10	75	TrenchMOS					PSMN010-55D											5	
55	0.02	10	54	TrenchMOS						PHP54N06T					G						
55	0.008	10	75	TrenchMOS						PHP112N06T					G						
55	0.075	5	19	TrenchMOS				PHB21N06LT	PHD21N06LT	PHP21N06LT										3	H
55	0.08	5	7.5	TrenchMOS				PHT8N06LT												3	H
55	0.15	5	5.5	TrenchMOS				PHT6N06LT												3	H
55	0.15	5	10.3	TrenchMOS					PHB11N06LT	PHD11N06LT					G						
55	5	2.5	0.3	TrenchMOS	BSH121										G						
60	0.15	10	10.3	TrenchMOS						PHD3055E	PHP3055E				G						
60	0.15	10	9	TrenchMOS								PHX3055E			G						
60	2	10	0.38	TrenchMOS				2N7002F							G						
60	3	10	0.38	TrenchMOS				2N7002E							G						
60	5	10	0.3	TrenchMOS										2N7000	G						
60	5	10	0.3	TrenchMOS				PMBF170							G						
60	5	10	0.3	TrenchMOS				2N7002							G						
60	0.012	10	75	TrenchMOS						PHP83N06T					UPS						
60	0.014	10	73	TrenchMOS				PHB73N06T		PHP73N06T					UPS						
60	0.022	10	52	TrenchMOS						PHP52N06T					UPS						
60	0.04	5	32	TrenchMOS				PHB32N06LT		PHP32N06LT					G						
55	0.075	10	20	TrenchMOS				PHB20N06T		PHP20N06T					G						
55	0.077	10	18	TrenchMOS					PHD20N06T						G						

## APPLICATIONS KEY

### PC Peripherals

- 1 = 3.5" disk drive, CD, hard disk drive
- 2 = Uninterruptible power supplies (UPSs)
- 3 = Mains powered battery chargers, laptop PSUs, desktop PC PSUs and general PSUs

### Telecom

- 1 = Mobile phone and laptop power management
- 2 = Line switching protection
- 3 = Power conversion
- 4 = Telecoms DC-DC converters
- 5 = Synchronous rectifiers in telecoms converters
- 6 = Power (battery) management
- 7 = Line card switching

### Motherboard

- 1 = Laptop DC-DC converters
- 2 = Desktop PC & server - DC-DC converters
- 3 = Desktop PC linear regulators
- 4 = Low power non-synchronous DC-DC converters
- 5 = Medium power non-synchronous DC-DC converters

## RELATED LITERATURE

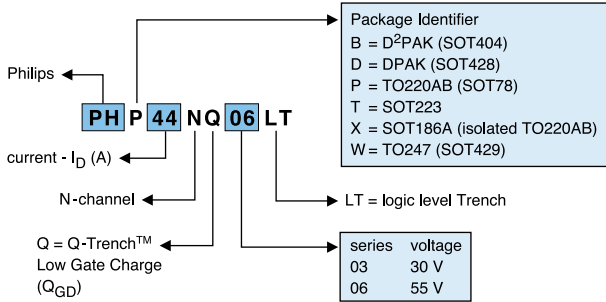
### Title

- Philips Comprehensive Product Portfolio (CD-ROM)
- SiliconMAX™: ultra-low RDS(ON) MOSFETs to 200V (leaflet)
- TrenchMOS™: innovative technology, world-class performance (folder)
- Power & Battery Management Semiconductors (folder)
- Low-ohmic power-switching MOSFETs - Extending battery life in mobile equipment (leaflet)

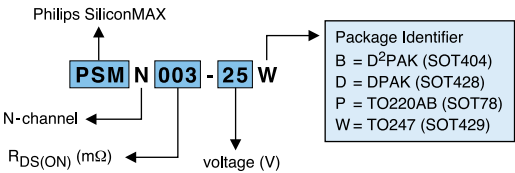
### Order code

- 9397 750 07536
- 9397 750 05724
- 9397 750 03984
- 9397 750 06394
- 9397 750 05335

### TRENCHMOS PART NUMBERING - PH TYPES



### SILICONMAX PART NUMBERING



### Why choose

#### Philips Semiconductors'...?

#### ...MiniMOS

- \* A comprehensive range of MOSFETs in SOT223 and below for level shifting, load switching, battery management and motor control applications

#### Benefits

- \* Volume delivery
- \* short leadtimes
- \* 200 - 300V devices niche product, no competitors,

# Transistors

## 75V - 300V MOSFETS (N-CHANNEL)

V <sub>DS</sub> (V)	R <sub>DS(on)</sub> (Ω)	@V <sub>GS</sub> (V)	Q <sub>gd</sub> (nC)	I <sub>D</sub> (max) @ 25°C (A)	PACKAGE										TYPICAL APPLICATIONS				
					SURFACE MOUNT					LEADED					Telecom	UPS	Monitor		
					SOT223	SOT23	SOT89	D <sup>2</sup> PAK (SOT404)	DPAK (SOT428)	SO8 (SOT96)	TO220AB (SOT78)	SOT186A (isol TO220AB)	TO92 SOT54	TO247 (SOT429)					
75	0.0085	10	50	75					PSMN008-75B				PSMN008-75P					M	
100	10	5	-	0.52	BSP110												2		
100	10	5	-	0.19		BST82									BST72A		2		
100	0.009	10	91	100												PSMN009-100VW	3 / 4		
100	0.015	10	50	75					PSMN015-100B				PSMN015-100P				3 / 4		
100	0.015	10	50	80												PHW80NQ10T	3 / 4		
100	0.025	10	25	47					PHB45NQ10T	PSMN025-100D			PHP45NQ10T			PHW45NQ10T	3 / 4		
100	0.028	10	25	47					PHB47NQ10T				PHP47NQ10T				3 / 4	M	
100	0.038	10	14	5.2							PSMN038-100K						3 / 4		
100	0.04	10	18	34					PHB34NQ10T	PHD34NQ10T			PHP34NQ10T				3 / 4		
100	0.051	10	11	5									PHK5NQ10T				3 / 4		
100	0.051	10	12	28					PHB27NQ10T	PHD27NQ10T			PHP27NQ10T				3 / 4		
100	0.07	10	10	23					PHB23NQ10T	PHD23NQ10T			PHP23NQ10T				3 / 4		
100	0.07	10	29 (MAX)	23					IRF540S				IRF540				3 / 4		
100	0.09	10	8	2x3									PHKD3NQ10T*				3 / 4		
100	0.09	10	8	18					PHB18NQ10T	PHD18NQ10T			PHP18NQ10T				3 / 4		
100	0.1	10	8.2	6	PHT6NQ10T												3 / 4 / 5		
100	0.11	10	19 (MAX)	17										IRF530N			3 / 4		
100	0.25	10	-	3.5	PHT4NQ10T												3 / 4 / 5		
100	0.25	5	-	3.5	PHT4NQ10LT												3 / 4 / 5		
100	0.43	10	-	2	PHT2NQ10T												3 / 4 / 5		
100	0.5	10	2.1	0.85													4 / 5 / 7		
100	6	10	-	0.15		BSH114											2		
150	0.02	10	91	73		BSS123											2		
150	0.03	10	38	55.5					PSMN030-150B							PSMN020-150VW	3 / 4 / 7		
150	0.03	10	38	55.5										PSMN030-150P			3 / 4 / 7		
150	0.063	10	20	29					PHB30NQ15T	PSMN063-150D			PHP30NQ15T				3 / 4 / 7		
150	0.085	10	14	3.5							PSMN085-150K						3 / 4 / 7		
150	0.09	10	20	23					PHB23NQ15T				PHP23NQ15T				3 / 4 / 7		
150	0.2	10	8	12.5					PHB12NQ15T	PHD12NQ15T			PHP12NQ15T				3 / 4 / 7		
200	0.04	10	73	50												PSMN040-200VW	3 / 4 / 7		
200	6	10	-	0.28			BSS87										1 / 2 / 6 / 7		
200	5	2.8	-	0.25											BS108		1 / 2 / 6 / 7		
200	2.5	10	-	0.55	BSP122									PSMN057-200P			1 / 2 / 6 / 7		
200	0.057	10	37	39													3 / 4 / 7		
200	0.057	10	37	39					PSMN057-200B								3 / 4 / 7		
200	0.07	10	28	35					PSMN070-200B							PHW35NQ20T	3 / 4 / 7		
200	0.13	10	22	20					PHB20NQ20T	PSMN130-200D			PHP20NQ20T				3 / 4 / 7		
200	0.165	10	14	2.5							PSMN165-200K						3 / 4 / 7		
200	0.18	10	22	16					PHB18NQ20T				PHP18NQ20T				3 / 4 / 7		
200	0.18	10	22	8.2										PHX18NQ20T			3 / 4 / 7		
200	0.18	10	35 (MAX)	16					IRF640S				IRF640				3 / 4 / 7		
200	0.23	10	13.3	14					PHB14NQ20T	PHD14NQ20T			PHP14NQ20T				4		M
200	0.23	10	13.3	7.6										PHX14NQ20T			4		M

V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@V <sub>GS</sub> (V)	Q <sub>GD</sub> (typ) (nC)	I <sub>D</sub> (max) @ 25°C (A)	PACKAGE								TYPICAL APPLICATIONS				
					SURFACE MOUNT				LEADED				Telecom	UPS	Monitor		
					SOT223	SOT23	SOT89	D <sup>2</sup> PAK (SOT404)	DPAK (SOT428)	SO8 (SOT96)	TO220AB (SOT78)	SOT186A (isol TO220AB)				TO92 SOT54	TO247 (SOT429)
200	0.4	10	12	9				PHB9NQ20T	PHD9NQ20T		PHP9NQ20T				3 / 4 / 7		
200	0.4	10	21 (MAX)	9				IRF630S			IRF630				3 / 4 / 7		
200	0.4	10	12	5.2								PHX9NQ20T			3 / 4 / 7		
200	0.8	10	8	4.8					IRFR220						3 / 4 / 7		
200	0.8	10	8	1.8	PHT2NQ20T										3 / 4 / 7		
240	5	10	-	0.35	BSP89										1 / 2 / 6 / 7		
250	5	10	-	0.3									BSN254		1 / 2 / 6 / 7		
250	5	10	-	0.35	BSP126										1 / 2 / 6 / 7		
300	6	10	-	0.25									BSN304		1 / 2 / 6 / 7		

## APPLICATIONS KEY

### Telecom

- 1 = Mobile phone and laptop power management
- 2 = Line switching protection
- 3 = Power conversion
- 4 = Telecoms DC-DC converters
- 5 = Synchronous rectifiers in telecoms converters
- 6 = Power (battery) management
- 7 = Line card switching

## RELATED LITERATURE

### Title

- Philips Comprehensive Product Portfolio (CD-ROM)
- SiliconMAX™: ultra-low R<sub>DS(ON)</sub> MOSFETs to 200 V (leaflet)
- TrenchMOST™: innovative technology, world-class performance (folder)
- Power in Lighting (folder)
- Low-ohmic power-switching MOSFETs -
- 100 V / 200 V MOSFETs - Solutions for power in Communications SMPS

### Order code

- 9397 750 07536
- 9397 750 05724
- 9397 750 03984
- 9397 750 05312
- 9397 750 05335
- 9397 750 08939

continued on next page

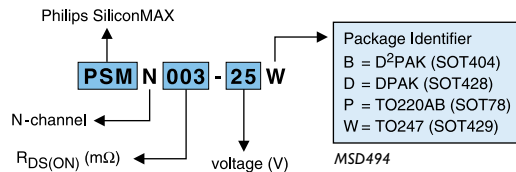
# Transistors

## 25V - 300V MULTI-CHIP MOSFETS (N-CHANNEL/P-CHANNEL/COMPLEMENTARY)

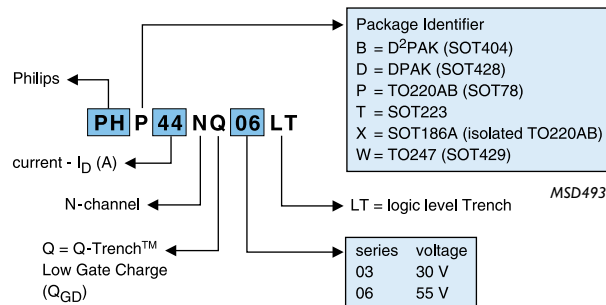
V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@ V <sub>GS</sub> (V)	I <sub>DS</sub> (A)	TECHNOLOGY	SURFACE MOUNT PACKAGES		TYPICAL APPLICATIONS			
					SO8 (SOT96)	SO24 (SOT137)	Motherboard	General	PC Peripherals	Telecom
25	1 x 0.035 (MOS)	10	5.8	TrenchMOS	PHN103S		1 / 2 / 3		2 / 3	3 / 4
	1 x 6A (Schottky)			Schottky						
25	6 x 0.035 (MOS)	10	5.5	TrenchMOS		PHN603S			1 / 4	
	6 x 5A (Schottky)			Schottky						
25	2 x 0.03 (N)	10	2 x 6.3	TrenchMOS	PHN203 *				1	6
30	0.1 (N) / 0.25 (P)	10	3.5 (N) / 2.3 (P)	TrenchMOS (N)	PHC21025			G	1	3 / 6
				VDMOS (P)						
30	2 x 0.1 (N)	10	2 x 3.4	TrenchMOS	PHN210T *			G	1	3 / 6
30	2 x 0.25 [P]	10	2 x 2.3	VDMOS	PHP225 *			G	1	3 / 6
100	0.09	10	2 x 3	TrenchMOS (N)	PHKD3NQ10T *					3 / 4
300	8 (N) / 17 (P)	10	0.3 (N) / 0.2 (P)	VDMOS	PHC2300					2

\* Dual

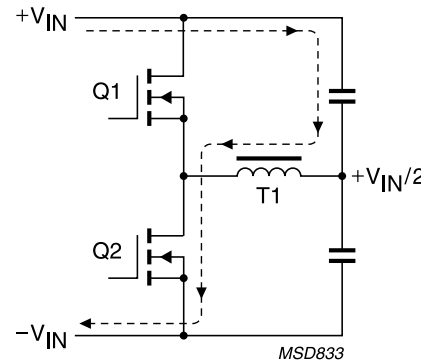
### SILICONMAX PART NUMBERING



### TRENCHMOS PART NUMBERING - PH TYPES



### HALF BRIDGE CONVERTER Q2 CONDUCTION CYCLE



Why choose

### Philips Semiconductors'...?

#### ...SiliconMAX

- \* For applications, where R<sub>DS(ON)</sub> is the key factor
- \* Lower R<sub>DS(ON)</sub> for the same size Mosfet package, reduced gate charge (QGD) but not optimised - see Q Trench below
- \* Smaller package can replace larger package for same R<sub>DS(ON)</sub> value and/or reduced component count
- \* Comprehensive range of D2PAK, DPAK, TO220, TO247 AND SO8 package options
- \* Replacement of through-hole mounting power packages with surface mount devices
- \* Reduced heat-sinking requirement

#### ...Q Trench

- \* Lower QGD for a given R<sub>DS(ON)</sub>
- \* Optimised for high speed, lower switching loss performance
- \* Runs cooler at higher frequencies
- \* Lower system loss and higher performance

## APPLICATIONS KEY

### PC Peripherals

- 1 = 3.5" disk drive, CD, hard disk drive
- 2 = Uninterruptible power supplies (UPSs)
- 3 = Mains powered battery chargers, laptop PSUs, desktop PC PSUs and general PSUs

### Telecom

- 1 = Mobile phone and laptop power management
- 2 = Line switching protection
- 3 = Power conversion
- 4 = Telecoms DC-DC converters
- 5 = Synchronous rectifiers in telecoms converters
- 6 = Power (battery) management
- 7 = Line card switching

### Motherboard

- 1 = Laptop DC-DC converters
- 2 = Desktop PC & server - DC-DC converters
- 3 = Desktop PC linear regulators
- 4 = Low power non-synchronous DC-DC converters
- 5 = Medium power non-synchronous DC-DC converters

## RELATED LITERATURE

Title
Philips Comprehensive Product Porfolio (CD-ROM)
SiliconMAX™: ultra-low $R_{DS(ON)}$ MOSFETs to 200 V (leaflet)
TrenchMOST™: innovative technology, world-class performance (folder)
Power in Lighting (folder)
Low-ohmic power-switching MOSFETs - Extending battery life in mobile equipment (leaflet)

Order code
9397 750 07536
9397 750 05724
9397 750 03984
9397 750 05312
9397 750 05335

## Why choose

### Philips Semiconductors'...?

#### ...MiniMOS

\* A comprehensive range of MOSFET's in SOT223 and below for level shifting, load switching, battery management and motor control applications

#### Benefits

- \* Volume delivery
- \* short leadtimes
- \* 200 - 300V devices niche product, no competitors,

# Transistors

## PIP3

TOPFET2 PART NUMBER	TYPE	PACKAGE	$R_{DS(ON)}$ ( $\Omega$ )	$V_{DS}$ (V)	Application Area
PIP3103-T	Low Side 3 Pin	SOT223	0.200	50	3/5
PIP3104-P	Low Side 3 Pin	SOT78 (TO220AB)	0.100	50	2
PIP3105-P	Low Side 3 Pin	SOT78 (TO220AB)	0.050	50	4
PIP3106-D	Low Side 3 Pin	SOT428 (DPAK)	0.100	50	2
PIP3107-D	Low Side 3 Pin	SOT428 (DPAK)	0.050	50	4
PIP3115-B	Low Side 3 Pin	SOT404 (D <sup>2</sup> PAK)	0.100	50	2
PIP3117-B	Low Side 3 Pin	SOT404 (D <sup>2</sup> PAK)	0.050	50	4
PIP3118-B	Low Side 3 Pin	SOT404 (D <sup>2</sup> PAK)	0.028	50	5
PIP3119-P	Low Side 3 Pin	SOT78 (TO220AB)	0.028	50	5
PIP3201-A	High Side 5 Pin	SOT263-01	0.038	50	5
PIP3202-DC	High Side Dual 7 Pin	SOT427 (7 pin D <sup>2</sup> PAK)	0.04 (Dual)	50	5
PIP3203-A	High Side 5 Pin	SOT263-01	0.100	50	2
PIP3206-R	High Side 5 Pin	SOT426 (5 pin D <sup>2</sup> PAK)	0.014	50	2/5
PIP3207-DC	High Side Dual 7 Pin, soft latch	SOT427 (D <sup>2</sup> PAK)	0.040	50	5
PIP3208-A	High Side 5 Pin	SOT263-01	0.180	50	3/4
PIP3209-R	High Side 5 Pin	SOT426 (5 pin D <sup>2</sup> PAK)	0.180	50	3/4
PIP3210-R	High Side 5 Pin	SOT426 (5 pin D <sup>2</sup> PAK)	0.038	50	5
PIP3211-R	High Side 5 Pin	SOT426 (5 pin D <sup>2</sup> PAK)	0.038	50	5
PIP3213-R	High Side 5 Pin	SOT426 (5 pin D <sup>2</sup> PAK)	0.020	50	2/5
PIP3221-DC	High Side Dual 7 Pin, soft latch	SOT427 (7 pin D <sup>2</sup> PAK)	0.08 (Dual)	50	5
PIP3224-DC	High Side 7 Pin	SOT427 (7 pin D <sup>2</sup> PAK)	0.08 (Dual)	50	5

Why choose

Philips Semiconductors'...?

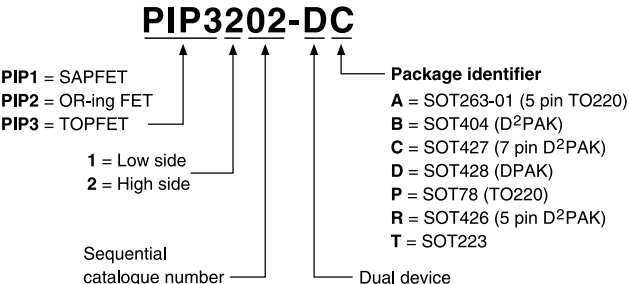
...Philips Intelligent Power

- \* Protection against Over Current, Over Temperature, Over Voltage and ESD.
- \* Reduced costs through lower PCB 'real estate' requirement.
- \* Quicker time to market by simplified design.
- \* Lower component counts giving lower assembly costs.
- \* No external ground resistor requirement.
- \* Self protection against transients and supply polarity reversal.
- \* Excellent EMC performance.

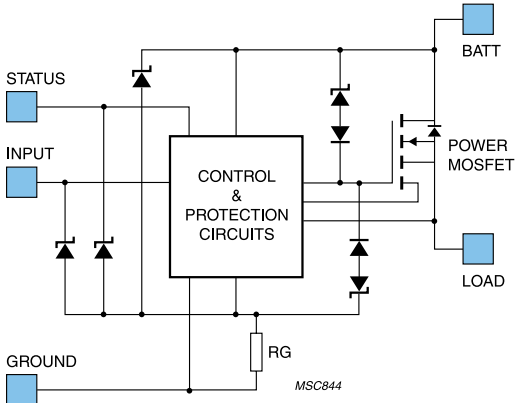
APPLICATIONS KEY

- 1 = Heater
- 2 = Protected Motor Switch
- 3 = Relay Driver
- 4 = Solenoid Driver
- 5 = Lamp Driver

PIP PART NUMBERING



MSD844



# Transistors

## PIP2XX - PHILIPS INTELLIGENT POWER, AN INTEGRATED SOLUTION

Vin (V)	Fin (typical) (kHz)	Io(avg) (A) < 55C	Technology	SURFACE MOUNT PACKAGES			TYPICAL APPLICATIONS			
				10x10 MLF	Package Name	Package Name	General Purpose	PC Peripherals	Telecom	Motherboard
12	500	12.5	ABCD2 & Trench 3	PIP201-12M					√	√

## RELATED LITERATURE

### Title

PIP201-12M - An innovative powertrain solution for CPU VR(M)

### Order code

9397 750 08563

## APPLICATIONS

- Voltage Regulator (Module) for Performance and Mainstream PC CPUs
- Game consoles
- Servers
- Workstations
- High current DSP and ASIC applications

## FEATURES

- Complete powertrain function in 1 package
- Optimized for down conversion from 12 V
- Capable of up to 20 A continuous output current
- Operating frequency up to 1 MHz
- 10 mm x 10 mm x 0.9 mm surface mount package

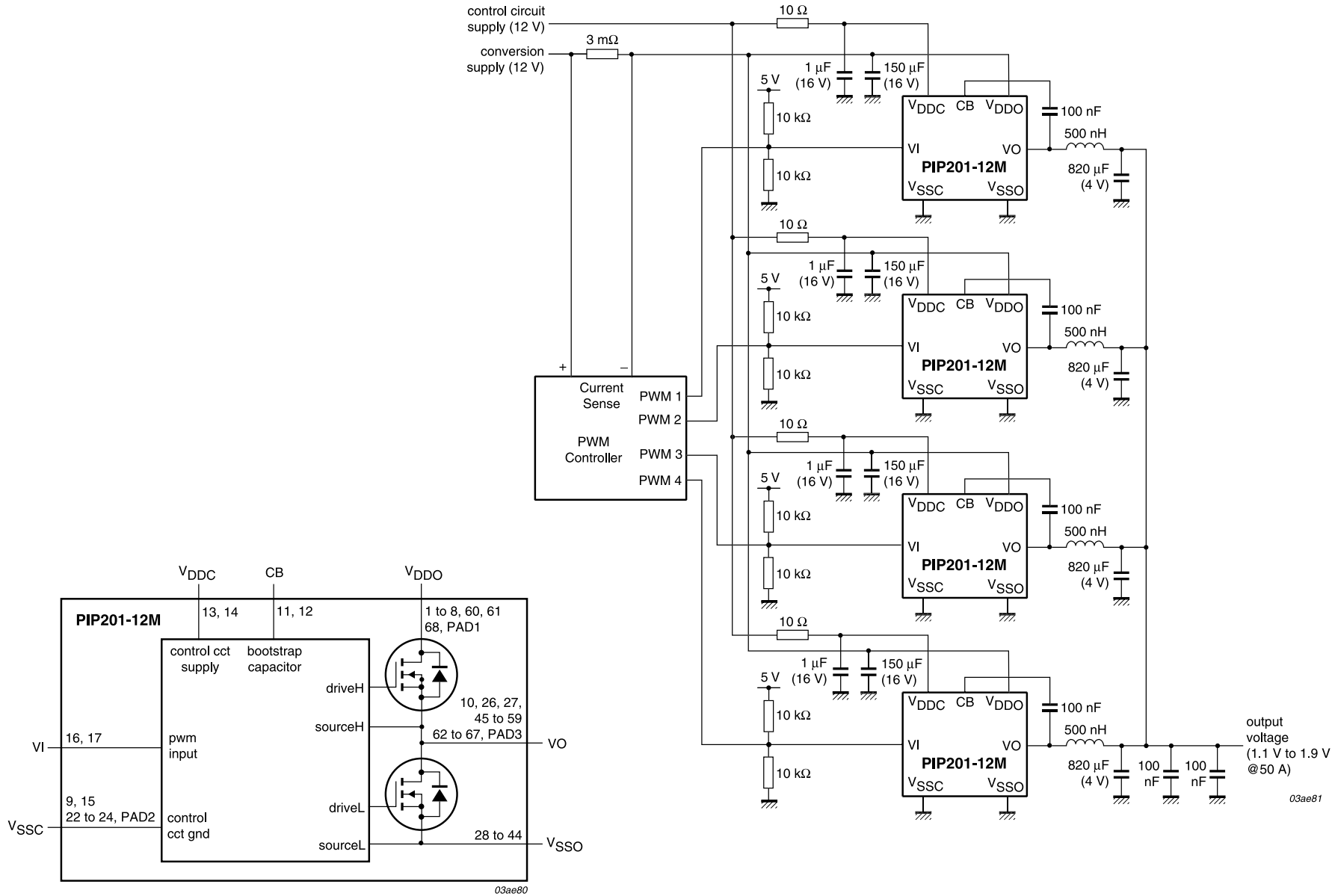
## Why choose

### Philips Semiconductors'...?

\* A single PIP201-12M device integrates all the power and driver functions required for a single-phase synchronous buck converter. Multiphase architectures, providing higher current capabilities, are easily implemented by using one PIP201-12M for each phase.

### Benefits

- \* Cost-effective integrated solution, combining 3 functions into 1 package: Control (high-side) FET, Synchronous (low-side) FET, and FET driver
- \* Up to 1 MHz switching frequency, greatly reducing bulk capacitors required for output decoupling
- \* Ultra-thin surface-mount package, saving board space and reducing weight
- \* Compatible with industry standard single and multiphase PWM controllers
- \* High conversion efficiency through optimized design and packaging



03ae81

# Transistors

## 30V - 55V N-CHANNEL AUTOMOTIVE MOSFETS

V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@V <sub>GS</sub> (V)	I <sub>b</sub> (max) @ 25°C (A)	PACKAGE						TYPICAL APPLICATIONS
				SURFACE MOUNT			LEADED			Automotive
				SOT223	SOT404 (D <sup>2</sup> PAK)	SOT428 (DPAK)	SOT78 (TO220AB)	SOT186A (isolated TO220AB)	SOT226	
30	0.005	5	75		BUK9605-30A		BUK9505-30A			1
30	0.005	10	75		BUK7605-30A		BUK7505-30A			1
40	0.004	5	75		BUK9604-40A		BUK9504-40A		BUK9E04-40A	1
40	0.004	10	75		BUK7604-40A		BUK7504-40A		BUK7E04-40A	1
48	0.02	5	52							6
55	0.0063	5	75		BUK9606-55A		BUK9506-55A		BUK9E06-55A	1 / 8
55	0.0063	10	75		BUK7606-55A		BUK7506-55A			1 / 8
55	0.008	5	75		BUK9608-55A		BUK9508-55A			1 / 8
55	0.008	10	75		BUK7608-55A		BUK7508-55A			1 / 8
55	0.01	5	75		BUK9610-55A		BUK9510-55A			1 / 8
55	0.011	5	75		BUK9611-55A		BUK9511-55A			2 / 10
55	0.011	10	75		BUK7611-55A		BUK7511-55A			2 / 10
55	0.014	5	73		BUK9614-55A		BUK9514-55A			2 / 10
55	0.014	10	73		BUK7614-55A		BUK7514-55A			2 / 10
55	0.015	5	55			BUK9215-55A				11
55	0.016	5	66		BUK9616-55A		BUK9516-55A			11
55	0.015	10	55			BUK7215-55A				11
55	0.016	10	66		BUK7616-55A		BUK7516-55A			11
55	0.018	5	58		BUK9618-55A		BUK9518-55A			11
55	0.019	5	55			BUK9219-55A				11
55	0.022	5	48			BUK9222-55A				11
55	0.02	5	54		BUK9620-55A		BUK9520-55A			11
55	0.022	10	48			BUK7222-55A				11
55	0.02	10	54		BUK7620-55A		BUK7520-55A			11
55	0.02	10	29					BUK7720-55A		11
55	0.025	5	39			BUK9225-55A				10
55	0.024	5	47		BUK9624-55A		BUK9524-55A			10
55	0.025	10	39			BUK7225-55A				10
55	0.024	10	47		BUK7624-55A		BUK7524-55A			10
55	0.028	5	42		BUK9628-55A		BUK9528-55A			10
55	0.028	10	42		BUK7628-55A		BUK7528-55A			10
55	0.028	5	23					BUK9728-55A		10
55	0.028	10	23					BUK7728-55A		10
55	0.03	5	38			BUK9230-55A				10
55	0.03	10	38			BUK7230-55A				10
55	0.035	5	35		BUK9635-55A		BUK9535-55A			10
55	0.035	10	35		BUK7635-55A		BUK7535-55A			10
55	0.035	5	20					BUK9735-55A		10
55	0.035	10	20					BUK7735-55A		10
55	0.032	5	12	BUK9832-55A						10
55	0.037	5	32			BUK9237-55A				10
55	0.037	10	32			BUK7237-55A				10
55	0.045	5	28			BUK9245-55A				10

V <sub>DS</sub> (V)	R <sub>DS(ON)</sub> (Ω)	@V <sub>GS</sub> (V)	I <sub>D</sub> (max) @ 25°C (A)	PACKAGE						TYPICAL APPLICATIONS
				SURFACE MOUNT			LEADED			Automotive
				SOT223	SOT404 (D <sup>2</sup> PAK)	SOT428 (DPAK)	SOT78 (TO220AB)	SOT186A (isolated TO220AB)	SOT226	
55	0.075	5	20		BUK9675-55A		BUK9575-55A			10
55	0.075	10	20		BUK7675-55A		BUK7575-55A			10
55	0.075	5	12					BUK9775-55A		10
55	0.075	10	12					BUK7775-55A		10
55	0.077	5	18			BUK9277-55A				10
55	0.077	10	18			BUK7277-55A				10
55	0.08	5	7	BUK9880-55A						10
55	0.15	5	5	BUK98150-55A						9 / 11
55	0.15	5	11		BUK96150-55A	BUK92150-55A	BUK95150-55A			9 / 11
55	0.15	10	11	BUK78150-55A	BUK76150-55A	BUK72150-55A	BUK75150-55A			9 / 11

## APPLICATIONS KEY

### Automotive

- 1 = Electronic Power Assisted Steering (EPAS)
- 2 = Heater
- 3 = Ignition
- 4 = Motor
- 5 = Motor Switch
- 6 = Protected Motor Switch
- 7 = AC Motor Control
- 8 = Motor Driver
- 9 = Relay Driver
- 10 = Solenoid Driver
- 11 = Lamp Driver

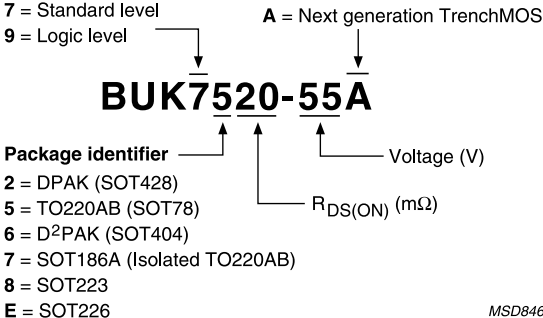
## RELATED LITERATURE

Title	Order code
Power discretes and sensors - A full range of dedicated solutions (brochure)	9397 750 07512
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
TrenchMOS™: innovative technology, world-class performance (folder)	9397 750 03984
What if! Automotive competency (brochure)	9397 750 06353

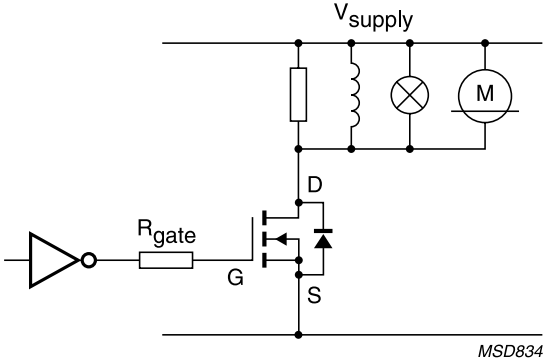
# Transistors

## **30V - 55V N-CHANNEL AUTOMOTIVE MOSFETS**

TRENCHMOS - BUK TYPES PART NUMBERING



AUTOMOTIVE TRENCH 55 V APPLICATION DIAGRAM



Why choose

Philips Semiconductors'...?

- ..Automotive MOSFETs**
- \* Leading edge TrenchMOS technology used for all devices, giving outstanding performance.
  - \* Wide variety of operating voltages, R<sub>DS(ON)</sub> values, drain current ratings, power handling and package types - allows you more flexibility.
  - \* Extended TrenchMOS range suitable for a wider variety of applications.
  - \* True Logic Level and Standard Level devices available - lets YOU choose!
  - \* Continued package and process developments mean smaller and smaller packages.
  - \* Excellent thermal performance eases route to SMD packages.

# Transistors

## 75V - 100V N-CHANNEL AUTOMOTIVE MOSFETS

V <sub>DS</sub> (V)	R <sub>DS(on)</sub> (Ω)	@V <sub>GS</sub> (V)	I <sub>b</sub> (max) @ 25°C (A)	PACKAGE				TYPICAL APPLICATIONS  Automotive
				SURFACE MOUNT			LEADED	
				SOT223	D <sup>2</sup> PAK (SOT404)	DDPAK (SOT428)	TO220AB (SOT78)	
75	0.009	5	75		BUK9609-75A		BUK9509-75A	12
75	0.009	10	75		BUK7609-75A		BUK7509-75A	12
75	0.023	5	53		BUK9623-75A		BUK9523-75A	12
75	0.023	10	53		BUK7623-75A		BUK7523-75A	12
75	0.026	5	46			BUK9226-75A		12
75	0.026	10	46			BUK7226-75A		12
100	0.015	5	75		BUK9615-100A		BUK9515-100A	8
100	0.015	10	75		BUK7615-100A		BUK7515-100A	8
100	0.02	5	63		BUK9620-100A		BUK9520-100A	8 / 10
100	0.02	10	63		BUK7620-100A		BUK7520-100A	8 / 10
100	0.028	5	49		BUK9628-100A		BUK9528-100A	8 / 10
100	0.028	10	49		BUK7628-100A		BUK7528-100A	8 / 10
100	0.035	5	41		BUK9635-100A		BUK9535-100A	10
100	0.035	10	41		BUK7635-100A		BUK7535-100A	10
100	0.04	5	37		BUK9640-100A		BUK9540-100A	10
100	0.04	10	37		BUK7640-100A		BUK7540-100A	10
100	0.04	5	34			BUK9240-100A		10
100	0.04	10	34			BUK7240-100A		10
100	0.06	5	26		BUK9660-100A		BUK9560-100A	10
100	0.06	10	26		BUK7660-100A		BUK7560-100A	10
100	0.065	5	7	BUK9875-100A				10
100	0.075	5	23		BUK9675-100A	BUK9275-100A	BUK9575-100A	10
100	0.075	10	23		BUK7675-100A	BUK7275-100A	BUK7575-100A	10
100	0.18	5	5	BUK98180-100A				9 / 10
100	0.18	5	11		BUK96180-100A		BUK95180-100A	9 / 10

### APPLICATIONS KEY

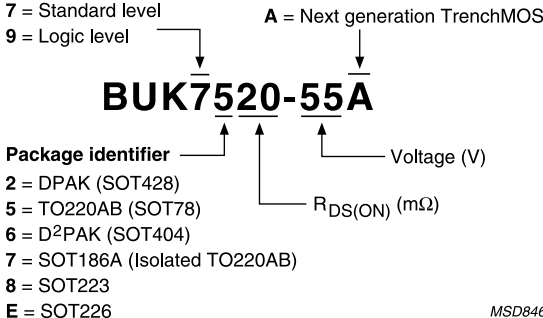
**Automotive**

- 1 = Electronic Power Assisted Steering (EPAS)
- 2 = Heater
- 3 = Ignition
- 4 = Motor
- 5 = Motor Switch
- 6 = Protected Motor Switch
- 7 = AC Motor Control
- 8 = Motor Driver
- 9 = Relay Driver
- 10 = Solenoid Driver
- 11 = Lamp Driver

### RELATED LITERATURE

Title	Order code
Power discretes and sensors - A full range of dedicated solutions (brochure)	9397 750 07512
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
TrenchMOS™: innovative technology, world-class performance (folder)	9397 750 03984
What if! Automotive competency (brochure)	9397 750 06353

### TRENCHMOS - 30-55V & 75-100V AUTOMOTIVE MOSFETS PART NUMBERING



MSD846

### Why choose

#### Philips Semiconductors'...?

- ..Automotive MOSFETs**
- \* Leading edge TrenchMOS technology used for all devices, giving outstanding performance.
  - \* Wide variety of operating voltages, R<sub>DS(ON)</sub> values, drain current ratings, power handling and package types - allows you more flexibility.
  - \* Extended TrenchMOS range suitable for a wider variety of applications.
  - \* True Logic Level and Standard Level devices available - lets YOU choose!
  - \* Continued package and process developments mean smaller and smaller packages.
  - \* Excellent thermal performance eases route to SMD packages.



# Transistors

## TRENCHPLUS - AUTOMOTIVE MOSFETS WITH PROTECTION FEATURES

$V_{DS}$ (V)	$R_{DS(ON)}$ ( $\Omega$ )	@ $V_{GS}$ (V)	$I_D$ (max) @ 25°C (A)	Temp Sense	Gate Source Clamps	Gate Drain Clamps	PACKAGE		TYPICAL APPLICATIONS
							SURFACE MOUNT	LEADED	
							SOT426 (5 pin D <sup>2</sup> PAK)	SOT263B	Automotive
48	0.02	5	52	•	•	•	BUK9120-48TC		1 / 4 / 5
40	0.007	5	75	•	•	•	BUK9107-40ATC		1 / 4 / 5 / 11
40	0.007	5	75	•	•	•		BUK9907-40ATC	1 / 4 / 5 / 11
55	0.007	5	75	•	•	•	BUK9107-55ATE	BUK9907-55ATE	1 / 4 / 5 / 11
55	0.007	10	75	•	•	•		BUK7907-55ATE	1 / 4 / 5 / 11

• indicates feature is available

Why choose

Philips Semiconductors'...?

- ...Automotive TrenchPLUS MOSFETs**
- \* TrenchPLUS provides semi-protected power solutions at lower cost than full SMART power devices.
  - \* Philips TrenchMOS™ technology offers integrated components on to standard Mosfets with very low  $R_{DS(ON)}$  and low cost protection features.
  - \* TrenchPLUS enables application specific optimised power driving solutions.

APPLICATIONS KEY

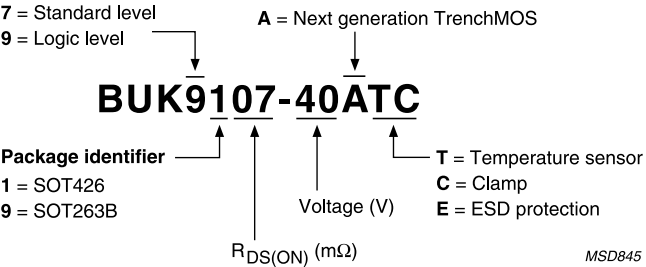
Automotive

- 1 = Electronic Power Assisted Steering (EPAS)
- 2 = Heater
- 3 = Ignition
- 4 = Motor
- 5 = Motor Switch
- 6 = Protected Motor Switch
- 7 = AC Motor Control
- 8 = Motor Driver
- 9 = Relay Driver
- 10 = Solenoid Driver
- 11 = Lamp Driver

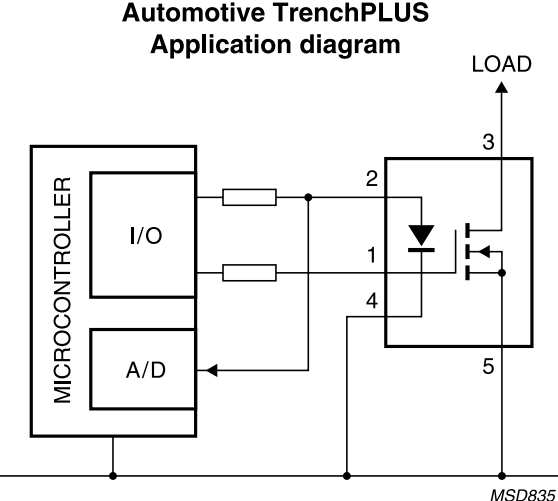
RELATED LITERATURE 

Title	Order code
In-Vehicle Power brochure	9397 750 08091

TRENCHPLUS - BUK TYPES PART NUMBERING



AUTOMOTIVE TRENCHPLUS APPLICATION DIAGRAM



# Transistors

## TOPFET1 - LOW SIDE DEVICES

TOPFET1 Low side Part number	PACKAGE	$R_{DS(ON)}$ ( $\Omega$ )	$V_{DS}$ (V)	$I_{(ISO)}$ (max) (A)	TYPICAL APPLICATIONS	Status Reporting
					Automotive	
BUK100-50DL	SOT78 (TO220AB)	0.125	50	3	6	
BUK100-50GL	SOT78 (TO220AB)	0.125	50	3	6	
BUK100-50GS	SOT78 (TO220AB)	0.100	50	3.5	6	
BUK101-50DL	SOT78 (TO220AB)	0.060	50	6	10	
BUK101-50GL	SOT78 (TO220AB)	0.060	50	6	10	
BUK101-50GS	SOT78 (TO220AB)	0.050	50	7	10	
BUK102-50GS	SOT78 (TO220AB)	0.028	50	12	11	
BUK107-50DL	SOT223	0.200	50	0.7	9 / 11	
BUK107-50DS	SOT223	0.175	50	0.7	9 / 11	
BUK108-50DL	SOT404 (D <sup>2</sup> PAK)	0.125	50	3	6	
BUK109-50DL	SOT404 (D <sup>2</sup> PAK)	0.060	50	6	10	
BUK109-50GL	SOT404 (D <sup>2</sup> PAK)	0.060	50	6	10	
BUK110-50GL	SOT404 (D <sup>2</sup> PAK)	0.035	50	10	11	
BUK114-50L	SOT426 (5 pin D <sup>2</sup> PAK)	0.125	50	3	6	•
BUK116-50L	SOT426 (5 pin D <sup>2</sup> PAK)	0.035	50	10	11	•

Note: • indicates status feature is available

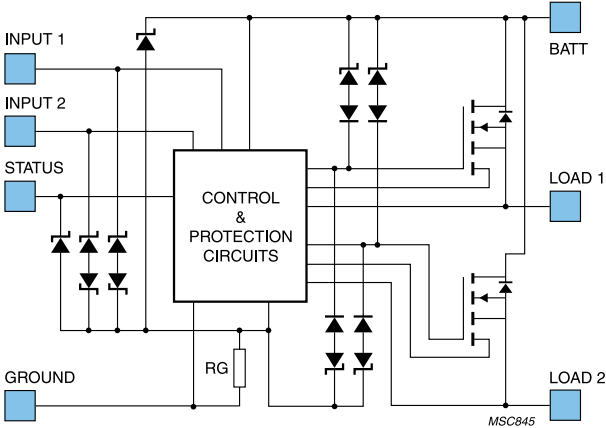
## TOPFET1 - HIGH SIDE DEVICES

TOPFET1 High side Part number	PACKAGE	$R_{DS(ON)}$ ( $\Omega$ )	$V_{DS}$ (V)	$I_{(ISO)}$ (max) (A)	TYPICAL APPLICATIONS
					Automotive
BUK201-50Y	SOT263B-01 (5 pin TO220)	0.060	50	6	11
BUK202-50Y	SOT263B-01 (5 pin TO220)	0.038	50	9	11
BUK204-50X	SOT426 (5 pin D <sup>2</sup> PAK)	0.100	50	3.5	9 / 10
BUK204-50Y	SOT426 (5 pin D <sup>2</sup> PAK)	0.100	50	3.5	6
BUK205-50Y	SOT426 (5 pin D <sup>2</sup> PAK)	0.060	50	6.0	6
BUK206-50Y	SOT426 (5 pin D <sup>2</sup> PAK)	0.038	50	9	11

## APPLICATIONS KEY

### Automotive

- 1 = Electronic Power Assisted Steering (EPAS)
- 2 = Heater
- 3 = Ignition
- 4 = Motor
- 5 = Motor Switch
- 6 = Protected Motor Switch
- 7 = AC Motor Control
- 8 = Motor Driver
- 9 = Relay Driver
- 10 = Solenoid Driver
- 11 = Lamp Driver



### Why choose

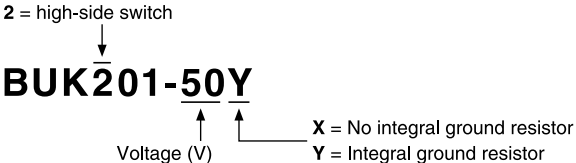
### Philips Semiconductors'...?

- ...Automotive TOPFETs**
- \* Real low  $R_{DS(ON)}$  protected Power MOSFETs.
- \* Protected against overload, overvoltage and shorted lead.
- \* No additional design-in effort required than with a standard MOSFET.
- \* High side switch - monolithic level shifter, protection circuits and power MOSFET are all on one chip.
- \* Very low current drain in off state.
- \* Can be directly interfaced to a microcontroller.
- \* New TOPFET2 range now uses Philips' field-proven TrenchMOS technology which extends the range further and facilitates cost-reductions making possible top-of-the-range features on lower-end vehicles.

## RELATED LITERATURE

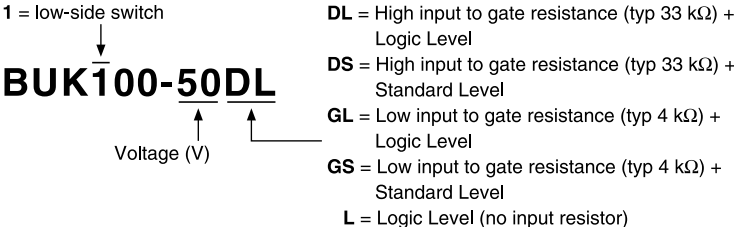
Title	Order code
TOPFETs - driving forward in protected PowerMOS (folder)	9397 750 03985
What if! Automotive competency (brochure)	9397 750 06353

### TOPFET 1 HSS PART NUMBERING



MSD839

### TOPFET 1 LSS PART NUMBERING



MSD840

# Transistors

## TOPFET1 - GENERAL FEATURES

	Low side 3 pin	Low side 5 pin	High side single
<b>Over-voltage clamping</b>	●	●	●
Drain-Source (Battery-Load) clamps for output device	●	●	●
Additional clamps for Battery-Ground	●		
Reverse Battery-Ground capability with integral ground resistor			●
Separate inductive load ring-off clamping			●
<b>Over-temperature protection</b>	●	●	●
Allows full operation to at least 150°C	●	●	●
Latched over-temperature protection	●	●	○
Auto re-start over-temperature protection with 10°C hysteresis			○
<b>Current limiting</b>			●
Active current limit with low temperature coefficient			●
Low value current limit			
High value latched current trip			
<b>Short circuit protection</b>	●	●	●
Thermal based S/C latched protection	●	●	●
Thermal based S/C protection with auto restart			
Voltage based latched S/C protection with turn on delay			●
Voltage based S/C reporting with delay - Status indication only			
<b>ESD protection</b>	●	●	●
2kV HBM capability on all pins	●	●	●
ESD clamp diodes rated for continuous clamping	●	●	●
<b>CMOS logic compatibility</b>	●	●	●
High value RIG for easy drive	●		
Lower value RIG for faster switching	○		
Fast switching with very low RIG		●	
<b>Diagnostic reporting via Flag / Status</b>		●	●
ON-state low load current detection with hysteresis			●
OFF-state open load detection		●	
OFF-state open load detection has integral current source		●	
<b>Low OFF-state currents</b>	●	●	●
Low OFF state leakage current in output device	●	●	●
Very low OFF state quiescent current Battery-Ground			●
<b>Vertical Power TrenchMOS</b>	●	●	●
N channel, logic level	●	●	●
Very low noise charge pumping			●
Open Ground protection - output remains OFF			●

Note: ● = standard feature

Note: ○ = option (metal mask determined for various variants)



# Transistors

## TOPFET2 - LOW SIDE DEVICES

TOPFET2 Low side Part number	PACKAGE	$R_{DS(ON)}$ ( $\Omega$ )	$V_{DS}$ (V)	$I_{(ISO)}$ (max) (A)	TYPICAL APPLICATIONS	Status Reporting
					Automotive	
BUK117-50DL	SOT78B (TO220AB)	0.100	50	3.5	6	
BUK118-50DL	SOT78B (TO220AB)	0.050	50	7	10	
BUK119-50DL	SOT78B (TO220AB)	0.028	50	12	11	
BUK124-50L	SOT263B-01 (5 pin TO220)	0.028	50	12	11	•
BUK125-50L	SOT263B-01 (5 pin TO220)	0.020	50	16	2 / 11	•
BUK127-50DL	SOT223	0.200	50	0.7^	9 / 11	
BUK127-50GT*	SOT223	0.200	50	0.7^	9 / 11	
BUK128-50DL	SOT404 (D <sup>2</sup> PAK)	0.100	50	3.5	6	
BUK129-50DL	SOT404 (D <sup>2</sup> PAK)	0.050	50	7	10	
BUK130-50DL	SOT404 (D <sup>2</sup> PAK)	0.028	50	12	11	
BUK148-50DL	SOT226 (I2PAK)	0.100	50	3.5	6	
BUK149-50DL	SOT226 (I2PAK)	0.050	50	7	10	
BUK150-50DL	SOT226 (I2PAK)	0.028	50	12	11	
BUK135-50L	SOT426 (5 pin D <sup>2</sup> PAK)	0.028	50	12	11	•
BUK136-50L	SOT426 (5 pin D <sup>2</sup> PAK)	0.020	50	16	11	•
BUK138-50DL	SOT428 (DPAK)	0.100	50	3.5	6	
BUK139-50DL	SOT428 (DPAK)	0.050	50	7	10	

Note: \* indicates this device has current trip and low input resistance

Note: • indicates status feature is available

Note: ^ indicates current capability set by L parameter



# Transistors

## TOPFET2 - HIGH SIDE DEVICES

TOPFET2 High side Part number	PACKAGE	$R_{DS(ON)}$ ( $\Omega$ )	$V_{DS}$ (V)	$I_{(ISO)}$ (max) (A)	TYPICAL APPLICATIONS	FEATURE SET ( * indicates feature is available)				
						Automotive	Overtemperature Protection	Low Current Detect <sup>x</sup>	Short Circuit Detect	$I_{lim}$ (A)
					BUK208-50Y	SOT263B-01 (5 pin TO220)	0.100	50	4	6
BUK209-50Y*	SOT263B-01 (5 pin TO220)	0.060	50	6	11	•	•	▲	34 - 64	
BUK210-50Y*	SOT263B-01 (5 pin TO220)	0.038	50	9	11	•	•	▲	20 - 40	
BUK211-50Y*	SOT263B-01 (5 pin TO220)	0.020	50	18	6 / 11	•	•	▲	42 - 88	
BUK212-50Y*	SOT263B-01 (5 pin TO220)	0.014	50	25	6 / 11	•	•	▲	47 - 100	
BUK213-50Y	SOT426 (5 pin D <sup>2</sup> PAK)	0.100	50	4	6	•	•	▲	12 - 24	
BUK214-50Y*	SOT426 (5 pin D <sup>2</sup> PAK)	0.060	50	6	11	•	•	▲	20 - 40	
BUK215-50Y	SOT426 (5 pin D <sup>2</sup> PAK)	0.038	50	9	11	•	•	▲	34 - 64	
BUK215-50YT	SOT426 (5 pin D <sup>2</sup> PAK)	0.038	50	9	11	□		▲	34 - 64	
BUK216-50Y*	SOT426 (5 pin D <sup>2</sup> PAK)	0.020	50	18	6 / 11	•	•	▲	42 - 88	
BUK216-50YT*	SOT426 (5 pin D <sup>2</sup> PAK)	0.020	50	18	6 / 11	□		★	10 - 21	
BUK217-50Y*	SOT426 (5 pin D <sup>2</sup> PAK)	0.014	50	25	6 / 11	•	•	▲	47 - 100	
BUK217-50YT*	SOT426 (5 pin D <sup>2</sup> PAK)	0.014	50	10 <sup>^</sup>	6 / 11	□		★	10 - 21	
BUK218-50DY	SOT427 (7 pin D <sup>2</sup> PAK)	0.04 (dual)	50	8	11	•	•	■	18 - 42	•
BUK218-50DC	SOT427 (7 pin D <sup>2</sup> PAK)	0.04 (dual)	50	8	11	•	•	■	18 - 42	•
BUK219-50Y	SOT263B-01 (5 pin TO220)	0.180	50	2	9 / 10	•	•	▲	6 - 12	
BUK220-50Y	SOT426 (5 pin D <sup>2</sup> PAK)	0.180	50	2	9 / 10	•	•	▲	6 - 12	
BUK221-50DY*	SOT427 (7 pin D <sup>2</sup> PAK)	0.08 (dual)	50	3	11	•	•	▲	8 - 16	
BUK222-50MY*	SOT427 (7 pin D <sup>2</sup> PAK)	0.030	50	12	11	•	•	▲	35 - 65	
BUK223-50Y*	SOT263B-01 (5 pin TO220)	0.030	50	12	11	•	•	▲	38 - 72	
BUK224-50Y*	SOT426 (5 pin D <sup>2</sup> PAK)	0.030	50	12	11	•	•	▲	38 - 72	

Note: <sup>^</sup> indicates current capability set by I<sub>lim</sub> parameter

Note: □ indicates that parts latch off when subject to over-temperature.

Note: x indicated on status pin

### The following notes are for the short circuit detect column only:

Note: ▲ indicates short circuit on status but does not latch (by voltage detection)

Note: ★ indicates short circuit on status and latches off (by voltage detection)

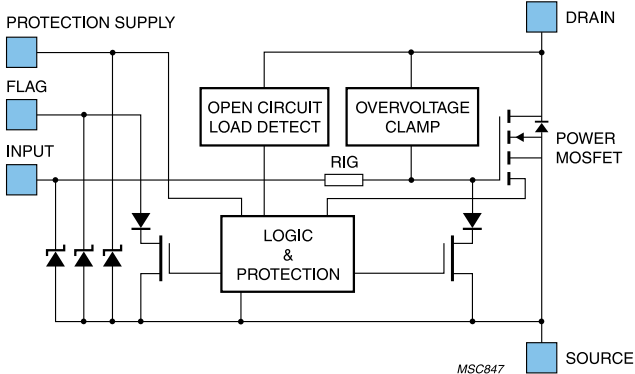
Note: ■ indicates short circuit on status and latches off (by power detection)

Note: \* New product

## APPLICATIONS KEY

### Automotive

- 1 = Electronic Power Assisted Steering (EPAS)
- 2 = Heater
- 3 = Ignition
- 4 = Motor
- 5 = Motor Switch
- 6 = Protected Motor Switch
- 7 = AC Motor Control
- 8 = Motor Driver
- 9 = Relay Driver
- 10 = Solenoid Driver
- 11 = Lamp Driver



Why choose

### Philips Semiconductors'...?

#### ...Automotive TOPFETs

- \* Real low  $R_{DS(ON)}$  protected Power MOSFETs.
- \* Protected against overload, overvoltage and shorted lead.
- \* No additional design-in effort required than with a standard MOSFET.
- \* High side switch - monolithic level shifter, protection circuits and power MOSFET are all on one chip.
- \* Very low current drain in off state.
- \* Can be directly interfaced to a microcontroller.
- \* New TOPFET2 range now uses Philips' field-proven TrenchMOS technology which extends the range further and facilitates cost-reductions making possible top-of-the-range features on lower-end vehicles.

## RELATED LITERATURE

Title	Order code
TOPFETs - driving forward in protected PowerMOS (folder)	9397 750 03985
What if! Automotive competency (brochure)	9397 750 06353

### TOPFET 2 HSS PART NUMBERING

2 = high-side switch

**BUK218-50DY**

Voltage (V) →

- DC = Dual Channel + Non latching short circuit protection
- DY = Dual Channel + Integral ground resistor
- MY = Current Measure + Integral ground resistor
- Y = Integral ground resistor
- YT = Integral ground resistor + Over-temperature latching

MSDB41

# Transistors

## TOPFET2 - GENERAL FEATURES

	Low side 3 pin	Low side 5 pin	High side single	High side dual
<b>Over-voltage clamping</b>	●	●	●	●
Drain-Source (Battery-Load) clamps for output device	●	●	●	●
Additional clamps for Battery-Ground			●	●
Reverse Battery-Ground capability with integral ground resistor			●	●
Separate inductive load ring-off clamping			●	●
<b>Over-temperature protection</b>	●	●	●	●
Allows full operation to at least 150°C	●	●	●	●
Latched over-temperature protection	●	●	○	○
Auto re-start over-temperature protection with 10°C hysteresis	○	○		
<b>Current limiting</b>	●	●	●	●
Active current limit with low temperature coefficient	●	●	●	●
Low value current limit			○	○
High value latched current trip			○	○
<b>Short circuit protection</b>	●	●	●	●
Thermal based S/C latched protection	●	●	●	●
Thermal based S/C protection with auto restart				○
Voltage based latched S/C protection with turn on delay			●	
Voltage based S/C reporting with delay - Status indication only			○	
<b>ESD protection</b>	●	●	●	●
2kV HBM capability on all pins	●	●	●	●
ESD clamp diodes rated for continuous clamping	●	●	●	●
<b>CMOS logic compatibility</b>	●	●	●	●
High value RIG for easy drive	●			
Lower value RIG for faster switching	○			
Fast switching with very low RIG		●		
<b>Diagnostic reporting via Flag / Status</b>		●	●	●
ON-state low load current detection with hysteresis			●	○
OFF-state open load detection		●		●
OFF-state open load detection has integral current source		●		
<b>Low OFF-state currents</b>	●	●	●	●
Low OFF state leakage current in output device	●	●	●	●
Very low OFF state quiescent current Battery-Ground			●	●
<b>Vertical Power TrenchMOS</b>	●	●	●	●
N channel, logic level	●	●	●	●
Very low noise charge pumping			●	●
Open Ground protection - output remains OFF			●	●

● = standard feature

○ = option (metal mask determined for various variants)



# Transistors

## GA RESISTOR-EQUIPPED TRANSISTORS (RET)

INPUT RESISTOR (K $\Omega$ )	2nd RESISTOR (K $\Omega$ )	V <sub>CEO</sub> max. (V)	IC/IO max. (mA)	hFE min.	hFE max. max.	POLARITY	Single LEADED	
							SOT54 / TO-92 <i>Ptot max. 500 mW</i>	
2.2	2.2	50	100	30		NPN		
2.2	2.2	50	100	30		PNP		
2.2	47	50	100	100		NPN		
2.2	47	50	100	100		NPN/PNP		
2.2	47	50	100	100		PNP		
4.7	open	50	100	100	600	NPN		
4.7	open	50	100	100	600	NPN/PNP		
4.7	open	50	100	100	600	PNP		
4.7	4.7	50	100	20		NPN	PDTC143ES	
4.7	4.7	50	100	20		PNP	PDTA143ES	
4.7	10	50	100	50		NPN		
4.7	10	50	100	50		PNP		
4.7	47	50	100	100		NPN		
4.7	47	50	100	100		NPN/PNP		
4.7	47	50	100	100		PNP		
10	open	50	100	100	600	NPN	PDTC114TS	
10	open	50	100	100	600	NPN/PNP		
10	open	50	100	100	600	PNP	PDTA114TS	
10	10	50	100	30		NPN	PDTC114ES	
10	10	50	100	30		NPN/PNP		
10	10	50	100	30		PNP	PDTA114ES	
10	47	50	100	100		NPN		
10	47	50	100	100		NPN/PNP		
10	47	50	100	30		PNP		
22	open	50	100	100		NPN		
22	22	50	100	56		NPN	PDTC124ES	
22	22	50	100	56		NPN/PNP		
22	22	50	100	56		PNP	PDTA124ES	
22	47	50	100	80		NPN		
22	47	50	100	80		PNP		
47	open	50	100	100		NPN		
47	open	50	100	100		NPN		
47	22	50	100	60		NPN		
47	22	50	100	60		PNP		
47	47	50	100	68		NPN	PDTC144ES	
47	47	50	100	68		NPN/PNP		
47	47	50	100	68		PNP	PDTA144ES	
47/2.2	47/47	50	100	80		NPN/PNP		
100	100	50	20	80		NPN		

\* New product

	SMD					Double SMD		
	<b>SOT23</b> <i>Ptot max. 250 mW</i>	<b>SC-59 / SOT346</b> <i>Ptot max.250 mW</i>	<b>SC-70 / SOT323</b> <i>Ptot max. 200 mW</i>	<b>SC-75 / SOT416</b> <i>Ptot max. 150 mW</i>	<b>SC-89 / SOT490</b> <i>Ptot max. 250 mW</i>	<b>SC-74 / SOT457</b> <i>Ptot max. 600 mW</i>	<b>SC-88 / SOT363</b> <i>Ptot max. 200 mW</i>	<b>SOT666</b> <i>Ptot max. 300mW</i>
	PDTC123ET							
	PDTA123ET							
	PDTC123JT			PDTC123JE	PDTC123JEF		PUMH10	PEMH10*
							PUMD10	PEMD10*
	PDTA123JT			PDTA123JE	PDTA123JEF			PEMB10*
	PDTC143TT				PDTC143TEF		PUMH7	PEMH7*
							PUMD6	PEMD6*
					PDTA143TEF		PUMB3	PEMB3*
	PDTC143ET	PDTC143EK	PDTC143EU	PDTC143EE				
	PDTA143ET	PDTA143EK	PDTA143EU	PDTA143EE				
	PDTC143XT	PDTC143XK		PDTC143XE				
	PDTA143XT	PDTA143XK		PDTA143XE	PDTA143XEF			
	PDTC143ZT	PDTC143ZK						PEMH13*
							PUMD13	PEMD13*
	PDTA143ZT	PDTA143ZK						PEMB13*
	PDTC114TT	PDTC114TK	PDTC114TU	PDTC114TE			PUMH4	PEMH4*
								PEMD4*
	PDTA114TT	PDTA114TK	PDTA114TU	PDTA114TE			PUMB4	PEMB4*
	PDTC114ET	PDTC114EK	PDTC114EU	PDTC114EE	PDTC114EEF		PUMH11	PEMH11*
							PUMD3	PEMD3*
	PDTA114ET	PDTA114EK	PDTA114EU	PDTA114EE	PDTA114EEF		PUMB11	PEMB11*
	PDTC114YT		PDTC114YU	PDTC114YE	PDTC114YEF	PIMH9	PUMH9	PEMH9*
							PUMD9	PEMD9*
	PDTA114YT				PDTA114YEF			PEMB9*
					PDTC124TEF			
	PDTC124ET	PDTC124EK	PDTC124EU	PDTC124EE	PDTC124EEF		PUMH1	PEMH1*
							PUMD2	PEMD2*
	PDTA124ET	PDTA124EK	PDTA124EU	PDTA124EE	PDTA124EEF			PEMB1*
				PDTC124XE	PDTC124XEF			
				PDTA124XE	PDTA124XEF			
					PDTC144TEF			
	PDTC144WT		PDTC144WU		PDTC144WEF			
			PDTA144WU					
	PDTC144ET	PDTC144EK	PDTC144EU	PDTC144EE	PDTC144EEF		PUMH2	PEMH2*
							PUMD12	PEMD12*
	PDTA144ET	PDTA144EK	PDTA144EU	PDTA144EE	PDTA144EEF		PUMB2	PEMB2*
							PUMD48	PEMD48*
				PDTC115EE				

# Transistors

## RESISTOR-EQUIPPED-TRANSISTORS BY PHILIPS OFFER THE THREE-IN-ONE SOLUTION

Resistor Equipped Transistors by Philips are small-signal-transistors with one or two integrated resistors. They combine up to three electronic components in one device. The biasing resistors which are normally placed separately on an electronic board are now integrated on the transistor die. Resistor Equipped Transistors are available in both polarities, npn and pnp.

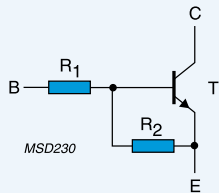


fig. 1: Resistor Equipped Transistor with two resistors

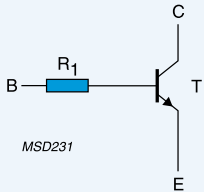


fig. 2: Resistor Equipped Transistor with one resistor

*Their benefits are very convincing:*

- reduction of handling costs: you need to handle only one device instead of three
- increase of product quality by reliability (ppm)
- reduction of inventory cost
- reduction of board space

Because of their benefits Resistor Equipped Transistors by Philips are real state-of-the-art products for newest electronic devices in all market segments and for the next generations of high-tech products.

The application area for Resistor Equipped Transistors by Philips are both analog and digital applications e.g. as switching transistors, level translators or driver stages. They are used in all market segments like telecommunication, automotive, Audio/Video or Multimedia.

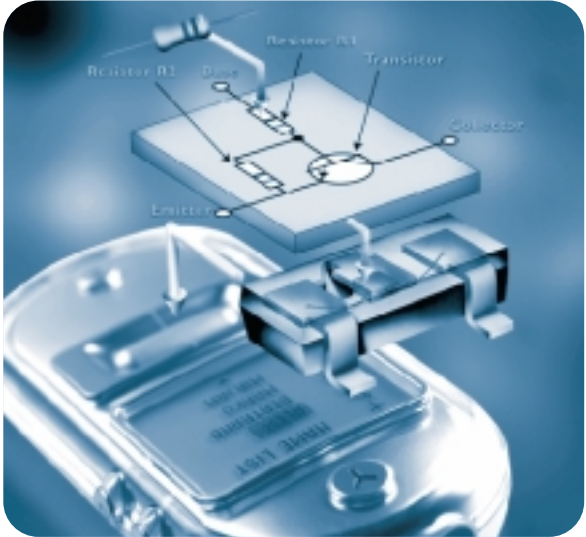
Philips offers the full range of conventional and newest SMD packages with max. power dissipation ratings between 150 mW and 300 mW. This includes the smallest available discrete Transistor packages in the world: SC-89 and SC-75. Various different resistor combinations from 2.2 kW to 100 kW ensure maximum flexibility in hardware design with our product portfolio.

Double Resistor Equipped Transistors are available for applications where board space reduction is a key-factor. These double Resistor Equipped Transistors can be ordered as 2 x npn, 2 x pnp and complementary types.

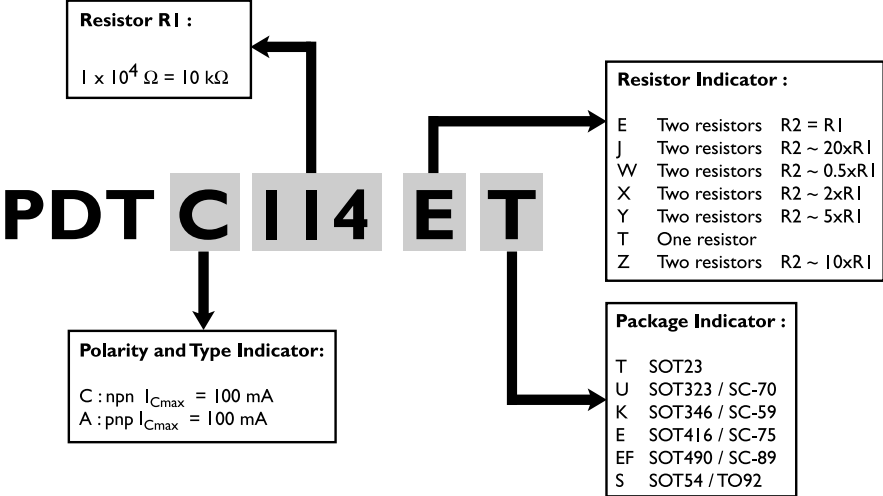
RELATED LITERATURE 

**Title**  
Resistor-Equipped Transistors

**Order code**  
9397 750 08298



RESISTOR-EQUIPPED-TRANSISTORS (RET)



# Transistors

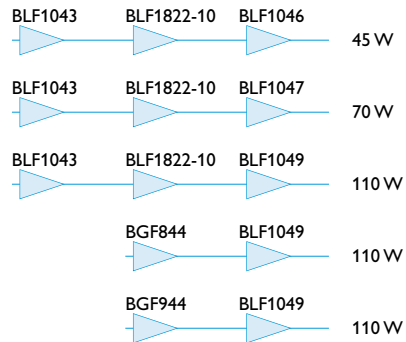
## CELLULAR BASE-STATION AMPLIFIER MODULES

Product Type	12NC	Ceramic Package	Mode of Operation	Load Power (W)	Power Gain (dB)	Supply Voltage (V)
<b>869 to 894 MHz LDMOS</b>						
BGF802-20 *	934057014127	SOT365C	Single carrier CDMA	4 avg	30	26
BGF844 *	934056740127	SOT365C	CW EDGE	20 4 avg	30	26
<b>920 to 960 MHz LDMOS</b>						
BGF944 *	934056689127	SOT365C	CW EDGE	20 4 avg	29	26
<b>920 to 960 MHz Bipolar</b>						
BGY916	934037560127	SOT365A	CW	19	30	26
BGY916/5	934044730127	SOT365A	CW	19	30	26
BGY925	934040080127	SOT365A	CW	23	30	26
BGY925/5	934055904127	SOT365A	CW	23	30	26
<b>1800 to 2000 MHz LDMOS</b>						
BGF1801-10 *	934056835127	SOT365C	CW EDGE	10 2.5	25	26
BGF1901-10 *	934056792127	SOT365C	CW EDGE	10 2.5	25	26
<b>1800 to 2000 MHz Bipolar</b>						
BGY2016	934055930127	SOT365A	CW	19	30	26

\* Under Development

## BASESTATION LINEUPS 1 GHz

### (EDGE) GSM

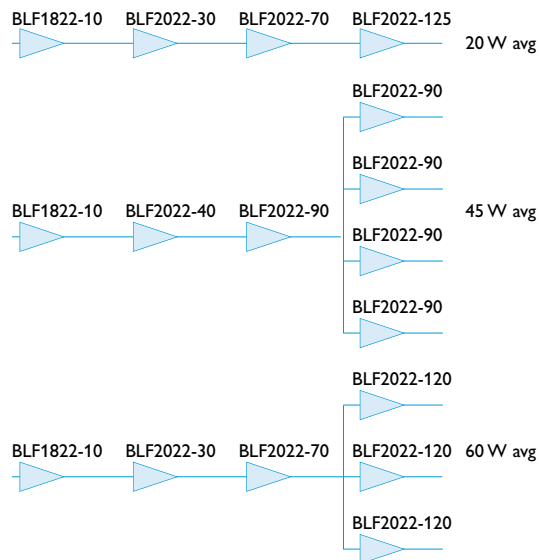


### CDMA



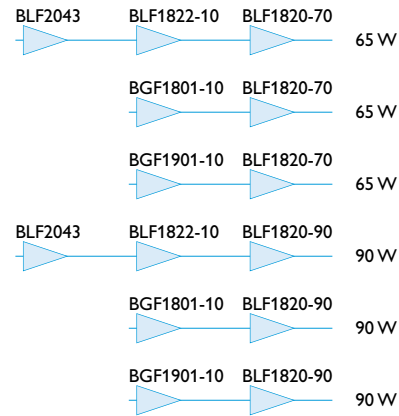
## BASESTATION LINEUPS 2.2 GHz

### W-CDMA

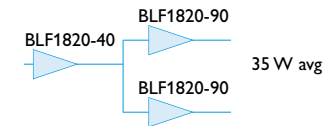


## BASESTATION LINEUPS 2 GHz

### (EDGE) GSM



### CDMA



# Transistors

## CELLULAR BASE-STATION RF POWER TRANSISTORS

Product Type	12NC	Ceramic Package	Mode of Operation	Load Power (W)	Power Gain (dB)	Supply Voltage (V)
<b>900 to 960 MHz LDMOS</b>						
BLF1822-10	934056582112	SOT467C	CW, class AB	10	18.5	26
BLF1043	934055708112	SOT538A	CW, class AB	10	17	26
BLF1046	934055384112	SOT467C	CW, class AB	45	16	26
BLF1047	934055707112	SOT541A	CW, class AB	70	16	26
BLF1049	934056891112	SOT502A	CW, class AB EDGE	110 45 avg	17	28
BLF0810-90 *	934056899112	SOT502A	Single-carrier CDMA	18 avg	17	28
BLF0810-180 *	934056838112	SOT502A	Single-carrier CDMA	35 avg	16	28
<b>1800 to 2000 MHz LDMOS</b>						
BLF2043	934055916112	SOT538A	CW, class AB	10	12	26
BLF2045	934055383112	SOT467C	2-Tone, class AB	30	12.5	26
BLF1822-10	934056582112	SOT467C	CW, class AB	10	13	26
BLF1820-40	934056637112	SOT608A	2-Tone, class AB	40	13	26
BLF1820-70	934056519112	SOT502A	2-Tone, class AB	65	12	26
BLF1820-90	934056520112	SOT502A	2-Tone, class AB	90	12	26
<b>1800 to 2000 MHz Bipolar</b>						
BLV2045	934040110112	SOT390A	CW, class AB 2-Tone, class AB	30 9	8.5 26	26
BLV2045N	934055192112	SOT390A	CW, class AB 2-Tone, class AB	35 10.2	9.5 26	26
BLV2047	934054815112	SOT468A	CW, class AB 2-Tone, class AB CDMA, class AB	60 60 12.5 avg	9	26
<b>2000 to 2200 MHz LDMOS</b>						
BLF1822-10	934056582112	SOT467C	CW, class AB W-CDMA	10 1 avg	12.5	26
BLF2022-30 *	934056639112	SOT608A	2-Tone, class AB W-CDMA	30 4 avg	12.5	28
BLF2022-40	934056638112	SOT608A	2-Tone, class AB W-CDMA	40 5 avg	11	28
BLF2022-70	934056521112	SOT502A	2-Tone, class AB W-CDMA	65 7.5 avg	12.5	28
BLF2022-90	934056522112	SOT502A	2-Tone, class AB W-CDMA	90 11.5 avg	12.5	28
BLF2022-120	934056583112	SOT539A	2-Tone, class AB W-CDMA	120 20 avg	12	28
BLF2022-125 *	934056796112	SOT634A	Single-carrier WCDMA	20 avg	12	28

Note: Powerlevels for 2-Tone operation are PEP

\* Under Development



# Transistors

## BROADCAST RF POWER TRANSISTORS

Product Type	12NC	Ceramic Package	Mode of Operation	Load Power (W)	Power Gain (dB)	Supply Voltage (V)	Efficiency (%)
<b>HF LDMOS</b>							
BLF647	934056498112	SOT540A	CW, class AB	150	18	32	60
<b>HFVDMOS</b>							
BLF177	933930010112	SOT121B	SSB, class AB	150	35	50	40
BLF175	933939780112	SOT123A	Class A	8	28	50	40
			Class AB	30	24		-
BLF145	933817070112	SOT123A	SSB, class A	8	27	28	-
			SSB, class AB	30	20		40
BLF242	933817030112	SOT123A	CW, class AB	5	17	28	60
BLF202	934055627115	SOT409A	CW, class B	2	15	12.5	55
<b>VHF LDMOS</b>							
BLF647	934056498112	SOT540A	CW, class AB 2-Tone, class AB	150	18	32	60 45
<b>VHFVDMOS</b>							
BLF368	933978490112	SOT262A1	CW, class AB	300	13.5	32	62
BLF278	933978520112	SOT262A1	CW, class AB	300	22	50	70
			CW, class C		18		80
BLF248	934006630112	SOT262A1	Class AB	300	13	28	67
BLF177	933930010112	SOT121B	SSB, class AB	150	35	50	40
			CW, class B		19		70
BLF147	933930000112	SOT121B	SSB, class AB	150	19	50	40
			CW, class B		14		70
BLF246	933929990112	SOT121B	CW, class B	80	18	28	65
BLF246B	934001090112	SOT161A	CW, class AB	60	19	28	65
BLF346	934006640112	SOT119A	Class A	30	16.5	28	-
BLF245B	934003520112	SOT279A	CW, class B	30	18	28	65
BLF245	933817060112	SOT123A	CW, class B	30	15.5	28	67
				12	12.5	12.5	66
BLF175	933939780112	SOT123A	CW, class B	30	20	50	65
BLF244	933817040112	SOT123A	CW, class B	15	17	28	65
				6	15	12.5	60
BLF242	933817030112	SOT123A	CW, class AB	5	16	28	60
BLF404	934045520115	SOT409	CW, class AB	4	11.5	12.5	55
BLF202	934055627115	SOT409A	CW, class B	2	13	12.5	55
<b>UHF LDMOS</b>							
BLF861A	934056499112	SOT540A	CW, class AB	150	14.5	32	55
			2-Tone, class AB				
			PAL BG (TV), class AB				
BLF647	934056498112	SOT540A	CW, class AB 2-Tone, class AB	150	16 45	32	60
BLF2045	934055383112	SOT467C	2-Tone, class AB	30	12	26	35
BLF1822-10	934056582112	SOT467C	CW, class AB	10	13.5	26	55
	934055708112						
BLF1043	934055708135	SOT538A	CW, class AB	10	17	26	48

Product Type	12NC	Ceramic Package	Mode of Operation	Load Power (W)	Power Gain (dB)	Supply Voltage (V)	Efficiency (%)
<b>UHFVDMOS</b>							
BLF548	934006620112	SOT262A2	CW, class B	150	11	28	55
BLF546	934002430112	SOT268A	CW, class B	80	13	28	60
BLF544	933997320112	SOT171A	CW, class B	20	14	28	60
BLF542	934006660112	SOT171A	CW, class B	5	16.5	28	59
BLF404	934045520115	SOT409	CW, class AB	4	11.5	12.5	55
BLF521	933978500112	SOT172D	CW, class B	2	13	12.5	60
<b>UHF BIPOLAR</b>							
BLV862	934038450112	SOT262B	CW, class AB	150	9	28	52
			Class A	12	9		
BLV57	933582620112	SOT161A	Class AB	38	6.5	25	-
BLW34	933448550112	SOT122A	Class A	2.15	10.2	25	-
BLW33	933448540112	SOT122A	Class A	1.15	10.5	25	-

# Transistors

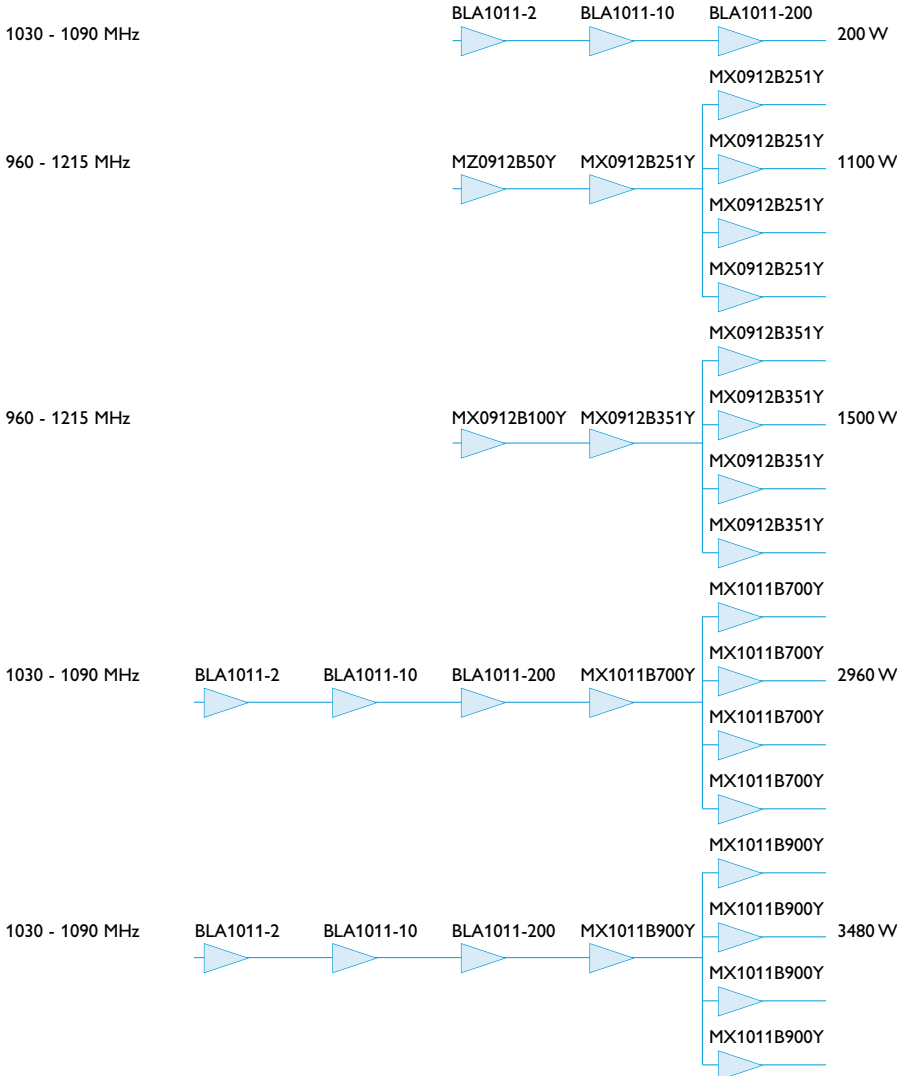
## MICROWAVE RF POWER TRANSISTORS

### AVIONICS, L-BAND AND S-BAND RADAR POWER TRANSISTORS

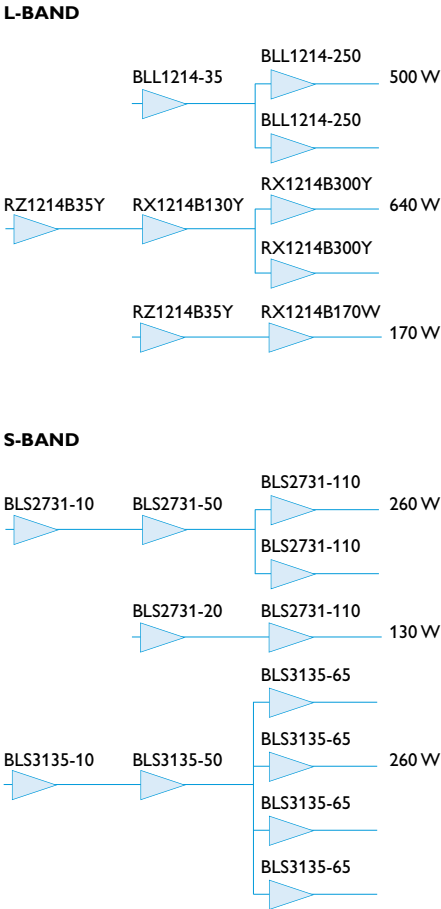
Product Type	12NC	Ceramic Package	Mode of Operation	Load Power (W)	Tp (us)	Duty Cycle (dB)	Power Gain (dB)	Supply Voltage (V)	Efficiency (%)
<b>AVIONICS LDMOS</b>									
BLA1011-200	934056468112	SOT502A	Pulsed class AB	200	50	1	15	36	50
BLA1011-10	934056836112	SOT467C	Pulsed class AB	10	50	1	18	36	50
BLA1011-2	934056834112	SOT538A	Pulsed class AB	2	50	1	18	36	-
<b>AVIONICS BIPOLAR</b>									
MX0912B351Y	934033550114	SOT439A	Class C	375	10	10	7.6	50	47
MX0912B251Y	934050610114	SOT439A	Class C	275	10	10	7.4	50	47
MX0912B100Y	934054887114	SOT439A	Class C	115	10	10	7.6	50	44
MZ0912B100Y	933994050114	SOT443A	Class C	115	10	1	7.6	50	44
MZ0912B50Y	933994040114	SOT443A	Class C	60	10	1	8	50	44
MF1011B900Y	934024400114	SOT448A	Class C	870	10	1	6.3	50	46
MX1011B700Y	934016870114	SOT439A	Class C	740	10	10	7	50	55
MX1011B200Y	934021700114	SOT439A	Class C	220	10	10	8.3	50	52
<b>L-BAND RADAR LDMOS</b>									
BLL1214-250 *	934056925112	SOT502A	Pulsed class AB	250	100	10	13	36	50
BLL1214-35 *	934056924112	SOT467C	Pulsed class AB	35	100	10	14	36	45
<b>L-BAND RADAR BIPOLAR</b>									
RX1214B350Y	934009540114	SOT439A	Class C	380	130	6	8	50	45
RX1214B300Y	933783030114	SOT439A	Class C	320	150	5	8	50	40
RX1214B170W	934055677112	SOT439A	Class C	170	500	10	7	42	45
RX1214B130Y	934008060114	SOT439A	Class C	140	150	5	7.5	50	40
RZ1214B65Y	933755380114	SOT443A	Class C	80	150	5	8	50	40
RZ1214B35Y	933783040114	SOT443A	Class C	40	150	5	8	50	35
<b>S-BAND RADAR BIPOLAR</b>									
BLS2731-110	934045780114	SOT423A	Pulsed class C	130	100	10	8	40	42
BLS2731-50	934045770114	SOT422A	Pulsed class C	60	100	10	9	40	40
BLS2731-20	934045800114	SOT445C	Pulsed class C	25	100	10	10	40	40
BLS2731-10	934045790114	SOT445C	Pulsed class C	12.5	100	10	10	40	45
BLS3135-65	934055678114	SOT422A	Pulsed class C	65	100	10	8	40	40
BLS3135-50	934055198114	SOT422A	Pulsed class C	55	100	10	8	40	40
BLS3135-20	934055937114	SOT422A	Pulsed class C	22	100	10	8	40	40
BLS3135-10	934055936114	SOT445C	Pulsed class C	10	100	10	9	40	40
PTB32005X	933789410114	SOT440A	CW, class B	5.5	-	-	9.5	24	45

\* Under Development

## MICROWAVE LINEUPS FOR AVIONICS



## MICROWAVE LINEUPS FOR RADAR



# Transistors

## POWER AMPLIFIER MODULES

Mode of operation	Frequency band (MHz)	Supply Voltage (V)	Control Voltage (V)	Typical Load power (dBm)	Efficiency (%)	Input Impedance (Ohm)	PACKAGES	
							SMD	
<b>Dualband digital cellular (GSM900/DCS1800)</b>								
Pulsed; duty cycle = 2 : 8	880-915	3.6	</= 2.2	35.5	50	50	BGY280	
	1710-1785	3.6	</= 2.2	33.5	45	50		
<b>Dualband digital cellular (GSM900/ GSM 1800)</b>								
Pulsed; duty cycle = 1 : 8 to 4 : 8	880-915	3.5	</= 2.2	35	50	50		BGY282
	1710-1785	3.5	</= 2.2	33	45	50		
<b>Tripleband digital cellular (GSM900/ GSM 1800/1900)</b>								
Pulsed; duty cycle = 1 : 8 to 4 : 8	880-915	3.5	</= 2.2	35	50	50		BGY282T
	1710-1785	3.5	</= 2.2	33	45	50		
	1850-1910	3.5	</= 2.2	33	45	50		

## APPLICATIONS KEY

### Benefits of Philips Semiconductors' Power Amplifier Modules

- 1 = Internal input and output matching
- 2 = Available in dualband
- 3 = Easy output power control by DC voltage

# Transistors

## WIDEBAND TRANSISTORS

Type	Package	Ft (GHz) Typical	Vceo (V)	Ic (mA)	Ptot (mW)	Polarity	Gum (dB)	F (dB)	@ (MHz)	Gum (dB)	F (dB)	@ (MHz)	Vo <sup>9</sup> (mV)	PI (dBm)	ITO (dBm)	@ Ic & (mA)	Vce (V)
			Maximum values														
BF547 BF747	SOT23	1.2	20	50	300	NPN	20	-	100	-	-	-	-	-	-	-	-
BFC505	SOT353	7.3	8	18	500	NPN	-	1.8	900	-	3.5	2000	-	-	-20	1	3
BFC520	SOT353	7	8	70	1000	NPN	-	1.3	900	-	-	-	-	-	-18	5	3
BFE505	SOT353	9	8	18	500	NPN	-	1.2	900	-	1.9	2000	-	-	-	-	-
BFE520	SOT353	9	8	70	1000	NPN	-	1.1	900	-	1.9	2000	-	-	-	-	-
BFG10(X)	SOT143	-	8	250	250	NPN	-	-	-	7	-	1900	-	-	-	-	-
BFG10W(X)	SOT343	-	10	250	400	NPN	-	-	-	7	-	1900	-	-	-	-	-
BFG11(X)	SOT143	-	8	500	400	NPN	-	-	-	5	-	1900	-	-	-	-	-
BFG11W(X)	SOT343	-	8	500	760	NPN	-	-	-	6	-	1900	-	-	-	-	-
BFG135	SOT223	7	15	150	1000	NPN	16	-	500	12	-	800	850	-	-	100	10
BFG16A	SOT223	1.5	25	150	1000	NPN	10	-	500	-	-	-	-	-	-	-	-
BFG198	SOT223	8	10	100	1000	NPN	18	-	500	15	-	800	700	-	-	70	8
BFG21W	SOT343	18	4.5	200	600	NPN	-	-	-	10	-	1900	-	-	-	-	-
BFG25A(X)	SOT143	5	5	6.5	32	NPN	18	1.8	1000	-	-	-	-	-	-	-	-
BFG25AW(X)	SOT343	5	5	6.5	500	NPN	16	2	1000	8	-	2000	-	-	-	-	-
BFG25W(X)	SOT343	5	5	6.5	500	NPN	16	2	1000	8	-	2000	-	-	-	-	-
BFG31	SOT223	5	15	100	1000	PNP	16	-	500	12	-	800	550	-	-	70	10
BFG35	SOT223	4	18	150	1000	NPN	15	-	500	11	-	800	750	-	-	100	10
BFG403W	SOT343	17	4.5	3.6	16	NPN	-	1	900	-	1.6	2000	-	5	6	1	1
BFG410W	SOT343	22	4.5	12	54	NPN	-	0.9	900	-	1.2	2000	-	5	15	10	2
BFG425W	SOT343	25	4.5	30	135	NPN	-	0.8	900	-	1.2	2000	-	12	22	25	2
BFG480W	SOT343	21	4.5	250	360	NPN	-	1.2	900	-	1.8	2000	-	-	28	80	2
BFG505(X)	SOT143	9	15	18	150	NPN	20	1.6	900	13	1.9	2000	-	4	10	5	6
BFG520(X)	SOT143	9	15	70	300	NPN	19	1.6	900	13	1.9	2000	275	17	26	20	6
BFG520W(X)	SOT343	9	15	70	500	NPN	17	1.6	900	11	1.85	2000	275	17	26	20	6
BFG540(X)	SOT143	9	15	120	500	NPN	18	1.9	900	11	2.1	2000	500	21	34	40	8
BFG540W(X)	SOT343	9	15	120	500	NPN	16	1.9	900	10	2.1	2000	500	21	34	40	8
BFG541	SOT223	9	15	120	650	NPN	15	1.9	900	9	2.1	2000	500	21	34	40	8
BFG590(X)	SOT143	5	15	200	400	NPN	13	-	900	7.5	-	2000	-	-	-	-	-
BFG590W(X)	SOT343	5	15	200	500	NPN	13	-	900	7.5	-	2000	-	21	-	80	5
BFG591	SOT223	7	15	200	2000	NPN	13	-	900	7.5	-	2000	-	-	-	-	-
BFG67(X)	SOT143	8	10	50	380	NPN	17	1.7	1000	10	2.5	2000	-	-	-	-	-
BFG92A(X)	SOT143	5	15	25	400	NPN	16	2	1000	11	3	2000	-	-	-	-	-
BFG93A(X)	SOT143	6	12	35	300	NPN	16	1.7	1000	10	2.3	2000	-	-	-	-	-
BFG94	SOT223	6	12	60	700	NPN	-	2.7	500	13.5	3	1000	500	21.5	34	45	10
BFG97	SOT223	5.5	15	100	1000	NPN	16	-	500	12	-	800	700	-	-	70	10
BFM505	SOT363	9	8	18	500	NPN	17	1.4	900	10	1.9	2000	-	-	-	-	-
BFM520	SOT363	9	8	70	1000	NPN	15	1.7	900	9	1.9	2000	-	-	-	-	-
BFQ135	SOT172	6.5	19	150	2700	NPN	17	-	500	13.5	-	800	1200	-	-	120	18
BFQ136	SOT122	4	18	600	9000	NPN	12.5	-	800	-	-	-	2500	-	-	500	15
BFQ149	SOT89	5	15	100	1000	PNP	12	3.75	500	-	-	-	-	-	-	-	-
BFQ17	SOT89	1.5	25	150	1000	NPN	16	-	200	6.5	-	800	-	-	-	-	-
BFQ18	SOT89	4	18	150	1000	NPN	-	-	-	-	-	-	-	-	-	-	-
BFQ19	SOT89	5.5	15	100	1000	NPN	11.5	3.3	500	7.5	-	800	-	-	-	-	-
BFQ270	SOT172	6	19	500	10000	NPN	16	-	500	-	-	-	1600	-	-	240	18
BFQ34	SOT122	4	18	150	2700	NPN	16.3	8	500	-	-	-	1200	26	45	120	15

## WIDEBAND TRANSISTORS

Type	Package	Ft (GHz) Typical	Vceo	Ic	Ptot	Polarity	Gum (dB)	F (dB)	@ (MHz)	Gum (dB)	F (dB)	@ (MHz)	Vo <sup>1)</sup> (mV)	PI (dBm)	ITO (dBm)	@ Ic & (mA)	Vce (V)
			(V)	(mA)	(mW)												
BFQ540	SOT89	9	12	120	1200	NPN	-	1.9	900	-	-	-	500	-	-	40	8
BFQ67	SOT23	8	10	50	300	NPN	14	1.7	1000	8	2.7	2000	-	-	-	-	-
BFQ67W	SOT323	8	10	50	300	NPN	13	2	1000	8	2.7	2000	-	-	-	-	-
BFQ68	SOT122	4	18	300	4500	NPN	13	-	800	-	-	1600	1600	28	47	240	15
BFR106	SOT23	5	15	100	500	NPN	11.5	3.5	800	-	-	-	350	-	-	50	9
BFR505	SOT23	9	15	18	150	NPN	17	1.6	900	10	1.9	2000	-	4	10	5	6
BFR505T	SOT416	9	-	18	150	NPN	17	1.2	900	-	-	-	-	-	-	-	-
BFR520	SOT23	9	15	70	300	NPN	15	1.6	900	9	1.9	2000	-	17	26	20	6
BFR520T	SOT416	9	-	70	150	NPN	15	1.6	900	9	1.9	2000	-	17	26	-	-
BFR53	SOT23	2	10	50	250	NPN	-	5	500	10.5	-	800	-	-	-	-	-
BFR540	SOT23	9	15	120	500	NPN	14	1.9	900	7	2.1	2000	550	21	34	40	8
BFR92	SOT23	5	15	25	300	NPN	18	2.4	500	-	-	-	150	-	-	14	10
BFR92A	SOT23	5	15	25	300	NPN	14	2.1	1000	8	3	2000	150	-	-	14	10
BFR92AT	SOT416	5	15	25	150	NPN	14	2	1000	8	-	2000	-	-	-	-	-
BFR92AW	SOT323	5	15	25	300	NPN	14	2	1000	-	3	2000	-	-	-	-	-
BFR93	SOT23	5	12	35	300	NPN	16.5	1.9	500	-	-	-	-	-	-	-	-
BFR93A	SOT23	6	12	35	300	NPN	13	1.9	1000	-	3	2000	425	-	-	30	8
BFR93AT	SOT416	5	12	35	150	NPN	13	1.5	1000	8	-	2000	-	-	-	-	-
BFR93AW	SOT323	5	12	35	300	NPN	13	1.5	1000	8	2.1	2000	-	-	-	-	-
BFR94A	SOT122	3.5	25	150	3500	NPN	-	8	200	-	5	500	-	-	-	-	-
BFS17	SOT23	1	15	25	300	NPN	-	4.5	500	-	-	-	-	-	-	-	-
BFS17A	SOT23	2.8	15	25	300	NPN	13.5	2.5	800	-	-	-	150	-	-	14	10
BFS17W	SOT323	1.6	15	50	300	NPN	-	4.5	500	-	-	-	-	-	-	-	-
BFS25A	SOT323	5	5	6.5	32	NPN	13	1.8	1000	-	-	-	-	-	-	-	-
BFS505	SOT323	9	15	18	150	NPN	17	1.6	900	10	1.9	2000	-	4	10	5	6
BFS520	SOT323	9	15	70	300	NPN	15	1.6	900	9	1.9	2000	-	17	26	20	6
BFS540	SOT323	9	15	120	500	NPN	14	1.9	900	8	2.1	2000	-	21	34	40	8
BFT25	SOT23	2.3	5	6.5	30	NPN	18	3.8	500	12	-	800	-	-	-	-	-
BFT25A	SOT23	5	5	6.5	32	NPN	15	1.8	1000	-	-	-	-	-	-	-	-
BFT92	SOT23	5	15	25	300	PNP	18	2.5	500	-	-	-	150	-	-	14	10
BFT92W	SOT323	5	15	35	300	PNP	17	2.5	500	11	3	1000	-	-	-	-	-
BFT93	SOT23	5	12	35	300	PNP	16.5	2.4	500	-	-	-	300	-	-	30	5
BFT93W	SOT323	5	12	50	300	PNP	15.5	2.4	500	10	3	1000	-	-	-	-	-
BFU510	SOT343	45	2.5	15	38	NPN	-	0.6	900	20	0.9	2000	-	-	-	-	-
BFU540	SOT343	45	2.5	50	125	NPN	-	0.6	900	20	0.9	2000	-	-	-	-	-
BLT70	SOT223	0.6	8	250	2100	NPN	>6	-	900	-	-	-	-	-	-	-	-
BSR12	SOT23	1.5	15	100	250	PNP	-	-	-	-	-	-	-	-	-	-	-
MPSH10	SOT54	0.65	25	40	1000	NPN	-	-	-	-	-	-	-	-	-	-	-
PBR941	SOT23	8	10	50	360	NPN	15	1.4	1000	9.5	2	2000	-	-	-	-	-
PBR951	SOT23	8	10	100	365	NPN	14	1.3	1000	8	2	2000	-	-	-	-	-
PMBHT10	SOT23	0.65	25	40	400	NPN	-	-	-	-	-	-	-	-	-	-	-
PMBT3640	SOT23	0.5	12	80	350	PNP	-	-	-	-	-	-	-	-	-	-	-
PMBTH81	SOT23	0.6	20	40	400	PNP	-	-	-	-	-	-	-	-	-	-	-
PRF947	SOT323	8.5	10	50	250	NPN	16	1.5	1000	10	2.1	2000	-	-	-	-	-
PRF949	SOT416	9	10	50	150	NPN	16	1.5	1000	-	-	-	-	-	-	-	-
PRF957	SOT323	8.5	10	100	270	NPN	15	1.3	1000	9.2	1.8	2000	-	-	-	-	-

# Transistors

## WIDEBAND TRANSISTORS

### APPLICATIONS KEY

#### Telecom front ends

- 1 = Low noise amplifier
- 2 = Mixer
- 3 = Buffer & VCO
- 4 = IF
- 5 = PA driver

#### Low Noise Block (LNB)

- 1 = Low noise amplifier
- 2 = Mixer
- 3 = Buffer & VCO

#### CATV

- 1 = Low noise amplifier
- 2 = Mixer
- 3 = Buffer & VCO
- 4 = PA driver

#### W-Lan

- 1 = Low noise amplifier
- 2 = Buffer & VCO
- 3 = PA driver

#### RFID

- 1 = Mixer

### RELATED LITERATURE

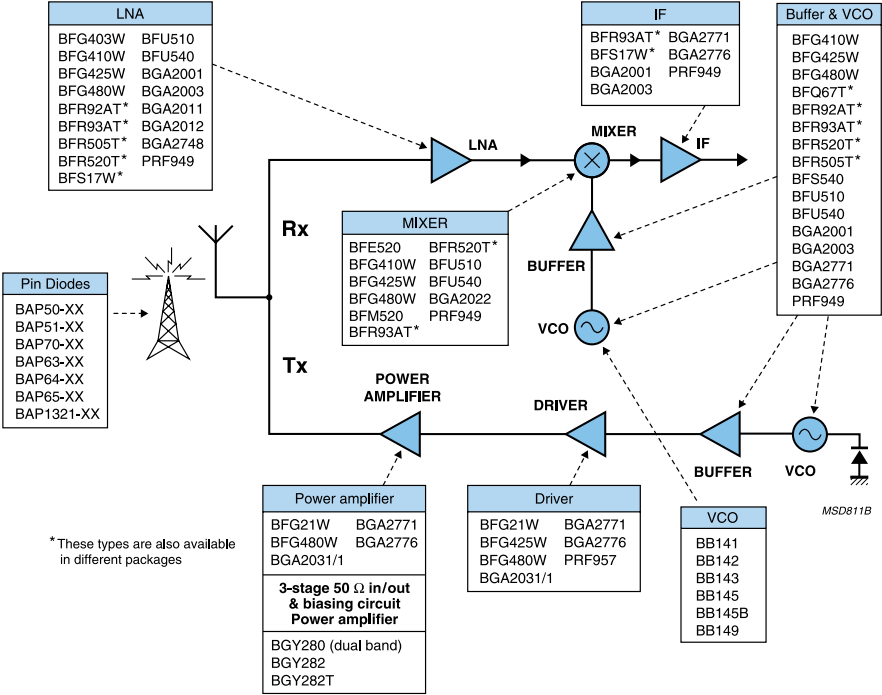
#### Title

- Philips Comprehensive Product Portfolio (CD-ROM)
- RF Wideband Transistors and MMIC's (databook)
- Discrete Semiconductor Packages (brochure)
- Your PeRFect discretes partner (brochure)
- PeRFectly tuned into your ideas (brochure)
- The PeRFect connection (brochure)
- Wideband Transistors Line Card

#### Order code

- 9397 750 07536
- 9397 750 06311
- 9397 750 05011
- 9397 750 04634
- 9397 750 07019
- 9397 750 07928
- 9397 750 08634

## GENERIC CELL-PHONE FRONT-END APPLICATION DIAGRAM



### Why choose

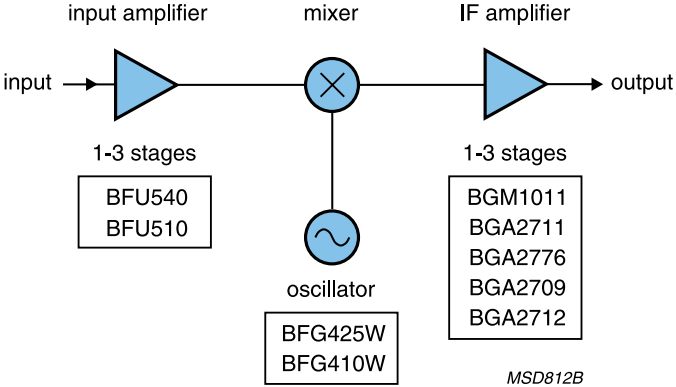
### Philips Semiconductors'...?

**...Wideband transistors**

- \* Our broad wideband transistor portfolio offers highest price performance at highest reliability.

- Benefits**
- \* Volume delivery
  - \* Short leadtimes
  - \* Broad portfolio
  - \* Smallest packages

## SATELLITE DISH LNB APPLICATION DIAGRAM



# Transistors

## MMIC GENERAL PURPOSE WIDEBAND AMPLIFIERS, 50 OHM GAIN BLOCKS

Type	Package	Limits			fu1 @-3db (ghz)	@ 1Ghz						Gain3 (db) @			@	
		V <sub>s</sub> (V)	I <sub>s</sub> (mA)	P <sub>o</sub> (mW)		NF (dB)	Psat (dBm)	Gain3 (dBb)	P1db (dBm)	IIP3 (dBbm)	OIP3 (dBm)	100 mhz	2.6 ghz	3.0 ghz	V <sub>s</sub> (V)	I <sub>s</sub> (mA)
BGA2711	SOT363	6	20	200	3.6 <sup>2</sup>	4.7	2	12.9	-2	-3	10	13	13.8	12.8	5	12
BGA2748	SOT363	4	15	200	1.9	1.8 <sup>2</sup>	-4	21.3	-10	-22	-2	14.8	14.2	11.3	3	5.7
BGA2771	SOT363	4	50	200	2.4	4.4	12 <sup>2</sup>	21	11	1	22	20.3	17.5	15.2	3	33
BGA2776	SOT363	6	34	200	2.8	4.7	8	22.8 <sup>2</sup>	5.5	6	17	22.2	20.8	18.7	5	23.8
BGA2709	SOT363	6	35	200	2.8	4	12.4	2.7	8.3	1	24	22.6	22.0	21.1	5	23.5
BGA2712	SOT363	6	25	200	2.8	3.9	4.8	21.3	0	-9	12	20.9	20.8	18.6	5	12.5

Notes: 1. Upper -3 db point, to gain at 1 ghz. 2. Optimized parameter. 3. Gain = |S<sub>21</sub>|<sup>2</sup>

## MMIC LOW NOISE WIDEBAND AMPLIFIERS

Type	Package	Limits			f <sub>u1</sub> @-3db (ghz)	@ 1800 Mhz						Gain3 (db) @			@	
		V <sub>s</sub> (V)	I <sub>s</sub> (mA)	P <sub>o</sub> (mW)		NF (db)	P <sub>sat</sub> (dBm)	Gain <sup>3</sup> (dB)	P <sub>1db</sub> (dBm)	IIP <sub>3</sub> (dBm)	OIP <sub>3</sub> (dBm)	1 Ghz	2.6 ghz	3.0 ghz	V <sub>s</sub> (V)	I <sub>s</sub> (mA)
BGA2001	SOT343R	4.5	30	135	1.3	22 <sup>1</sup>	-7.4	1.3	19.5 <sup>1</sup>	-4.5	20	17.1	11.6	10.7	2.5	4
BGA2003	SOT343R	4.5	30	135	1.8	24 <sup>1</sup>	-6.5	1.8	16 <sup>1</sup>	-4.8	26	18.6	11.1	10.1	2.5	10 <sup>2</sup>
BGA2011	SOT363	4.5	30	135	1.5	19 <sup>3</sup>	10	-	-	-	24	14.8	8	6.5	3	15
BGA2012	SOT363	4.5	15	70	-	-	-	1.7	16 <sup>2</sup>	10	22	18.2	11.6	10.5	3	7

Notes: 1. MSG 2. Adjustable bias 3. |S<sub>21</sub>|<sup>2</sup>

## MMIC 2 STAGE VARIABLE GAIN LINEAR AMPLIFIER

Type	Package	Limits			Frequency Range (Mhz)	@ 900 Mhz				@ 2450 Mhz				@	
		V <sub>s</sub> (V)	I <sub>s</sub> (mA)	P <sub>o</sub> (mW)		Gain <sup>1</sup> (dB)	DG <sup>2</sup> (dB)	P <sub>1db</sub> (dBm)	ACPR (dBc)	Gain <sup>1</sup> (dB)	DG <sup>2</sup> (dB)	P <sub>1db</sub> (dBm)	ACPR (dBc)	V <sub>s</sub> (V)	I <sub>s</sub> (mA)
BGA2031/1	SOT363	3.3	50	200	800-2500	24	62	11	49	23	56	13	49	3	51

Notes: 1. MSG 2. Adjustable bias 3. |S<sub>21</sub>|<sup>2</sup>

## MMIC WIDEBAND LINEAR MIXER

Type	Package	Limits			RF Input Frequency Range (Mhz)	@ 880 Mhz				@ 2450 Mhz				@	
		V <sub>s</sub> (V)	I <sub>s</sub> (mA)	P <sub>o</sub> (mW)		Gain <sup>1</sup> (dB)	DG <sup>2</sup> (dB)	P <sub>1db</sub> (dBm)	ACPR (dBc)	Gain <sup>1</sup> (dB)	DG <sup>2</sup> (dB)	P <sub>1db</sub> (dBm)	ACPR (dBc)	V <sub>s</sub> (V)	I <sub>s</sub> (mA)
BGA2022	SOT363	4	20	40	800-2500	50-500	9	5	4	9	6	10	3	51	

Notes: 1. Gain = GC, Conversion gain

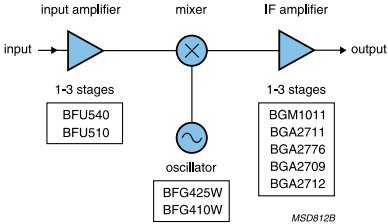
## APPLICATIONS KEY

MMICs, for a wide variety of design objectives in wireless receivers and transmitters, such as: RF / IF amplifiers, LNA's, Mixers, Oscillators, Buffers, Drivers and Power Amplifiers.

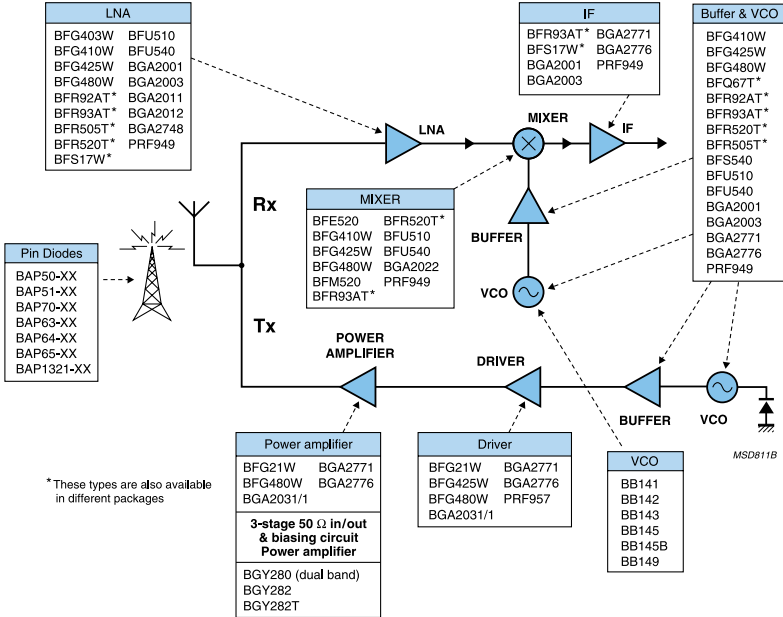
## RELATED LITERATURE

Title	Order code
Philips Comprehensive Product Portfolio (CD-ROM)	9397 750 07536
RF Wideband Transistors and MMICs (databook)	9397 750 06311
Discrete Semiconductor Packages (brochure)	9397 750 05011
Your PeRFect discretes partner (brochure)	9397 750 04634
PeRFectly tuned into your ideas (brochure)	9397 750 07019
The PeRFect connection (brochure)	9397 750 07928
Optimized MMICs Gain Blocks (leaflet)	9397 750 07976

## SATELLITE DISH LNB APPLICATION DIAGRAM



## GENERIC CELL-PHONE FRONT-END APPLICATION DIAGRAM.



\* These types are also available in different packages

### Why choose

#### Philips Semiconductors'...?

- ... MMICs
- \* Our broad MMIC portfolio offers highest price performance at highest reliability.

- Benefits**
- \* Volume delivery
  - \* Short leadtimes
  - \* Reduced RF component count
  - \* Easy circuit design-in and rapid product development
  - \* Short time-to-market
  - \* Reduced board size

# Transistors

## GA SWITCHING TRANSISTORS

Switching Transistors							Single					Double	
I <sub>c</sub> max. (mA)	V <sub>CE0</sub> max. (V)	hFE min.	hFE max.	fT min. (MHz)	toff max. (ns)	POLARITY	LEADED	SMD				SMD	
							SOT54 / TO-92 Ptot max. 500/630 mW	SOT223 / SC-73 Ptot max. 1050/1150 mW	SOT89 / SC-62 Ptot max. 1200/1300 mW	SOT23 Ptot max. 250 mW	SC-70 / SOT323 Ptot max. 200 mW	SC-74 / SOT457 Ptot max. 600 mW	
100	12	40	120	500 typ.	30	NPN					BSV52		
100	40	100	300	180	990..1200	NPN	MPS3904				PMBS3904	PMSS3904	
100	40	100	300	150	690..700	PNP	MPS3906				PMBS3906	PMSS3906	
100..200	40	100	300	300	240	(2) NPN	2N3904	PZT3904	PXT3904		PMBT3904 / MMBT3904 / BSR17A	PMST3904	PMBT3904D
100..200	40	100	300	250	300	PNP	2N3906	PZT3906	PXT3906		PMBT3906 / MMBT3906 / BSR18A	PMST3906	
200	15	40	120	500	30	NPN	PH2369 / PN2369				PMBT2369	PMST2369	
200	60	50	>50	200	300	PNP						PMST2907A	
600	15	40	120	500	30	NPN	PN2369A						
600	30	100	300	250	250	NPN					PMBT2222	PMST2222	
600	40	30	>30	200	365	PNP					BSR15		
600	40	75	>75	300	250	NPN	PH2222A						
600	40	100..150	300	250	250..285	NPN	PN2222A / 2N4401	PZT2222A / PZT4401	PXT2222A / PXT4401		PMBT2222A / MMBT2222A /	PMST2222A / PMST4401	
600	40	100	300	200	350..365	PNP	2N4403	PZT4403	PXT4403		PMBT2907 / PMBT4403	PMST4403	
600	60	50	>50	200	365	PNP					BSR16		
600	60	100	300	200	365	PNP	PH2907A / PN2907A	PZT2907A	PXT2907A		PMBT2907A		
800	30	30	>30	250	250	NPN					BSR13		
800	40	40	>40	300	250	NPN					BSR14		



# Triacs, Thyristors and Diacs

## THREE-QUADRANT TRIACS

IT ( <sub>RMS</sub> ) (A)	VOLTAGE GRADES (V)	IGT (max) (mA)	PACKAGE					TYPICAL APPLICATIONS Reactive Loads Industrial & Home Appliance etc.
			SURFACE MOUNT			LEADED		
			SOT223	DPAK (SOT428)	DPAK (SOT404)	SOT186A (isolated TO220AB)	TO220AB (SOT78)	
1	600	B/C/D/E/F	BTA204W					4
4	600	B/C/D/E/F		BTA204S		BTA204X	BTA204	4
4	800	E	BTA204W				BTA204	4
8	600 / 800	B		BTA208S		BTA208X	BTA208	4
8	600	D/E/F		BTA208S		BTA208X	BTA208	4
8	800	E				BTA208X		4
12	600 / 800	B			BTA212B	BTA212X	BTA212	4
12	600	D/E/F			BTA212B	BTA212X	BTA212	4
12	800	E				BTA212X		4
16	600 / 800	B			BTA216B	BTA216X	BTA216	4
16	600	D/E/F			BTA216B	BTA216X	BTA216	4
16	800	E				BTA216X		4
25	600 / 800	B			BTA225B		BTA225	4
25	600 / 800	C			BTA225B		BTA225	4

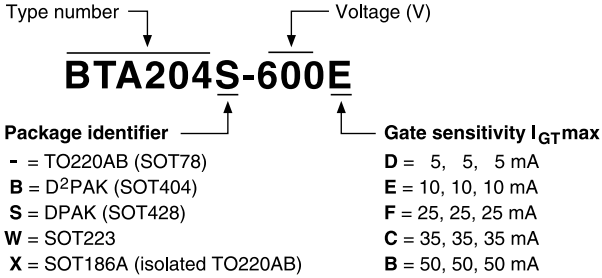
## Why choose

### Philips Semiconductors'...?

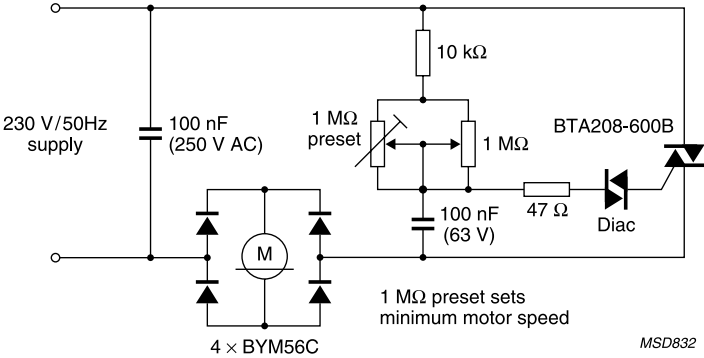
#### Benefits

- \* Wide range of triacs meets the needs of the general industrial and home appliance O.E.M.
- \* The most comprehensive, first choice range of three-quadrant triacs offers enhanced immunity to loss of control and satisfies the needs of the vast majority of triac applications.
- \* Three-quadrant triacs do not require RC snubber networks or  $di/dt$ -limiting inductors, making power control circuitry more compact, cheaper to assemble and reducing the overall bill of materials.
- \* Three-quadrant triacs offer improved circuit reliability as they are less prone to false triggering from mains transients.
- \* Logic level and sensitive gate triacs can be driven directly by logic IC's and microcontrollers. They provide simple plug-in, high surge replacements for existing industry parts.
- \* Patented planar technologies have been optimised for stable voltage blocking at elevated temperatures, yielding long term reliability in the application.
- \* All devices are rated for the abnormal false trigger condition (Max safe  $dI/dt$  specified).
- \* The availability of three surface mount packages helps in streamlining PCB assembly and reducing costs.

### THREE-QUADRANT TRIACS PHILIPS PART NUMBERING SYSTEM



MSD849



MSD832

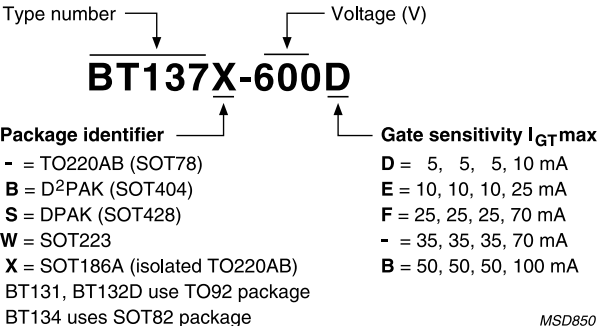
# Triacs, Thyristors and Diacs

## FOUR-QUADRANT TRIACS

IT ( <sub>RMS</sub> ) (A)	VOLTAGE GRADES (V)	IGT (max) (mA)	PACKAGE								TYPICAL APPLICATIONS		
			SURFACE MOUNT			LEADED					Home Appliances	Lighting	
			SOT223	DDPAK (SOT428)	D <sup>2</sup> PAK (SOT404)	TO92 (SOT54)	SOT32	SOT82	SOT186A (isolated TO220AB)	SOT186			TO220AB (SOT78)
0.6	400	5,5,5,7				MAC97A6						H	1
0.6	600	5,5,5,7				MAC97A8						H	1
1	600	3,3,3,5	Z0103MN			Z0103MA						H	1
1	600	5,5,5,7	Z0107MN			Z0107MA						H	1
1	600	10,10,10,10	Z0109MN			Z0109MA						H	1
1	800	3,3,3,5	Z0103NN			Z0103NA						H	1
1	800	5,5,5,7	Z0107NN			Z0107NA						H	1
1	800	10,10,10,10	Z0109NN			Z0109NA						H	1
1	600	3,3,3,7				BT131						H	1
1	500 / 600	-	BT131W									H	1
1	600	D				BT132						H	1
1	600 / 800	-	BT134W									H	
1	600	D/E	BT134W									H	
2.5	200	5,5,5,10					T2322B					H	
4	600	D/G						BT134				H	
4	600 / 800	E						BT134				H	
4	600	D/F							BT136X		BT136	H	1
4	600 / 800	E		BT136S	BT136B				BT136X		BT136	H	1
4	600	D		BT136S	BT136B							H	1
4	600 / 800	F		BT136S								H	1
8	600 / 800	E									BT137	H	1
8	600	D/F/G									BT137	H	1
8	600 / 800	E/F/G				BT137B						H	1
8	600	D				BT137B						H	1
8	600 / 800	E							BT137X			H	1
8	600	D/F/G							BT137X			H	1
8	600 / 800	D*/E/F/G		BT137S								H	1
12	600 / 800	E/F/G									BT138	H	1
12	600	F/G				BT138B						H	1
12	600 / 800	E				BT138B						H	1
12	600									BT138F		H	1
12	600 / 800	E/F							BT138X			H	1
16	600 / 800	E/F				BT139B					BT139	H	1
16	800	G									BT139	H	1
16	600 / 800	G				BT139B						H	1
16	600 / 800	-								BT139F		H	1
16	600	E/F								BT139F		H	1
16	600	E/F/G							BT139X			H	1
16	800	-							BT139X			H	1
25	600	-									MAC223A8	H	
25	400	-									MAC223A6	H	
25	600 / 800	-									BTA140	H	

\* D version triacs are only available in 600V range

FOUR-QUADRANT TRIACS PHILIPS PART NUMBERING SYSTEM



MSD850

Why choose

Philips Semiconductors'...?

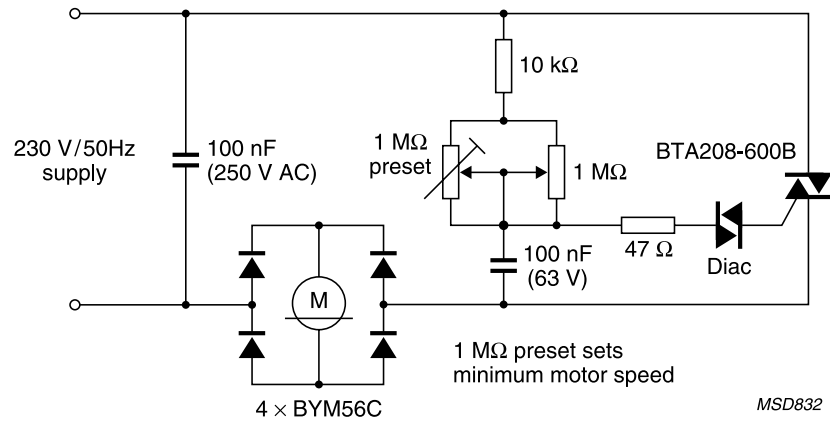
Benefits

- \* Wide range of thyristors meets the needs of the general industrial and home appliance O.E.M.
- \* Large selection of four-quadrant triacs, suits applications where the load is predominantly resistive or where 4th quadrant triggering (T2-) is required.
- \* Logic level and sensitive gate triacs can be driven directly by logic IC's and microcontrollers. They provide simple plug-in, high surge replacements for existing industry parts.
- \* Patented planar technologies have been optimised for stable voltage blocking at elevated temperatures, yielding long term reliability in the application.
- \* All devices are rated for the abnormal false trigger condition (Max safe dIT/dt specified).
- \* The availability of three surface mount packages helps in streamlining PCB assembly and reducing costs.

# Triacs, Thyristors and Diacs

## DIAC

$I_{FRM}$ (A)	$V_{BO}$ (V)	$I_{BO}$ ( $\mu$ A)	LEADED PACKAGE SOD27	TYPICAL APPLICATIONS
2	28 - 36	50	BR100/03	General Industrial
				4



Why choose

### Philips Semiconductors'...?

#### Benefits

- \* Wide range of thyristors meets the needs of the general industrial and home appliance O.E.M.
- \* Comprehensive thyristor (SCR) selection suits D.C. ignition and half wave A.C control applications in the home, on the move and in industry.
- \* Patented planar technologies have been optimised for stable voltage blocking at elevated temperatures, yielding long term reliability in the application.
- \* The availability of three surface mount packages helps in streamlining PCB assembly and reducing costs.

Note: BTH151S has a high repetitive surge specification which makes it suitable for applications where high inrush currents or stall currents are likely to occur on a repetitive basis.

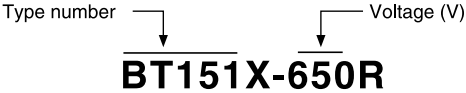
## THYRISTORS

IT (RMS) (A)	VOLTAGE GRADES (V)	IGT (max) (uA)	PACKAGE LEADED									TYPICAL APPLICATIONS		
			SURFACE MOUNT									Home Appliances	Lighting	
			SOT223	DPAK (SOT428)	D <sup>2</sup> PAK (SOT404)	TO92 (SOT54)	IPAK (SOT533)	SOT82	SOT186A (isolated TO220AB)	SOT32	TO220AB (SOT78)			
0,8	400	12 uA				EC103D1							H	
0,8	200 / 400 / 500 / 600	200uA				BT169							H	
0,8	200 / 400 / 500 / 600	200uA				BT149							H	
0,8	200 / 400 / 500 / 600	200uA (min 20uA)	BT168W			BT168							H	
0,8	200	200uA	MCR08BT1										H	
1	400 / 600	200uA	BT148W										H	
1	400 / 500 / 600	200uA						BT148					H	
4	600	200uA		BT148SZ									H	
4	600	200uA		BT150S									H	
4	500	200uA									BT150		H	
4	400	200uA								C106D			H	
4	400	200uA								MCR106-6			H	
8	500 / 600 / 800	200uA							BT258X		BT258		H	
8	800	200uA		BT258S									H	
8	600	200uA					BT258U						H	
8	600	15mA		BT300S							BT300		H	
12	500 / 650 / 800	15mA		BT151S	BT151B					BT151X	BT151		H	1
12	650	15mA		BTH151S									H	
12	650	4mA						BTA151					H	
20	400 / 600 / 800	32mA			BT152B					BT152X	BT152		H	1
25	800	35mA									BT145		H	

**Additional Notes**

BT149 has reverse pinning to BT169  
 BTH151S has a high repetitive surge specification which makes it suitable for applications where high inrush currents or stall currents are likely to occur on a repetitive basis.

**SCRS PHILIPS PART NUMBERING SYSTEM**



- Package identifier**
- = TO220AB (SOT78)
  - B = D<sup>2</sup>PAK (SOT404)
  - S = DPAK (SOT428)
  - U = IPAK (SOT533/TO251)
  - W = SOT223
  - X = SOT186A (isolated TO220AB)
- BT149, BT168 & BT169 use TO92 package  
 BT148 & BTA151 use SOT82 package

## PHILIPS ROTATIONAL SPEED SENSORS

Type	Package	Supply Voltage (V)	Airgap (mm)	Target wheel	Operating temperatures °C	Output characteristics	Magnetized ferrite magnet (mm)	Remarks
KMI15/1	SOT453	5.5 ... 16	2.5	passive ferrom.	-40 ... 85 *	Digital Current	8.0 x 8.0 x 4.5	
KMI15/2	SOT453	5.5 ... 16	2.0	magnetized	-40 ... 85 *	Digital Current	3.8 x 2.0 x 0.8	
KMI15/4	SOT453	5.5 ... 16	2.5	passive ferrom.	-40 ... 85 *	Digital Current	5.5 x 5.5 x 3.0	
KMI16/1	SOT477	4.5 ... 16.5	2.5	passive ferrom.	-40 ... 150	Open Collector	8.0 x 8.0 x 4.5	
KMI18/2	SOT477	4.5 ... 16.5	2.5	magnetized	-40 ... 150	Open Collector	3.8 x 2.0 x 0.8	shielded sensor => EMC improved
KMI18/4	SOT477	4.5 ... 16.5	2.0	passive ferrom.	-40 ... 150	Open Collector	5.5 x 5.5 x 3.0	shielded sensor => EMC improved
KMI20/1	SOT453	0 ... 18	3.5	passive ferrom.	-40 ... 85 *	Digital Current	8.0 x 8.0 x 4.5	extended airgap
KMI20/2	SOT453	0 ... 18	3.5	magnetized	-40 ... 85 *	Digital Current	3.8 x 2.0 x 0.8	extended airgap
KMI20/4	SOT453	0 ... 18	3.5	passive ferrom.	-40 ... 85 *	Digital Current	5.5 x 5.5 x 3.0	extended airgap
KMI22/1	SOT477	0 ... 18	3.5	passive ferrom.	-40 ... 85 *	Digital Current	8.0 x 8.0 x 4.5	extended airgap, direction recognition, digital protocol
KMI22/2	SOT477	0 ... 18	3.5	magnetized	-40 ... 85 *	Digital Current	3.8 x 2.0 x 0.8	extended airgap, direction recognition, digital protocol
KMI22/4	SOT477	0 ... 18	3.5	passive ferrom.	-40 ... 85 *	Digital Current	5.5 x 5.5 x 3.0	extended airgap, direction recognition, digital protocol

\* higher temperature possible upon request

RELATED LITERATURE 

<p><b>Title</b> Rotational Speed Sensors, running ahead of the field</p>	<p><b>Order code</b> 9397 750 03656</p>	<p><b>Benefits of Philips Rotational Speed Sensors:</b></p> <ul style="list-style-type: none"> <li>* Contactless and wearfree operation =&gt; mechanical robustness</li> <li>* Zero speed capability</li> <li>* Wide operating frequency range</li> <li>* Wide operating temperature range =&gt; fit for automotive</li> <li>* Large measuring distance / air gap</li> <li>* Following output characteristics available:             <ul style="list-style-type: none"> <li>- Two-LEADED current output</li> <li>- Three-LEADED open collector output</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>* Multichip package for sensor and conditioning IC =&gt; excellent temperature performance</li> <li>* Prepared for injection moulding             <ul style="list-style-type: none"> <li>- Stable leadframe</li> <li>- Positioning aids</li> </ul> </li> <li>* Easy to design-in</li> <li>* Useable for active and passive target wheels</li> <li>* New products: KMI22             <ul style="list-style-type: none"> <li>- Direction recognition</li> <li>- Digital protocol</li> </ul> </li> </ul>
--	---	--	--

**KMI20 ROTATIONAL SPEED SENSORS INCREASE AIR GAP BY MORE THAN 50 PER CENT**

KMI20 is a new generation of non-contact, rotational speed measurement sensors targeted at the automotive industry. By using these sensors the air gap can be increased by more than 50 per cent, which is the highest air gap for automotive sensors that do not use rare earth magnets. The KMI20 sensors are designed for rotational speed measurements and comparable applications.

Air gap is the distance between the surface of the sensor and the upper surface of the teeth of a trigger wheel or the surface of a magnetized wheel.

By increasing the air gap, users gain higher tolerances in their assembly without lessening accuracy. It also reduces design costs.

Other new KMI20 features include offset cancellation, automatic gain control, and insensitivity to vibrations, which makes it a self-calibrating sensor system. Additional distinguishing factors of the KMI20 sensors include the moldable SOT453 packages and magneto resistive (MR) technology. This combination avoids the use of a printed circuit board and offers advantages including small offset drift and high temperature capability. These capabilities are ideal for the harsh environment of the automotive industry because they provide proper electrical real-time images of the gear wheel.

## PHILIPS ANGLE MEASUREMENT SENSORS AND SIGNAL CONDITIONING ICs

Type	Product	Package	Supply Voltage (V)	Angle Range	Output value	Output type	Operating Temperatures °C
KMZ41	sensor	SO8	5.0 ... 9	180	80 mV peak-peak	sine / cosine	-40 ... 150
KMZ43	sensor	SO8	5.0 ... 9	180	68 mV peak-peak	sine / cosine	-40 ... 150
UZZ9000	signal conditioning unit	SO24	4.5 ... 5.5	180	0.5 ... 4.5 V	analog linear	-40 ... 150
UZZ9001	signal conditioning unit	SO24	4.5 ... 5.5	180	0.5 ... 4.5 V	digital	-40 ... 150
KMA200	sensor system	SOT637	4.5 ... 5.5	180	0.5 ... 4.5 V	4 analog linear / 2 digital	-40 ... 125

## PHILIPS MAGNETIC WEAK-FIELD SENSORS

Type	Package	Supply Voltage (V)	Sensitivity (mV/V/kA/m)	Field range (kA/m)	Bridge resistance (kOhm)	Operating Temperatures (°C)
KMZ10A	SOT195	5	16	- 0.5 ... + 0.5	0.8 ... 1.6	-40 ... 150
KMZ10B	SOT195	5 ... 12	4	- 2.0 ... + 2.0	1.6 ... 2.6	-40 ... 150
KMZ10C	SOT195	5	1.5	-7.5 ... + 7.5	1.0 ... 1.8	-40 ... 150
KMZ51	SO8	5 ... 8	12 ... 16	- 0.2 ... + 0.2	1.0 ... 2.6	-40 ... 125
KMZ52	SO16	6 ... 8	12 ... 16	- 0.2 ... + 0.2	1.0 ... 2.6	-40 ... 125

## PHILIPS SEMICONDUCTORS' TEMPERATURE SENSORS

Family Type	Package	R25 (Ω) (Delta R)	Available Tolerances (°C)	Temp Range (°C)
KTY81-1 / KTY81-2	SOD70	1000 / 2000	+/- 1% up to +/- 5%	- 55 ... 150
KTY82-1 / KTY82-2	SOT23	1000 / 2000	+/- 1% up to +/- 5%	- 55 ... 150
KTY83-1	SOD68 (DO-34)	1000	+/- 1% up to +/- 5%	- 55 ... 175
KTY84-1	SOD68 (DO-34)	1000 (R100)	+/- 3% up to +/- 5%	- 40 ... 300

## RELATED LITERATURE

### Title

Angle Sensors - MR Sensors cover all the angles

### Order code

9397 750 05985

## RELATED LITERATURE

### Title

Magnetoresistive Sensors, the attractive choice

### Order code

9397 750 03655

## RELATED LITERATURE

### Title

Silicon Temperature Sensors, the hottest on the market

### Order code

9397 750 07515

### Benefits of Philips Angle Measurement Sensors:

- \* Contactless and wearfree operation => mechanical robustness
- \* Accuracy better than 1° achievable
- \* Independent of magnetic drift during lifetime
- \* Independent of magnetic drift with temperature
- \* Independent of mechanical assembly tolerances

- \* Independent of mechanical shifts caused by thermal stress
- \* Signal conditioning IC available with
  - analog output
  - digital output
- \* Upcoming products:
  - KMZ43: High precision under lowfield strength
  - KMA200: Userprogrammable and self diagnostic

### Benefits of Philips Magnetic Weak-Field Sensors:

- \* High sensitivity => even earth magnetic field measurable
- \* Wide operating temperature range => fit for automotive
- \* Accuracy better than 1° achievable

- \* Resolution lower than 0.05°
- \* Onchip integration of system components for temperature and offset compensation => KMZ51 and KMZ52
- \* 2 coordinate measurement in one product realized at KMZ52 => compass applications

### Benefits of Philips SI Temperature Sensors:

- \* Wide choice of nominal resistance, temperature ranges and tolerances available
- \* Temperatures up to 300° C measurable
- \* Long term stability => low drift for >450.000 h
- \* Positive temperature coefficient => fail-safe behaviour

- \* Virtual linear characteristics nearly over the complete temperature range
- \* Different packages available:
  - LEADED
  - SMD
  - glass => can directly be used inside aggressive media

# Cross Reference General Application discretes

Competitor type-number	Philips type-number
02CZxxx	PZMxxNB
02DZ10	PDZ10B
02DZ12	PDZ12B
02DZ15	PDZ15B
02DZ4.7	PDZ4.7B
02DZ5.1	PDZ5.1B
02DZ5.6	PDZ5.6B
02DZ6.2	PDZ6.2B
02DZ6.8	PDZ6.8B
02DZ7.5	PDZ7.5B
02DZ8.2	PDZ8.2B
02DZ9.1	PDZ9.1B
1N4148	1N4148
1N4150	1N4150
1N4151	1N4151
1N4448	1N4448
1N4448	BAW62
1N4728A	1N4728A
1N4729A	1N4729A
1N4730A	1N4730A
1N4731A	1N4731A
1N4732A	1N4732A
1N4733A	1N4733A
1N4734A	1N4734A
1N4735A	1N4735A
1N4736A	1N4736A
1N4737A	1N4737A
1N4738A	1N4738A
1N4739A	1N4739A
1N4740A	1N4740A
1N4741A	1N4741A
1N4742A	1N4742A
1N4743A	1N4743A
1N4744A	1N4744A
1N4745A	1N4745A
1N4746A	1N4746A
1N4747A	1N4747A
1N4748A	1N4748A
1N4749A	1N4749A
1N47XXA	1N47XXA
(not all types available)	
1N52XXB	1N52XXB
(not all types available)	
1N914	1N914
1N914B	1N914
1SS133	BAW62
1SS133	1N4532
1SS181	1PS181
1SS184	1PS184
1SS193	1PS193

Competitor type-number	Philips type-number
1SS226	1PS226
1SS244 (DO34)	BAV20/21 (DO35)
1SS300	1PS300
1SS301	1PS301
1SS302	1PS302
1SS355	BAS316
1SS355	BAS316
1SS360	BAV56T
1SS361	BAV70T
1SS376 (300V type)	BAS321 (250V type)
1SS400	BAS516
2N2925	ED1402D
2N390	2N3904
2N3904	2N3904
2N3905	2N3906
2N3906	2N3906
2N4123	2N3904
2N4124	2N3904
2N4125	2N3904
2N4400	2N4401
2N4401	2N4401
2N4402	2N4403
2N4403	2N4403
2N4410	MPSA06
2N5087	MPS3906
2N5088	MPS3904
2N5089	MPS3904
2N5209	BC547B
2N5210	BC547B
2N5232A	BC547B
2N5400	2N5401
2N5401	2N5401
2N5550	2N5550
2N5551	2N5551
2N6426	MPSA14
2N6427	MPSA14
2N6517	MPSA44
2N6519	MPSA92
2SA1036A	2PB710A
2SA1036K	BSR15
2SA1037A	2PB709A
2SA1037AK	2PB709AS
2SA1162A	2PB709A
2SA1313A	2PB710A
2SA1576	2PA1576
2SA1576A	2PA1576S
2SA1577	2PB1219A
2SA1579	PMST5401
2SA1586	2PA1576
2SA1588	2PB1219A

Competitor type-number	Philips type-number
2SA1622	2PA1576
2SA1759	PXTA92
2SA1774	2PA1774
2SA1797	BCX52-16
2SA1832	2PA1774
2SA1900	BCX52-16
2SB1132	BCX51-16
2SB1189	BSR33
2SB1218	2PA1576
2SB1219A	2PB1219A
2SB1260	BCX53-16
2SB1424	BC869
2SB1561	BSR31
2SB1580	BST62
2SB709A	2PB709A
2SB710A	2PB710A
2SC1651S	BF422L
2SC2062S	BC618
2SC2411K	2PD601AS
2SC2412K	2PD601A
2SC2412K	2PD1820AS
2SC2413K	2PD601AQ
2SC2712	2PD601A
2SC3325	2PD602A
2SC4081	2PC4081
2SC4097	2PC4081Q
2SC4098	BC847AW
2SC4102	PMST5550
2SC4116	2PC4081
2SC4132	BSR43
2SC4211	2PC4081
2SC4505	PXTA42
2SC4617	2PC4617
2SC4618	BC847AT
2SC4672	BCX55-16
2SC4738	2PC4617
2SC4997	BC847CT
2SC4998	PMST6429
2SC5053	BCX55-16
2SD1484A	2PD602A
2SD1484K	2PD602AR
2SD1664	BCX54
2SD1757K	2PD602AS
2SD1766	BC868
2SD1767	BCX56-16
2SD1781K	2PD602AR
2SD1782K	2PD602AS
2SD1819	2PC4081
2SD1820A	2PD1820A
2SD1834	BST51

Competitor type-number	Philips type-number
2SD1898	BCX56-16
2SD1949	2PD1820AS
2SD2098	BC868-25
2SD2150	BC868
2SD2153	BC868
2SD2195	BST52
2SD2351	PMST6429
2SD2391	BSR41
2SD601A	2PD601A
2SD602A	2PD602A
AZ23C10	PZM10NB2A
AZ23C11	PZM11NB2A
AZ23C12	PZM12NB2A
AZ23C13	PZM13NB2A
AZ23C15	PZM15NB2A
AZ23C2V7	PZM2.7NB2A
AZ23C3V0	PZM3.0NB2A
AZ23C3V3	PZM3.3NB2A
AZ23C3V6	PZM3.6NB2A
AZ23C3V9	PZM3.9NB2A
AZ23C4V3	PZM4.3NB2A
AZ23C4V7	PZM4.7NB2A
AZ23C5V1	PZM5.1NB2A
AZ23C5V6	PZM5.6NB2A
AZ23C6V2	PZM6.2NB2A
AZ23C6V8	PZM6.8NB2A
AZ23C7V5	PZM7.5NB2A
AZ23C8V2	PZM8.2NB2A
AZ23C9V1	PZM9.1NB2A
BAL99	BAL99
BAL99LT1	BAL99
BAQ35	BAS45AL
BAS116LT1	BAS116
BAS125-04	BAT54S
BAS125-04W	BAT54SW
BAS125-05	BAT54C
BAS125-05W	BAT54CW
BAS125-06	BAT54A
BAS125-06W	BAT54AW
BAS125W	BAT54W
BAS140W	1PS76SB40
BAS16	BAS16
BAS16	PMBD914
BAS16	PMBD6050
BAS16-02W	BAS316
BAS16-03W	BAS32L
BAS16-03W	PMLL4148L
BAS16/BAS16W	BAS16/BAS16W
BAS16/DA114	BAS16/BAS16W
BAS16HT1	BAS316

Competitor type-number	Philips type-number
BAS16LT1	BAS16
BAS16LT1/BAS16WT1	BAS16/BAS16W
BAS16TT1	BAS16T
BAS16WT1	BAS16W
BAS170W	1PS76SB70
BAS19	BAS19
BAS19LT1	BAS19
BAS20	BAS20
BAS21	BAS21
BAS21LT1	BAS21
BAS21LT1	BAS20
BAS28	BAS28
BAS40	BAS40
BAS40-04	BAS40-04
BAS40-04W	BAS40-04W
BAS40-05	BAS40-05
BAS40-05W	BAS40-05W
BAS40-06	BAS40-06
BAS40-06W	BAS40-06W
BAS40-07	BAS40-07
BAS70	BAS70
BAS70-04	BAS70-04
BAS70-04W	BAS70-04W
BAS70-05	BAS70-05
BAS70-05W	BAS70-05W
BAS70-06	BAS70-06BAS
BAS70-06W	BAS70-06W
BAS70-07	BAS70-07
BAT17	BAT17
BAT64	BAT54
BAT64-04	BAT54S
BAT64-04W	BAT54SW
BAT64-05	BAT54C
BAT64-05W	BAT54CW
BAT64-06	BAT54A
BAT64-06W	BAT54AW
BAT64-07	BAT74
BAT70-05P	BYR2100CT
BAV100	BAV100
BAV101	BAV101
BAV102	BAV102
BAV103	BAV103
BAV170LT1	BAV170
BAV199LT1	BAV199
BAV20	BAV20
BAV21	BAV21
BAV70	BAV70/BAV70W
BAV70	PMBD6100
BAV70/BAV70W	BAV70/BAV70W
BAV70LT1	BAV70

Competitor type-number	Philips type-number
BAV70LT1/BAV70WT1	BAV70/BAV70W
BAV70S	BAV70S
BAV70TT1	BAV70T
BAV70W	1PS301
BAV70WT1	1PS301
BAV70WT1	BAV70W
BAV74LT1	BAV74
BAV99	PMBD7000
BAV99/BAV99W	BAV99/BAV99W
BAV99LT1	BAV99/BAV99W
BAV99W	1PS302
BAV99WT1	1PS302
BAV99WT1	BAV99W
BAV99WT1	1PS302
BAW101 (300 V)	BAV23 (250V)
BAW156LT1	BAW156
BAW27	BAV10
BAW56/BAW56W	BAW56/BAW56W
BAW56LT1/BAW56WT1	BAW56/BAW56W
BAW56S	BAW56S
BAW56TT1	BAW56T
BAW56W	1PS300
BAW56WT1	1PS300
BAW56WT1	BAW56W
BAW76	BAW62
BC237	BC547B
BC237A	BC547B
BC237B	BC547B
BC307	BC557B
BC307B	BC557B
BC327	BC327
BC327-16	BC327-16
BC327-25	BC327-25
BC328	BC327
BC328-16	BC327-16
BC328-25	BC327-25
BC337	BC337
BC337-16	BC337-16
BC337-25	BC337-25
BC337-40	BC337-40
BC338	BC337
BC338-16	BC337-16
BC338-25	BC337-25
BC338-40	BC337-40
BC368	BC368
BC369	BC369
BC373	BC618
BC489A	MPSA06
BC490A	MPSA56
BC517	BC517

Competitor type-number	Philips type-number
BC546	BC546
BC546B	BC546B
BC547	BC547
BC547A	BC546A
BC547B	BC547B
BC547C	BC547C
BC548	BC547
BC548A	BC546A
BC548B	BC547B
BC548C	BC547C
BC549	BC547B
BC549C	BC549C
BC550B	BC547B
BC550C	BC550C
BC556	BC556
BC556B	BC556B
BC557	BC557
BC557A	BC556A
BC557B	BC557B
BC557C	BC557C
BC558B	BC557B
BC559B	BC556B
BC559C	BC559C
BC560C	BC557C
BC618	BC618
BC635	BC635
BC636	BC636
BC637	BC637
BC638	BC640-16
BC639	BC639
BC640	BC640
BC807-16LT1	BC807-16
BC807-25	BC807-25
BC807-25LT1	BC807-25
BC807-40	BC807-40
BC807-40LT1	BC807-40
BC808-16W	BC807-16W
BC817-16LT1	BC817-16
BC817-25	BC817-25
BC817-25LT1	BC817-25
BC817-40	BC817-40
BC817-40LT1	BC817-40
BC818-16W	BC817-16W
BC818W	BC817W
BC846...850	BC846
BC846ALT1	BC846A
BC846AWT1	BC846AW
BC846BLT1	BC846B
BC846BWT1	BC846BW
BC846V...850W	BC846W

Competitor type-number	Philips type-number
BC847A	BC847A
BC847ALT1	BC847A
BC847AWT1	BC847AW
BC847B	BC847B
BC847BLT1	BC847B
BC847BW	BC847BW
BC847BWT1	BC847BW
BC847C	BC847C
BC847CLT1	BC847C
BC847CWT1	BC847CW
BC847PN	BC847BPN
BC847S	BC847BS
BC848A	BC847A
BC848ALT1	BC847A
BC848AWT1	BC847AW
BC848B	BC847B
BC848BLT1	BC847B
BC848BWT1	BC847BW
BC848C	BC847C
BC848CLT1	BC847C
BC848CWT1	BC847CW
BC849BLT1	BC849B
BC849CLT1	BC849C
BC850BLT1	BC850B
BC850CLT1	BC850C
BC856...860	BC856
BC856ALT1	BC856A
BC856AWT1	BC856AW
BC856BLT1	BC856B
BC856BWT1	BC856BW
BC856V...860W	BC856W
BC857A	BC857A
BC857ALT1	BC857A
BC857AWT1	BC857AW
BC857B	BC857B
BC857BLT1	BC857B
BC857BWT1	BC857BW
BC857S	BC857BS
BC858ALT1	BC857A
BC858AWT1	BC857AW
BC858B	BC857B
BC858BLT1	BC857B
BC858BW	BC857BW
BC858BWT1	BC857BW
BC858CLT1	BC857C
BC858CWT1	BC857CW
BCP28	BSP62
BCP29	PZTA14
BCP51...53	BCP51
BCP53T1	BCP53

# Cross Reference General Application discretes

Competitor type-number	Philips type-number
BCP54...56	BCP54
BCP56-10T1	BCP56-10
BCP56-16T1	BCP56-16
BCP56T1	BCP56
BCP68-10	BCP68
BCP68-16	BCP68
BCP68T1	BCP68
BCP69-10	BCP69
BCP69T1	BCP69
BCR108	PDTC123JT
BCR10PN	PUMD3
BCR112	PDTC143ET
BCR112W	PDTC143EU
BCR116	PDTC143ZT
BCR119	PDTC143TT
BCR119S	PUMH7
BCR133	PDTC114ET
BCR133S	PUMH11
BCR133W	PDTC114EU
BCR135	PDTC114YT
BCR141	PDTC124ET
BCR141S	PUMH1
BCR141W	PDTC124EU
BCR146	PDTC144WT
BCR146W	PDTC144WU
BCR148	PDTC144ET
BCR148W	PDTC144EU
BCR162	PDTA143ET
BCR162W	PDTA143EU
BCR166	PDTA143ZT
BCR183	PDTA114ET
BCR183W	PDTA114EU
BCR191	PDTA124ET
BCR196W	PDTA144WU
BCR198	PDTA144ET
BCR198W	PDTA144EU
BCR22PN	PUMD2
BCR35PN	PUMD9
BCR533	PDTD114ET
BCV26	BCV26
BCV27	BCV27
BCV28	BCV28
BCV29	BCV29
BCV46	BCV46
BCV47	BCV47
BCV48	BCV48
BCV49	BCV49
BCV61/A/B/C	BCV61
BCV62/A/B/C	BCV62
BCW29	BCW29

Competitor type-number	Philips type-number
BCW29LT1	BCW29
BCW30	BCW30
BCW30LT1	BCW30
BCW31	BCW31
BCW32	BCW32
BCW33	BCW33
BCW33LT1	BCW33
BCW60A	BCW60B
BCW60A...FN	BCW60B
BCW60ALT1	BCW60B
BCW60B	BCW60B
BCW60BLT1	BCW60B
BCW60C	BCW60C
BCW60D	BCW60D
BCW60DLT1	BCW60D
BCW61A...FN	BCW61B
BCW61B	BCW61B
BCW61BLT1	BCW61B
BCW61C	BCW61C
BCW61CLT1	BCW61C
BCW61DLT1	BCW61D
BCW65B	BSR13
BCW67A...C	BSR15
BCW68F	BSR15
BCW68F...H	BSR16
BCW68G	BSR15
BCW69	BCW69
BCW69LT1	BCW69
BCW70	BCW70
BCW70LT1	BCW70
BCW71	BCW71
BCW72	BCW72
BCW72LT1	BCW72
BCX17	BCX17
BCX17LT1	BCX17
BCX18LT1	BCX18
BCX19	BCX19
BCX19LT1	BCX19
BCX20	BCX19
BCX20LT1	BCX19
BCX51/10/16	BCX51
BCX52/10/16	BCX52
BCX53	BCX53
BCX53/10/16	BCX53
BCX54/10/16	BCX54
BCX55/10/16	BCX55
BCX56	BCX56
BCX56/10/16	BCX56
BCX68/10..25	BC868-25
BCX69/10..25	BC869

Competitor type-number	Philips type-number
BCX70G...K	BCX70G
BCX70GLT1	BCX70G
BCX70H	BCX70H
BCX70J	BCX70J
BCX70JLT1	BCX70J
BCX70K	BCX70K
BCX70KLT1	BCX70K
BCX71G...K	BCX71G
BCX71H	BCX71H
BDB01C	BC639
BDB02C	BC640
BF199	BF199
BF240	BF240
BF393	MPSA44
BF420	BF420
BF421	BF421
BF422	BF422
BF423	BF423
BF622	BF622
BF623	BF623
BF720	BF720
BF720T1	BF720
BF721	BF723
BF721T1	BF723
BF722	BF722
BF723	BF723
BF840	BF840
BF841	BF840
BF844	MPSA44
BF959	BF420
BFN16	BST40
BFN17	BST15
BFN18	BST39
BFN19	BST16
BFN20	BF620
BFN21	BF621
BFN22	BF822
BFN23	BF823
BFN39	PZTA92
BSP16T1	BSP16
BSP19AT1	BSP19
BSP50...52	BSP50
BSP52T1	BSP52
BSP60...62	BSP60
BSP62T1	BSP62
BSR14	BSR14
BSS63	BSS63
BSS63LT1	BSS63
BSS64	BSS64

Competitor type-number	Philips type-number
BSS79	BSR14
BSS80	BSR15
BSS81	BSR13
BSS82	BSR16
BSV52LT1	BSS64
BSV52LT1	BSV52
BZM55B10	BZX284B10
BZM55B11	BZX284B11
BZM55B12	BZX284B12
BZM55B13	BZX284B13
BZM55B15	BZX284B15
BZM55B16	BZX284B16
BZM55B18	BZX284B18
BZM55B20	BZX284B20
BZM55B22	BZX284B22
BZM55B24	BZX284B24
BZM55B27	BZX284B27
BZM55B2V4	BZX284B2V4
BZM55B2V7	BZX284B2V7
BZM55B30	BZX284B30
BZM55B33	BZX284B33
BZM55B36	BZX284B36
BZM55B39	BZX284B39
BZM55B3V0	BZX284B3V0
BZM55B3V3	BZX284B3V3
BZM55B3V6	BZX284B3V6
BZM55B3V9	BZX284B3V9
BZM55B43	BZX284B43
BZM55B47	BZX284B47
BZM55B4V3	BZX284B4V3
BZM55B4V7	BZX284B4V7
BZM55B51	BZX284B51
BZM55B56	BZX284B56
BZM55B5V1	BZX284B5V1
BZM55B5V6	BZX284B5V6
BZM55B62	BZX284B62
BZM55B68	BZX284B68
BZM55B6V2	BZX284B6V2
BZM55B6V8	BZX284B6V8
BZM55B75	BZX284B75
BZM55B7V5	BZX284B7V5
BZM55B8V2	BZX284B8V2
BZM55B9V1	BZX284B9V1
BZM55C10	BZX284C10
BZM55C11	BZX284C11
BZM55C12	BZX284C12
BZM55C13	BZX284C13
BZM55C15	BZX284C15
BZM55C16	BZX284C16
BZM55C18	BZX284C18



# Cross Reference General Application discretes

Competitor type-number	Philips type-number
BZX84 C47LT1	BZX84C47
BZX84 C4V3LT1	BZX84C4V3
BZX84 C4V7LT1	BZX84C4V7
BZX84 C51LT1	BZX84C51
BZX84 C56LT1	BZX84C56
BZX84 C5V1LT1	BZX84C5V1
BZX84 C5V6LT1	BZX84C5V6
BZX84 C62LT1	BZX84C62
BZX84 C68LT1	BZX84C68
BZX84 C6V2LT1	BZX84C6V2
BZX84 C6V8LT1	BZX84C6V8
BZX84 C75LT1	BZX84C75
BZX84 C7V5LT1	BZX84C7V5
BZX84 C8V2LT1	BZX84C8V2
BZX84 C9V1LT1	BZX84C9V1
BZX84A10	BZX84A10
BZX84A11	BZX84A11
BZX84A12	BZX84A12
BZX84A13	BZX84A13
BZX84A15	BZX84A15
BZX84A16	BZX84A16
BZX84A18	BZX84A18
BZX84A20	BZX84A20
BZX84A22	BZX84A22
BZX84A24	BZX84A24
BZX84A27	BZX84A27
BZX84A2V4	BZX84A2V4
BZX84A2V7	BZX84A2V7
BZX84A30	BZX84A30
BZX84A33	BZX84A33
BZX84A36	BZX84A36
BZX84A39	BZX84A39
BZX84A3V0	BZX84A3V0
BZX84A3V3	BZX84A3V3
BZX84A3V6	BZX84A3V6
BZX84A3V9	BZX84A3V9
BZX84A43	BZX84A43
BZX84A47	BZX84A47
BZX84A4V3	BZX84A4V3
BZX84A4V7	BZX84A4V7
BZX84A51	BZX84A51
BZX84A5V1	BZX84A5V1
BZX84A5V6	BZX84A5V6
BZX84A6V2	BZX84A6V2
BZX84A6V8	BZX84A6V8
BZX84A7V5	BZX84A7V5
BZX84A8V2	BZX84A8V2
BZX84A9V1	BZX84A9V1
BZX84C10	BZX84C10
BZX84C11	BZX84C11

Competitor type-number	Philips type-number
BZX84C12	BZX84C12
BZX84C13	BZX84C13
BZX84C15	BZX84C15
BZX84C16	BZX84C16
BZX84C18	BZX84C18
BZX84C20	BZX84C20
BZX84C22	BZX84C22
BZX84C24	BZX84C24
BZX84C27	BZX84C27
BZX84C2V7	BZX84C2V7
BZX84C30	BZX84C30
BZX84C33	BZX84C33
BZX84C36	BZX84C36
BZX84C39	BZX84C39
BZX84C3V0	BZX84C3V0
BZX84C3V3	BZX84C3V3
BZX84C3V6	BZX84C3V6
BZX84C3V9	BZX84C3V9
BZX84C43	BZX84C43
BZX84C47	BZX84C47
BZX84C4V3	BZX84C4V3
BZX84C4V7	BZX84C4V7
BZX84C51	BZX84C51
BZX84C5V3	BZX84C5V3
BZX84C5V6	BZX84C5V6
BZX84C6V2	BZX84C6V2
BZX84C6V8	BZX84C6V8
BZX84C7V5	BZX84C7V5
BZX84C8V2	BZX84C8V2
BZX84C9V1	BZX84C9V1
BZX84CXXL	BZX84-C
(not all types available)	
BZX85C10	BZV85C10
BZX85C10RL	BZV85C10
BZX85C11	BZV85C11
BZX85C11RL	BZV85C11
BZX85C12	BZV85C12
BZX85C12RL	BZV85C12
BZX85C13	BZV85C13
BZX85C13RL	BZV85C13
BZX85C15	BZV85C15
BZX85C15RL	BZV85C15
BZX85C16	BZV85C16
BZX85C16RL	BZV85C16
BZX85C18	BZV85C18
BZX85C18RL	BZV85C18
BZX85C20	BZV85C20
BZX85C20RL	BZV85C20
BZX85C22	BZV85C22
BZX85C22RL	BZV85C22

Competitor type-number	Philips type-number
BZX85C24	BZV85C24
BZX85C24RL	BZV85C24
BZX85C27	BZV85C27
BZX85C27RL	BZV85C27
BZX85C30	BZV85C30
BZX85C30RL	BZV85C30
BZX85C33	BZV85C33
BZX85C33RL	BZV85C33
BZX85C36	BZV85C36
BZX85C36RL	BZV85C36
BZX85C39	BZV85C39
BZX85C39RL	BZV85C39
BZX85C3V6	BZV85C3V6
BZX85C3V6RL	BZV85C3V6
BZX85C3V9	BZV85C3V9
BZX85C3V9RL	BZV85C3V9
BZX85C43	BZV85C43
BZX85C43RL	BZV85C43
BZX85C47	BZV85C47
BZX85C47RL	BZV85C47
BZX85C4V3	BZV85C4V3
BZX85C4V3RL	BZV85C4V3
BZX85C4V7	BZV85C4V7
BZX85C4V7RL	BZV85C4V7
BZX85C51	BZV85C51
BZX85C51RL	BZV85C51
BZX85C56	BZV85C56
BZX85C56RL	BZV85C56
BZX85C62	BZV85C62
BZX85C62RL	BZV85C62
BZX85C68	BZV85C68
BZX85C68RL	BZV85C68
BZX85C6V2	BZV85C6V2
BZX85C6V2RL	BZV85C6V2
BZX85C6V8	BZV85C6V8
BZX85C6V8RL	BZV85C6V8
BZX85C75	BZV85C75
BZX85C75RL	BZV85C75
BZX85C7V5	BZV85C7V5
BZX85C7V5RL	BZV85C7V5
BZX85C8V2	BZV85C8V2
BZX85C8V2RL	BZV85C8V2
BZX85C9V1	BZV85C9V1
BZX85C9V1RL	BZV85C9V1
DA114	BAS16W
DA121	BAS16T

Competitor type-number	Philips type-number
DAN202K	1PS184
DAN202U	1PS301
DAN202U	BAV70W
DAN202U	1PS301
DAN212K	1PS193
DAN217	1PS226
DAN217U	BAV99W
DAN217U	1PS302
DAN222	BAV70T
DAP202K	1PS181
DAP202U	1PS300
DAP202U	BAV56W
DAP202U	1PS300
DAP222	BAV56T
DTA114EE	PDTA114EE
DTA114EKA	PDTA114EK
DTA114ESA	PDTA114ES
DTA114EUA	PDTA114EU
DTA114TE	PDTA114TE
DTA114TKA	PDTA114TK
DTA114TSA	PDTA114TS
DTA114TUA	PDTA114TU
DTA123JE	PDTA123JE
DTA124ECA	PDTA124ET
DTA124EE	PDTA124EE
DTA124EKA	PDTA124EK
DTA124ESA	PDTA124ES
DTA124EUA	PDTA124EU
DTA124XE	PDTA124XE
DTA143ECA	PDTA143ET
DTA143EE	PDTA143EE
DTA143EKA	PDTA143EK
DTA143ESA	PDTA143ES
DTA143EUA	PDTA143EU
DTA143ZKA	PDTA143ZK
DTA144EE	PDTA144EE
DTA144EKA	PDTA144EK
DTA144ESA	PDTA144ES
DTA144EUA	PDTA144EU
DTA144WKA	PDTA144WKK
DTA144WU	PDTA144WU
DTA144WUA	PDTA144WU
DTC114ECA	PDTC114ET
DTC114EE	PDTC114EE
DTC114EKA	PDTC114EK
DTC114ESA	PDTC114ES
DTC114EUA	PDTC114EU
DTC114TCA	PDTC114TT
DTC114TE	PDTC114TE
DTC114TE	PDTC114TE

Competitor type-number	Philips type-number
DTC114TKA	PDTC114TK
DTC114TSA	PDTC114TS
DTC114TUA	PDTC114TU
DTC114YE	PDTC114YE
DTC123JE	PDTC123JE
DTC124ECA	PDTC124ET
DTC124EE	PDTC124EE
DTC124EKA	PDTC124EK
DTC124ESA	PDTC124ES
DTC124EUA	PDTC124EU
DTC124XE	PDTC124XE
DTC143EE	PDTC143EE
DTC143EKA	PDTC143EK
DTC143ESA	PDTC143ES
DTC143EUA	PDTC143EU
DTC143XE	PDTC143XE
DTC143ZCA	PDTC143ZT
DTC143ZKA	PDTC143ZK
DTC144EE	PDTC144EE
DTC144EKA	PDTC144EK
DTC144ESA	PDTC144ES
DTC144EUA	PDTC144EU
DTC144WKA	PDTC144WK
DTC144WU	PDTC144WU
DTC144WUA	PDTC144WU
DZDxxx	PZMxxxNB
FTZ5.6E	BZA456A
HZM10N	PZM10NB
HZM12N	PZM12NB
HZM15N	PZM15NB
HZM4.7N	PZM4.7NB
HZM5.1N	PZM5.1NB
HZM5.6N	PZM5.6NB
HZM6.2N	PZM6.2NB
HZM6.8N	PZM6.8NB
HZM7.5N	PZM7.5NB
HZM8.2N	PZM8.2NB
HZM9.1N	PZM9.1NB
HZUxxx	PDZxxxB
IMZ2A	BC847BPN
LL4148	PMLL4148
LL4150	PMLL4150
LL4151	BAS32L
LL4151	PMLL4151
LL4448	PMLL4448
M1MA142WAT1	1PS300
M1MA142WK1	1PS301
M1MA152KT1	1PS193
M1MA152WAT1	1PS181
M1MA152WK1	1PS184

Competitor type-number	Philips type-number
MA111	BAS316
MA142WA	1PS300
MA142WK	1PS301
MA147/143	1PS302
MA152K	1PS193
MA152W	1PS181
MA152WK	1PS184
MA153A	1PS226
MA223	BAS32L
MA223	PMLL4148
MA2B150	1N4151
MA2B162	1N914
MA2B162	1N4148
MA2B162	1N4448
MA2B162	BAW62
MA2B170	BAV10
MA2B182	BAV21
MA2C167	1N4531
MA2J111	BAS316
MA2S111	BAS516
MA3024	PZM2.4NB
MA3027	PZM2.7NB
MA3027-H	PZM2.7NB2
MA3027-L	PZM2.7NB1
MA3030	PZM3.0NB
MA3030-H	PZM3.0NB2
MA3030-L	PZM3.0NB1
MA3033	PZM3.3NB
MA3033-H	PZM3.3NB2
MA3033-L	PZM3.3NB1
MA3036	PZM3.6NB
MA3036-H	PZM3.6NB2
MA3036-L	PZM3.6NB1
MA3039	PZM3.9NB
MA3039-H	PZM3.9NB2
MA3039-L	PZM3.9NB1
MA3043	PZM4.3NB
MA3043-H	PZM4.3NB2
MA3043-L	PZM4.3NB1
MA3043-M	PZM4.3NB2
MA3047	PZM4.7NB
MA3047-H	PZM4.7NB2
MA3047-L	PZM4.7NB1
MA3047-M	PZM4.7NB2
MA3051	PZM5.1NB
MA3051-H	PZM5.1NB2
MA3051-L	PZM5.1NB1
MA3051-M	PZM5.1NB2
MA3056	PZM5.6NB
MA3056-H	PZM5.6NB2

Competitor type-number	Philips type-number
MA3056-L	PZM5.6NB1
MA3056-M	PZM5.6NB2
MA3062	PZM6.2NB
MA3062-H	PZM6.2NB3
MA3062-L	PZM6.2NB1
MA3062-M	PZM6.2NB2
MA3062WA	PZM6.2NB2A
MA3068	PZM6.8NB
MA3068-H	PZM6.8NB3
MA3068-L	PZM6.8NB1
MA3068-M	PZM6.8NB2
MA3075	PZM7.5NB
MA3075-H	PZM7.5NB3
MA3075-L	PZM7.5NB1
MA3075-M	PZM7.5NB2
MA3075WA	PZM7.5NB2A
MA3082	PZM8.2NB
MA3082-H	PZM8.2NB3
MA3082-L	PZM8.2NB1
MA3082-M	PZM8.2NB2
MA3082WA	PZM8.2NB2A
MA3091	PZM9.1NB
MA3091-H	PZM9.1NB3
MA3091-L	PZM9.1NB1
MA3091-M	PZM9.1NB2
MA3100	PZM10NB
MA3100-H	PZM10NB3
MA3100-L	PZM10NB1
MA3100-M	PZM10NB2
MA3100WA	PZM10NB2A
MA3110	PZM11NB
MA3110-H	PZM11NB3
MA3110-L	PZM11NB1
MA3110-M	PZM11NB2
MA3120	PZM12NB
MA3120-H	PZM12NB3
MA3120-L	PZM12NB1
MA3120-M	PZM12NB2
MA3120WA	PZM12NB2A
MA3130	PZM13NB
MA3130-H	PZM13NB3
MA3130-L	PZM13NB1
MA3130-M	PZM13NB2
MA3130WA	PZM13NB2A
MA3150	PZM15NB
MA3150-H	PZM15NB3
MA3150-L	PZM15NB1
MA3150-M	PZM15NB2
MA3160	PZM16NB
MA3160-H	PZM16NB3

Competitor type-number	Philips type-number
MA3160-L	PZM16NB1
MA3160-M	PZM16NB2
MA3180	PZM18NB
MA3180-H	PZM18NB3
MA3180-L	PZM18NB1
MA3180-M	PZM18NB2
MA3200	PZM20NB
MA3200-H	PZM20NB3
MA3200-L	PZM20NB1
MA3200-M	PZM20NB2
MA3220	PZM22NB
MA3220-H	PZM22NB3
MA3220-L	PZM22NB1
MA3220-M	PZM22NB2
MA3240	PZM24NB
MA3240-H	PZM24NB3
MA3240-L	PZM24NB1
MA3240-M	PZM24NB2
MA3270	PZM27NB
MA3300	PZM30NB
MA3330	PZM33NB
MA3360	PZM36NB
MA3J142D	BAV56W
MA3J142D	1PS300
MA3J142E	BAV70W
MA3J142E	1PS301
MA3J142K	BAS16W
MA3J147	BAV99W
MA3J147	1PS302
MA3S132D	1PS89SS06
MA3S132E	1PS89SS05
MA3S137	1PS89SS04
MA3X152D	1PS181
MA3X152E	1PS184
MA3X152K	1PS193
MA3xxx	PZMxxxNB
MA4X159A	BAS28
MA4X174	BAV23
MA6024	BZV55C2V4
MA6027	BZV55C2V7
MA6030	BZV55C3V0
MA6033	BZV55C3V3
MA6036	BZV55C3V6
MA6039	BZV55C3V9
MA6043	BZV55C4V3
MA6047	BZV55C4V7
MA6051	BZV55C5V1
MA6056	BZV55C5V6
MA6062	BZV55C6V2
MA6068	BZV55C6V8

# Cross Reference General Application discretes

Competitor type-number	Philips type-number
MA6075	BZV55C7V5
MA6082	BZV55C8V2
MA6091	BZV55C9V1
MA6100	BZV55C10
MA6110	BZV55C11
MA6130	BZV55C13
MA6160	BZV55C16
MA6200	BZV55C20
MA6240	BZV55C24
MA6270	BZV55C27
MA6300	BZV55C30
MA6330	BZV55C33
MA6360	BZV55C36
MA720	1PS59SB20
MA721	1PS59SB21
MA786	1PS59SB10
MA786WA	1PS59SB16
MA786WK	1PS59SB15
MA791	1PS59SB14
MA8010	PDZ10B
MA8012	PDZ12B
MA8015	PDZ15B
MA8047	PDZ4.7B
MA8051	PDZ5.1B
MA8056	PDZ5.6B
MA8062	PDZ6.2B
MA8068	PDZ6.8B
MA8075	PDZ7.5B
MA8082	PDZ8.2B
MA8091	PDZ9.1B
MAZ1024	BZX79C2V4
MAZ1027	BZX79C2V7
MAZ1030	BZX79C3V0
MAZ1033	BZX79C3V3
MAZ1033-L	BZX79B3V3
MAZ1036	BZX79C3V6
MAZ1039	BZX79C3V9
MAZ1043	BZX79C4V3
MAZ1047	BZX79C4V7
MAZ1051	BZX79C5V1
MAZ1056	BZX79C5V6
MAZ1062	BZX79C6V2
MAZ1068	BZX79C6V8
MAZ1075	BZX79C7V5
MAZ1082	BZX79C8V2
MAZ1091	BZX79C9V1
MAZ1100	BZX79C10
MAZ1110	BZX79C11
MAZ1120	BZX79C12
MAZ1130	BZX79C13

Competitor type-number	Philips type-number
MAZ1160	BZX79C16
MAZ1200	BZX79C20
MAZ1220	BZX79C22
MAZ1240	BZX79C24
MAZ1270	BZX79C27
MAZ1300	BZX79C30
MAZ1330	BZX79C33
MAZ1360	BZX79C36
MAZ1390	BZX79C39
MAZ7051	BZV85C5V1
MAZ7051	1N4733A
MAZ7056	BZV85C5V6
MAZ7056	1N4734A
MAZ7062	BZV85C6V2
MAZ7062	1N4735A
MAZ7068	BZV85C6V8
MAZ7068	1N4736A
MAZ7075	BZV85C7V5
MAZ7075	1N4737A
MAZ7082	BZV85C8V2
MAZ7082	1N4738A
MAZ7091	BZV85C9V1
MAZ7091	1N4739A
MAZ7100	BZV85C10
MAZ7100	1N4740A
MAZ7110	BZV85C11
MAZ7110	1N4741A
MAZ7120	BZV85C12
MAZ7120	1N4742A
MAZ7130	BZV85C13
MAZ7130	1N4743A
MAZ7150	BZV85C15
MAZ7150	1N4744A
MAZ7160	BZV85C16
MAZ7160	1N4745A
MAZ7180	BZV85C18
MAZ7180	1N4746A
MAZ7200	BZV85C20
MAZ7200	1N4747A
MAZ7220	BZV85C22
MAZ7220	1N4748A
MAZ7240	BZV85C24
MAZ7240	1N4749A
MAZ7270	BZV85C27
MAZ7300	BZV85C30
MAZ7330	BZV85C33
MAZ7360	BZV85C36
MAZ7390	BZV85C39
MAZ7430	BZV85C43
MAZ7470	BZV85C47

Competitor type-number	Philips type-number
MAZ7510	BZV85C51
MAZ7560	BZV85C56
MAZ8024	PDZ2.4B
MAZ8027-H	PDZ2.7B
MAZ8030-L	PDZ3.0B
MAZ8033-H	PDZ3.3B
MAZ8036-H	PDZ3.6B
MAZ8039-H	PDZ3.9B
MAZ8043-M	PDZ4.3B
MAZ8047-M	PDZ4.7B
MAZ8051-M	PDZ5.1B
MAZ8056-M	PDZ5.6B
MAZ8062-M	PDZ6.2B
MAZ8068-M	PDZ6.8B
MAZ8075-M	PDZ7.5B
MAZ8091-M	PDZ9.1B
MAZ8100-M	PDZ10B
MAZ8110-M	PDZ11B
MAZ8120-M	PDZ12B
MAZ8130-M	PDZ13B
MAZ8160-M	PDZ16B
MAZ8180-M	PDZ18B
MAZ8182-M	PDZ18.2B
MAZ8200-M	PDZ20B
MAZ8220-M	PDZ22B
MAZ8240-M	PDZ24B
MAZ8270-M	PDZ27B
MAZ8300-M	PDZ30B
MAZ8330-M	PDZ33B
MAZ8360-M	PDZ36B
MBT3904DW1T1	PUMX1
MBT3906DW1T1	PUMT1
MBT3946DW1T1	PUMZ1
MM3Z10VT1	PDZ10B
MM3Z11VT1	PDZ11B
MM3Z12VT1	PDZ12B
MM3Z15VT1	PDZ13B
MM3Z15VT1	PDZ15B
MM3Z16VT1	PDZ16B
MM3Z18VT1	PDZ18B
MM3Z20VT1	PDZ20B
MM3Z22VT1	PDZ22B
MM3Z24VT1	PDZ24B
MM3Z27VT1	PDZ27B
MM3Z2V4T1	PDZ2.4B
MM3Z33VT1	PDZ33B
MM3Z3V9T1	PDZ3.9B
MM3Z4V3T1	PDZ4.3B
MM3Z4V7T1	PDZ4.7B
MM3Z5V1T1	PDZ5.1B

Competitor type-number	Philips type-number
MM3Z5V6T1	PDZ5.6B
MM3Z6V2T1	PDZ6.2B
MM3Z6V8T1	PDZ6.8B
MM3Z7V5T1	PDZ7.5B
MM3Z8V2T1	PDZ8.2B
MM3Z9V1T1	PDZ9.1B
MMB6V2ALT1	PZM6.2NB2A
MMBD6050LT1	PMBD6050
MMBD6100LT1	PMBD6100
MMBD7000LT1	PMBD7000
MMBD7000LT1	PMBD7000
MMBD914LT1	PMBD914
MMBT2222ALT1	PMBT2222A
MMBT2222AWT1	PMST2222A
MMBT2222LT1	PMBT2222
MMBT2369ALT1	PMBT2369
MMBT2369LT1	PMBT2369
MMBT2484LT1	BC850B
MMBT2907ALT1	PMBT2907A
MMBT2907AWT1	PMST2907A
MMBT2907LT1	PMBT2907
MMBT3904LT1	PMBT3904
MMBT3904VWT1	PMST3904
MMBT3906LT1	PMBT3906
MMBT3906VWT1	PMST3906
MMBT4401LT1	PMBT4401
MMBT4403LT1	PMBT4403
MMBT5087LT1	BC860B
MMBT5088LT1	PMBT5088
MMBT5089LT1	PMBT5088
MMBT5401LT1	PMBT5401
MMBT5550LT1	PMBT5550
MMBT5551LT1	PMBT5551
MMBT6427LT1	PMBTA14
MMBT6428LT1	PMBT6428
MMBT6429LT1	PMBT6429
MMBTA05LT1	PMBTA06
MMBTA06LT1	PMBTA06
MMBTA13LT1	PMBTA13
MMBTA14LT1	PMBTA14
MMBTA42LT1	PMBTA42
MMBTA43LT1	PMBTA42
MMBTA55LT1	PMBTA56
MMBTA56LT1	PMBTA56
MMBTA63LT1	PMBTA64
MMBTA64LT1	PMBTA64
MMBTA92LT1	PMBTA92
MMBTA93LT1	PMBTA92
MMBZ 5226BLT1	PMBZ5226B
MMBZ 5227BLT1	PMBZ5227B

Competitor type-number	Philips type-number
MMBZ 5228BLT1	PMBZ5228B
MMBZ 5229BLT1	PMBZ5229B
MMBZ 5230BLT1	PMBZ5230B
MMBZ 5231BLT1	PMBZ5231B
MMBZ 5232BLT1	PMBZ5232B
MMBZ 5233BLT1	PMBZ5233B
MMBZ 5234BLT1	PMBZ5234B
MMBZ 5235BLT1	PMBZ5235B
MMBZ 5236BLT1	PMBZ5236B
MMBZ 5237BLT1	PMBZ5237B
MMBZ 5238BLT1	PMBZ5238B
MMBZ 5239BLT1	PMBZ5239B
MMBZ 5240BLT1	PMBZ5240B
MMBZ 5241BLT1	PMBZ5241B
MMBZ 5242BLT1	PMBZ5242B
MMBZ 5243BLT1	PMBZ5243B
MMBZ 5244BLT1	PMBZ5244B
MMBZ 5245BLT1	PMBZ5245B
MMBZ 5246BLT1	PMBZ5246B
MMBZ 5247BLT1	PMBZ5247B
MMBZ 5248BLT1	PMBZ5248B
MMBZ 5249BLT1	PMBZ5249B
MMBZ 5250BLT1	PMBZ5250B
MMBZ 5251BLT1	PMBZ5251B
MMBZ 5252BLT1	PMBZ5252B
MMBZ 5253BLT1	PMBZ5253B
MMBZ 5254BLT1	PMBZ5254B
MMBZ 5255BLT1	PMBZ5255B
MMBZ 5256BLT1	PMBZ5256B
MMBZ 5257BLT1	PMBZ5257B
MMBZ15VALT1	PZM15NB2A
MMBZ52xxBLT1	PMBZ52xxB
(not all types available)	
MMBZ5V6ALT1	PZM5.6NB2A
MMBZ6V8ALT1	PZM6.8NB2A
MMQA20VT1	BZA420A
MMQA5V6T1	BZA456A
MMQA6V2T1	BZA462A
MMST4126	2PB709AQ
MMST5086	2PB709AQ
MMST5087	2PB709AS
MMST8098	2PD601AQ
MMUN2111LT1	PDTA114ET
MMUN2112LT1	PDTA124ET
MMUN2113LT1	PDTA144ET
MMUN2115LT1	PDTA114TT
MMUN2131LT1	PDTA123ET
MMUN2132LT1	PDTA143ET
MMUN2133LT1	PDTA143ZT
MMUN2211LT1	PDTC114ET

Competitor type-number	Philips type-number
MMUN2212LT1	PDTC124ET
MMUN2213LT1	PDTC144ET
MMUN2214LT1	PDTC114YT
MMUN2215LT1	PDTC114TT
MMUN2216LT1	PDTC143TT
MMUN2231LT1	PDTC123ET
MMUN2232LT1	PDTC143ET
MMUN2233LT1	PDTC143ZT
MPS2222	PH2222A
MPS2222A	PH2222A
MPS2369	PH2369
MPS2369A	PH2369
MPS2907	PH2907A
MPS2907A	PH2907A
MPS3563	PH2369
MPS3646	BF370
MPS3904	MPS3904
MPS3906	MPS3906
MPS4124	2N3904
MPS4126	2N3904
MPS6531	PH2222A
MPS6534	BC327-16
MPS6601	BC368
MPS6602	BC635-16
MPS6651	BC369
MPS6652	BC636-10
MPS6717	BC639
MPS8598	MPSA56
MPS8599	MPSA56
MPS918	PH2369
MPSA05	MPSA06
MPSA06	MPSA06
MPSA13	MPSA14
MPSA14	MPSA14
MPSA17	JC501Q
MPSA18	BC550C
MPSA27	MPSA27
MPSA28	MPSA27
MPSA29	MPSA27
MPSA42	MPSA42
MPSA43	MPSA43
MPSA44	MPSA44
MPSA55	MPSA56
MPSA56	MPSA56
MPSA56	MPSA56
MPSA62	MPSA64
MPSA63	MPSA64
MPSA63	MPSA64
MPSA64	MPSA64
MPSA64	MPSA64

Competitor type-number	Philips type-number
MPSA70	MPS3906
MPSA70	MPS3906
MPSA75	MPSA64
MPSA92	MPSA92
MPSA93	MPSA92
MPSH81	BF324
MPSL51	2N5401
MPSW01	BC635-16
MPSW01A	BC635-16
MPSW05	MPSA06
MPSW06	MPSA06
MPSW13	MPSA14
MPSW14	MPSA14
MPSW42	MPSA42
MPSW51	BC636-10
MPSW51A	BC636-10
MPSW55	MPSA56
MPSW56	MPSA56
MSB602	2PD602A
MSB709	2PB709A
MSB709-RT1	2PB709AR
MSB710	2PB710A
MSB710-RT1	2PB710AR
MSD1328-RT1	2PD602AS
MSD601	2PD601A
MSD601-RT1	2PD601AR
MSD601-ST1	2PD601AS
MSD602-RT1	2PD602AR
MUN2111T1	PDTA114EK
MUN2112T1	PDTA124EK
MUN2113T1	PDTA144EK
MUN2115T1	PDTA114TK
MUN2132T1	PDTA143EK
MUN2133T1	PDTA143ZK
MUN2211T1	PDTC114EK
MUN2212T1	PDTC114EK
MUN2212T1	PDTC124EK
MUN2213T1	PDTC144EK
MUN2215T1	PDTC114TK
MUN2232T1	PDTC143EK
MUN2233T1	PDTC143ZK
MUN5111T1	PDTA114EU
MUN5112T1	PDTA124EU
MUN5113T1	PDTA144EU
MUN5115DW1T1	PUMB4
MUN5115T1	PDTA114TU
MUN5132T1	PDTA143EU
MUN5211DW1T1	PUMH11
MUN5211T1	PDTC114EU
MUN5212DW1T1	PUMH1
MUN5212T1	PDTC124EU

Competitor type-number	Philips type-number
MUN5213T1	PDTC144EU
MUN5215DW1T1	PUMH4
MUN5215T1	PDTC114TU
MUN5216DW1T1	PUMH7
MUN5232T1	PDTC143EU
MUN5311DW1T1	PUMD3
MUN5312DW1T1	PUMD2
MUN5314DW1T1	PUMD9
P2N2222A	PN2222A
P2N2907A	PN2907A
PN2222A	PN2222A
PN2907A	PN2907A
PN918	BF370
PZT2222	PZT2222A
PZT2222A	PZT2222A
PZT2222AT1	PZT2222A
PZT2907A	PZT2907A
PZT2907AT1	PZT2907A
PZT3904	PZT3904
PZT3906	PZT3906
PZT751T1	BSP31
PZTA13	PZTA14
PZTA14	PZTA14
PZTA14T1	PZTA14
PZTA42	PZTA42
PZTA42T1	PZTA42
PZTA43	PZTA42
PZTA63	BSP62
PZTA64	BSP62
PZTA64T1	BSP62
PZTA92	PZTA92
PZTA92T1	PZTA92
PZTA93	PZTA92
RB411D	1PS59SB20
RB420D	1PS59SB10
RB421D	1PS59SB21
RB425D	1PS59SB21
RB450F	BAT54W
RB451F	BAT54W
RB495D	1PS59SB15
RB500V-40	1PS76SB40
RB501V-40	1PS76SB10
RB520S-30	1PS79SB21
RB521S-30	1PS79SB10
RB701D	1PS59SB10
RB705D	1PS59SB15
RB715F	BAS40-05W
RB717F	BAS40-06W
RD10M	PZM10NB
RD12M	PZM12NB

# Cross Reference General Application discretes

Competitor type-number	Philips type-number
RD15M	PZM15NB
RD4.7M	PZM4.7NB
RD5.1M	PZM5.1NB
RD5.6M	PZM5.6NB
RD6.2M	PZM6.2NB
RD6.8M	PZM6.8NB
RD7.5M	PZM7.5NB
RD8.2M	PZM8.2NB
RD9.1M	PZM9.1NB
RDxxxS	PDZxxB
RLS139	BAV101
RLS245	BAV102
RLS245	BAV103
RLS4148	PMLL4148
RLS4148 (SOD80)	PMLL4148L (SOD80C)
RLS4150	PMLL4150
RLS4448	PMLL4448
RLS73	BAS32L
RN1101	PDTC143EE
RN1102	PDTC114EE
RN1103	PDTC124EE
RN1106	PDTC144EE
RN1301	PDTC143EU
RN1302	PDTC114EU
RN1303	PDTC124EU
RN1304	PDTC144EU
RN1309	PDTC144WU
RN1311	PDTC114TU
RN1401	PDTC143EK
RN1402	PDTC114EK
RN1403	PDTC124EK
RN1404	PDTC144EK
RN1411	PDTC114TK
RN2101	PDTA143EE
RN2102	PDTA114EE
RN2103	PDTA124EE
RN2106	PDTA144EE
RN2301	PDTA143EU
RN2302	PDTA114EU
RN2303	PDTA124EU
RN2304	PDTA144EU
RN2309	PDTA144WU
RN2311	PDTA114TU
RN2401	PDTA143EK
RN2402	PDTA114EK
RN2403	PDTA124EK
RN2404	PDTA144EK
RN2411	PDTA114TK
RSZ5226B	PMBZ5226B
RSZ5227B	PMBZ5227B

Competitor type-number	Philips type-number
RSZ5228B	PMBZ5228B
RSZ5229B	PMBZ5229B
RSZ5230B	PMBZ5230B
RSZ5230B	PMBZ5239B
RSZ5231B	PMBZ5231B
RSZ5232B	PMBZ5232B
RSZ5234B	PMBZ5234B
RSZ5235B	PMBZ5235B
RSZ5236B	PMBZ5236B
RSZ5237B	PMBZ5237B
RSZ5238B	PMBZ5238B
RSZ5240B	PMBZ5240B
RSZ5241B	PMBZ5241B
RSZ5242B	PMBZ5242B
RSZ5243B	PMBZ5243B
RSZ5244B	PMBZ5244B
RSZ5245B	PMBZ5245B
RSZ5246B	PMBZ5246B
RSZ5247B	PMBZ5247B
RSZ5248B	PMBZ5248B
RSZ5249B	PMBZ5249B
RSZ5250B	PMBZ5250B
RSZ5251B	PMBZ5251B
RSZ5252B	PMBZ5252B
RXT2222A	PXT2222A
RXT2907A	PXT2907A
RXT3904	PXT3904
RXT3906	PXT3906
RXTA14	PXTA14
RXTA28	BCV49
RZS5233B	PMBZ5233B
SB007-03CP	1PS59SB10
SB007T03C	1PS59SB14
SB02W03C	1PS59SB15
SB05-05CP	1PS59SB20
SMBD7000	PMBD7000
SMBT2222	PMBT2222
SMBT2222A	PMBT2222A
SMBT2907	PMBT2907
SMBT2907A	PMBT2907A
SMBT3904	PMBT3904
SMBT3906	PMBT3906
SMBT6428	PMBT6428
SMBT6429	PMBT6429
SMBTA05	PMBTA06
SMBTA06	PMBTA06
SMBTA13	PMBTA13
SMBTA14	PMBTA14
SMBTA42	PMBTA42
SMBTA43	PMBTA42

Competitor type-number	Philips type-number
SMBTA55	PMBTA56
SMBTA56	PMBTA56
SMBTA63	PMBTA64
SMBTA64	PMBTA64
SMBTA92	PMBTA92
SMBTA93	PMBTA92
SST2222A	PMBT2222A
SST2907A	PMBT2907A
SST3904	PMBT3904
SST3906	PMBT3906
SST4401	PMBT4401
SST4403	PMBT4403
SST6427	PMBTA14
SST6838	BC847
SST6839	BC857
SST8245	PMBT2369
SSTA05	PMBTA06
SSTA06	PMBTA06
SSTA13	PMBTA13
SSTA14	PMBTA14
SSTA28	PMBTA14
SSTA56	PMBTA56
SSTT597	BC817-40
STZ5.6N	PZM5.6NB2A
STZ6.2N	PZM6.2NB2A
STZ6.8N	PZM6.8NB2A
SXT2222A	PXT2222A
SXT2907A	PXT2907A
SXT3904	PXT3904
SXT3906	PXT3906
SXTA42	PXTA42
SXTA43	PXTA42
SXTA92	PXTA92
SXTA93	PXTA92
TZMB10	BZV55B10
TZMB11	BZV55B11
TZMB12	BZV55B12
TZMB13	BZV55B13
TZMB15	BZV55B15
TZMB16	BZV55B16
TZMB18	BZV55B18
TZMB20	BZV55B20
TZMB22	BZV55B22
TZMB24	BZV55B24
TZMB27	BZV55B27
TZMB2V4	BZV55B2V4
TZMB2V7	BZV55B2V7
TZMB30	BZV55B30
TZMB33	BZV55B33
TZMB36	BZV55B36

Competitor type-number	Philips type-number
TZMB39	BZV55B39
TZMB3V0	BZV55B3V0
TZMB3V3	BZV55B3V3
TZMB3V6	BZV55B3V6
TZMB3V9	BZV55B3V9
TZMB43	BZV55B43
TZMB47	BZV55B47
TZMB4V3	BZV55B4V3
TZMB4V7	BZV55B4V7
TZMB51	BZV55B51
TZMB56	BZV55B56
TZMB5V1	BZV55B5V1
TZMB5V6	BZV55B5V6
TZMB62	BZV55B62
TZMB68	BZV55B68
TZMB6V2	BZV55B6V2
TZMB6V8	BZV55B6V8
TZMB75	BZV55B75
TZMB7V5	BZV55B7V5
TZMB8V2	BZV55B8V2
TZMB9V1	BZV55B9V1
TZMC10	BZV55C10
TZMC11	BZV55C11
TZMC12	BZV55C12
TZMC13	BZV55C13
TZMC15	BZV55C15
TZMC16	BZV55C16
TZMC18	BZV55C18
TZMC20	BZV55C20
TZMC22	BZV55C22
TZMC24	BZV55C24
TZMC27	BZV55C27
TZMC2V4	BZV55C2V4
TZMC2V7	BZV55C2V7
TZMC30	BZV55C30
TZMC33	BZV55C33
TZMC36	BZV55C36
TZMC39	BZV55C39
TZMC3V0	BZV55C3V0
TZMC3V3	BZV55C3V3
TZMC3V6	BZV55C3V6
TZMC3V9	BZV55C3V9
TZMC43	BZV55C43
TZMC47	BZV55C47
TZMC4V3	BZV55C4V3
TZMC4V7	BZV55C4V7
TZMC51	BZV55C51
TZMC56	BZV55C56
TZMC5V1	BZV55C5V1
TZMC5V6	BZV55C5V6

Competitor type-number	Philips type-number
TZMC62	BZV55C62
TZMC68	BZV55C68
TZMC6V2	BZV55C6V2
TZMC6V8	BZV55C6V8
TZMC75	BZV55C75
TZMC7V5	BZV55C7V5
TZMC8V2	BZV55C8V2
TZMC9V1	BZV55C9V1
UDZ 10B	PDZ10B
UDZ 11B	PDZ11B
UDZ 12B	PDZ12B
UDZ 13B	PDZ13B
UDZ 15B	PDZ15B
UDZ 16B	PDZ16B
UDZ 18B	PDZ18B
UDZ 2.4B	PDZ2.4B
UDZ 2.7B	PDZ2.7B
UDZ 20B	PDZ20B
UDZ 22B	PDZ22B
UDZ 24B	PDZ24B
UDZ 27B	PDZ27B
UDZ 3.0B	PDZ3.0B
UDZ 3.3B	PDZ3.3B
UDZ 3.6B	PDZ3.6B
UDZ 3.9B	PDZ3.9B
UDZ 30B	PDZ30B
UDZ 33B	PDZ33B
UDZ 36B	PDZ36B
UDZ 4.3B	PDZ4.3B
UDZ 4.7B	PDZ4.7B
UDZ 5.1B	PDZ5.1B
UDZ 5.6B	PDZ5.6B
UDZ 6.2B	PDZ6.2B
UDZ 6.8B	PDZ6.8B
UDZ 7.5B	PDZ7.5B
UDZ 8.2B	PDZ8.2B
UDZ 9.1B	PDZ9.1B
UDZ10B	PDZ10B
UDZ12B	PDZ12B
UDZ15B	PDZ15B
UDZ4.7B	PDZ4.7B
UDZ5.1B	PDZ5.1B
UDZ5.6B	PDZ5.6B
UDZ6.2B	PDZ6.2B
UDZ6.8B	PDZ6.8B
UDZ7.5B	PDZ7.5B
UDZ8.2B	PDZ8.2B
UDZ9.1B	PDZ9.1B
UDZxxx	PDZxxx
UMB4	PUMB4

Competitor type-number	Philips type-number
UMB4N	PUMB4
UMD2	PUMD2
UMD2N	PUMD2
UMD3	PUMD3
UMD3N	PUMD3
UMH1	PUMH1
UMH11	PUMH11
UMH11N	PUMH11
UMH1N	PUMH1
UMH3N	PUMH7
UMH4N	PUMH4
UMH7N	PUMH7
UMN11N	BAV70S
UMP11N	BAW56S
UMP11N	BAW56S
UMT1	PUMT1PNP/PNP
UMT1N	BC857BS
UMT2222A	PMST2222A
UMT2907A	PMST2907A
UMT2N	PUMT1
UMT3904	PMST3904
UMT3906	PMST3906
UMT4401	PMST4401
UMT4403	PMST4403
UMX1	PUMX1NPN/NPN
UMX1N	PUMX1
UMX2N	BC847BS
UMX3N	BC847BS
UMZ1	PUMZ1NPN/PNP
UMZ1N	BC847BPN
UMZ2N	BC847BPN
UMZ6.8EN	BZA868A
UN2111	PDTA114EK
UN2112	PDTA124EK
UN2113	PDTA144EK
UN2115	PDTA114TK
UN211L	PDTA143EK
UN2211	PDTC114EK
UN2212	PDTC124EK
UN2213	PDTC144EK
UN2215	PDTC114TK
UN221L	PDTC143EK
UN5111	PDTA114EU
UN5112	PDTA124EU
UN5113	PDTA144EU
UN5115	PDTA114TU
UN511E	PDTA144WU
UN511L	PDTA143EU
UN5211	PDTC114EU
UN5212	PDTC124EU

Competitor type-number	Philips type-number
UN5213	PDTC144EU
UN5215	PDTC114TU
UN521E	PDTC144WU
UN521L	PDTC143EU

### PHILIPS TEMPERATURE SENSORS - COMPARABLE PRODUCTS

Competitor type-number	Philips type-number	Package	Resistance at 25°C (Ω)	Tolerance Group Philips
KTY21-6	KTY81-110	SOD70	990-1010	+/- 1%
KTY21-5/-7	KTY81-120	SOD70	980-1020	+/- 2%
KTY21-5	KTY81-121	SOD70	980-1000	-2%
KTY21-7	KTY81-122	SOD70	1000-1020	2%
KT210	KTY81-150	SOD70	950-1050	+/- 5%
KTY10-6	OH 10-6	SOD70	1980-2020	+/- 1%
KTY10-5/-7	OH 10-5/-7	SOD70	1960-2040	+/- 2%
KTY10-5	OH 10-5	SOD70	1960-2000	-2%
KTY10-7	OH 10-7	SOD70	2000-2040	2%
KT100	KTY81-250	SOD70	1900-2100	+/- 5%
KTY23-6	KTY82-110	SOT23	990-1010	+/- 1%
KTY23-5/-7	KTY82-120	SOT23	980-1020	+/- 2%
KTY23-5	KTY82-121	SOT23	980-1000	-2%
KTY23-7	KTY82-122	SOT23	1000-1020	2%
KT230	KTY82-150	SOT23	950-1050	+/- 5%
KTY13-6	KTY82-210	SOT23	1980-2020	+/- 1%
KTY13-5/-7	KTY82-220	SOT23	1960-2040	+/- 2%
KTY13-5	KTY82-221	SOT23	1960-2000	-2%
KTY13-7	KTY82-222	SOT23	2000-2040	2%

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
1.10E+02	NIEC	1N5059
1.10E+03	NIEC	1N5059
1.10E+05	NIEC	1N5060
1.4KESD100A	MICROSEMI	BZD23-C100
1.4KESD10A	MICROSEMI	BZD23-C10
1.4KESD110A	MICROSEMI	BZD23-C110
1.4KESD11A	MICROSEMI	BZD23-C11
1.4KESD120A	MICROSEMI	BZD23-C120
1.4KESD12A	MICROSEMI	BZD23-C12
1.4KESD130A	MICROSEMI	BZD23-C130
1.4KESD13A	MICROSEMI	BZD23-C13
1.4KESD14A	MICROSEMI	BZD23-C13
1.4KESD150A	MICROSEMI	BZD23-C150
1.4KESD15A	MICROSEMI	BZD23-C15
1.4KESD160A	MICROSEMI	BZD23-C160
1.4KESD16A	MICROSEMI	BZD23-C16
1.4KESD170A	MICROSEMI	BZD23-C180
1.4KESD17A	MICROSEMI	BZD23-C18
1.4KESD18A	MICROSEMI	BZD23-C18
1.4KESD20A	MICROSEMI	BZD23-C20
1.4KESD22A	MICROSEMI	BZD23-C22
1.4KESD24A	MICROSEMI	BZD23-C24
1.4KESD26A	MICROSEMI	BZD23-C27
1.4KESD28A	MICROSEMI	BZD23-C30
1.4KESD30A	MICROSEMI	BZD23-C30
1.4KESD33A	MICROSEMI	BZD23-C33
1.4KESD36A	MICROSEMI	BZD23-C36
1.4KESD40A	MICROSEMI	BZD23-C39
1.4KESD43A	MICROSEMI	BZD23-C43
1.4KESD45A	MICROSEMI	BZD23-C43
1.4KESD48A	MICROSEMI	BZD23-C47
1.4KESD5.0A	MICROSEMI	BZD23-C7.5
1.4KESD51A	MICROSEMI	BZD23-C51
1.4KESD54A	MICROSEMI	BZD23-C56
1.4KESD58A	MICROSEMI	BZD23-C56
1.4KESD6.0A	MICROSEMI	BZD23-C7.5
1.4KESD6.5A	MICROSEMI	BZD23-C7.5
1.4KESD60A	MICROSEMI	BZD23-C62
1.4KESD64A	MICROSEMI	BZD23-C68
1.4KESD7.0A	MICROSEMI	BZD23-C7.5
1.4KESD7.5A	MICROSEMI	BZD23-C7.5
1.4KESD70A	MICROSEMI	BZD23-C68
1.4KESD75A	MICROSEMI	BZD23-C75
1.4KESD78A	MICROSEMI	BZD23-C82
1.4KESD8.0A	MICROSEMI	BZD23-C7.5
1.4KESD8.5A	MICROSEMI	BZD23-C8.2
1.4KESD85A	MICROSEMI	BZD23-C82
1.4KESD9.0A	MICROSEMI	BZD23-C9.1
1.4KESD90A	MICROSEMI	BZD23-C91
10TQ045S	IR	PBYR1045B
11DQ03	IR	1N5818
11DQ04	IR	1N5819
11EQ03	NIEC	1N5818

Type	Manufacturer	Philips Type
11EQ04	NIEC	1N5819
11EQS02L	NIEC	1N5817
11EQS03	NIEC	1N5818
11EQS04	NIEC	1N5819
11ES1	NIEC	1N5059
11ES2	NIEC	1N5059
11ES4	NIEC	1N5060
11ES6	NIEC	1N5061
11ES8	NIEC	1N5062
15DF4	NIEC	BYV95B
1A1	RECTRON	1N5059
1A2	RECTRON	1N5059
1A3	RECTRON	1N5059
1A4	RECTRON	1N5060
1A5	RECTRON	1N5061
1A6	RECTRON	1N5062
1A7	RECTRON	BYW56
1F1	RECTRON	BYD33D
1F10	RECTRON	BYD33M
1F2	RECTRON	BYD33D
1F3	RECTRON	BYD33D
1F4	RECTRON	BYD33G
1F5	RECTRON	BYD33J
1F7	RECTRON	BYD33M
1FWJ43N	TOSHIBA	1N5818
1GWJ42	TOSHIBA	1N5819
1GWJ43	TOSHIBA	1N5819
1H1	RECTRON	BYD73A
1H2	RECTRON	BYD73B
1H3	RECTRON	BYD73D
1H5	RECTRON	BYD73G
1H5P	RECTRON	BYD73G
1H6	RECTRON	BYD163
1N3611GP	GENERAL SEMICONDUCTOR	1N4003G
1N3612GP	GENERAL SEMICONDUCTOR	1N4004G
1N3645	INDUSTRY STANDARD – VARIOUS	BYX120G
1N3646	INDUSTRY STANDARD – VARIOUS	BYX120G
1N3647	INDUSTRY STANDARD – VARIOUS	BYX120G
1N3830A	MICROSEMI	BZD23-C7V5
1N3957GP	GENERAL SEMICONDUCTOR	1N4007G
1N4001	INDUSTRY STANDARD – VARIOUS	1N4001D
1N4001G	RECTRON	1N4001G
1N4001GP	GENERAL SEMICONDUCTOR	1N4001D
1N4002	FAIRCHILD	1N4002G
1N4002	GENERAL SEMICONDUCTOR	1N4002G
1N4002	ON SEMICONDUCTOR	1N4002G
1N4002	RECTRON	1N4002D
1N4002G	RECTRON	1N4002G
1N4002GP	FAIRCHILD	1N4002G
1N4002GP	GENERAL SEMICONDUCTOR	1N4002G
1N4003	FAIRCHILD	1N4003G
1N4003	GENERAL SEMICONDUCTOR	1N4003G
1N4003	ON SEMICONDUCTOR	1N4003G

Type	Manufacturer	Philips Type
1N4003G	RECTRON	1N4003G
1N4003GP	FAIRCHILD	1N4003G
1N4003GP	GENERAL SEMICONDUCTOR	1N4003G
1N4004	FAIRCHILD	1N4004G
1N4004	GENERAL SEMICONDUCTOR	1N4004G
1N4004	ON SEMICONDUCTOR	1N4004G
1N4004	RECTRON	1N4004ID
1N4004G	RECTRON	1N4004G
1N4004GP	FAIRCHILD	1N4004G
1N4004GP	GENERAL SEMICONDUCTOR	1N4004G
1N4005	INDUSTRY STANDARD – VARIOUS	1N4005ID
1N4005GP	GENERAL SEMICONDUCTOR	1N4005ID
1N4006	INDUSTRY STANDARD – VARIOUS	1N4006ID
1N4006GP	GENERAL SEMICONDUCTOR	1N4006ID
1N4007	FAIRCHILD	1N4007G
1N4007	GENERAL SEMICONDUCTOR	1N4007G
1N4007	ON SEMICONDUCTOR	1N4007G
1N4007	RECTRON	1N4007ID
1N4007G	RECTRON	1N4007G
1N4007GP	FAIRCHILD	1N4007G
1N4007GP	GENERAL SEMICONDUCTOR	1N4007G
1N4245	GENERAL SEMICONDUCTOR	1N5059
1N4246	GENERAL SEMICONDUCTOR	1N5060
1N4247	GENERAL SEMICONDUCTOR	1N5061
1N4248	GENERAL SEMICONDUCTOR	1N5062
1N4249	MICROSEMI	1N4007G
1N4249GP	GENERAL SEMICONDUCTOR	1N4007G
1N4256	MICROSEMI/MICRO QUALITY	BYX120G
1N4257	MICROSEMI/MICRO QUALITY	BYX120G
1N4383	INDUSTRY STANDARD – VARIOUS	1N5059
1N4383GP	GENERAL SEMICONDUCTOR	1N5059
1N4384	INDUSTRY STANDARD – VARIOUS	1N5060
1N4384GP	GENERAL SEMICONDUCTOR	1N5060
1N4385	INDUSTRY STANDARD – VARIOUS	1N5061
1N4385GP	GENERAL SEMICONDUCTOR	1N5061
1N4462	MICROSEMI	BZD23-C7V5
1N4585	INDUSTRY STANDARD – VARIOUS	1N5062
1N4585GP	GENERAL SEMICONDUCTOR	1N5062
1N4586GP	GENERAL SEMICONDUCTOR	BYW56
1N4737(A)	GEN.SEMIC.	BZD23-C7V5
1N4737A	FAIRCHILD	BZD23-C7V5
1N4737A	HITACHI	BZD23-C7V5
1N4737A	MICROSEMI	BZD23-C7V5
1N4737A	ON SEMICONDUCTOR	BZD23-C7V5
1N4737A	RECTRON	BZD23-C7V5
1N4737A	VISHAY	BZD23-C7V5
1N4738(A)	GEN.SEMIC.	BZD23-C8V2
1N4738A	FAIRCHILD	BZD23-C8V2
1N4738A	HITACHI	BZD23-C8V2
1N4738A	MICROSEMI	BZD23-C8V2
1N4738A	ON SEMICONDUCTOR	BZD23-C8V2
1N4738A	RECTRON	BZD23-C8V2
1N4738A	VISHAY	BZD23-C8V2

Type	Manufacturer	Philips Type
1N4739(A)	GEN.SEMIC.	BZD23-C9V1
1N4739A	FAIRCHILD	BZD23-C9V1
1N4739A	HITACHI	BZD23-C9V1
1N4739A	MICROSEMI	BZD23-C9V1
1N4739A	ON SEMICONDUCTOR	BZD23-C9V1
1N4739A	RECTRON	BZD23-C9V1
1N4739A	VISHAY	BZD23-C9V1
1N4740(A)	GEN.SEMIC.	BZD23-C10
1N4740A	FAIRCHILD	BZD23-C10
1N4740A	HITACHI	BZD23-C10
1N4740A	MICROSEMI	BZD23-C10
1N4740A	ON SEMICONDUCTOR	BZD23-C10
1N4740A	RECTRON	BZD23-C10
1N4740A	VISHAY	BZD23-C10
1N4741(A)	GEN.SEMIC.	BZD23-C11
1N4741A	FAIRCHILD	BZD23-C11
1N4741A	HITACHI	BZD23-C11
1N4741A	MICROSEMI	BZD23-C11
1N4741A	ON SEMICONDUCTOR	BZD23-C11
1N4741A	RECTRON	BZD23-C11
1N4741A	VISHAY	BZD23-C11
1N4742(A)	GEN.SEMIC.	BZD23-C12
1N4742A	FAIRCHILD	BZD23-C12
1N4742A	HITACHI	BZD23-C12
1N4742A	MICROSEMI	BZD23-C12
1N4742A	ON SEMICONDUCTOR	BZD23-C12
1N4742A	RECTRON	BZD23-C12
1N4742A	VISHAY	BZD23-C12
1N4743(A)	GEN.SEMIC.	BZD23-C13
1N4743A	FAIRCHILD	BZD23-C13
1N4743A	HITACHI	BZD23-C13
1N4743A	MICROSEMI	BZD23-C13
1N4743A	ON SEMICONDUCTOR	BZD23-C13
1N4743A	RECTRON	BZD23-C13
1N4743A	VISHAY	BZD23-C13
1N4744(A)	GEN.SEMIC.	BZD23-C15
1N4744A	FAIRCHILD	BZD23-C15
1N4744A	HITACHI	BZD23-C15
1N4744A	MICROSEMI	BZD23-C15
1N4744A	ON SEMICONDUCTOR	BZD23-C15
1N4744A	RECTRON	BZD23-C15
1N4744A	VISHAY	BZD23-C15
1N4745(A)	GEN.SEMIC.	BZD23-C16
1N4745A	FAIRCHILD	BZD23-C16
1N4745A	HITACHI	BZD23-C16
1N4745A	MICROSEMI	BZD23-C16
1N4745A	ON SEMICONDUCTOR	BZD23-C16
1N4745A	RECTRON	BZD23-C16
1N4745A	VISHAY	BZD23-C16
1N4746(A)	GEN.SEMIC.	BZD23-C18
1N4746A	FAIRCHILD	BZD23-C18
1N4746A	HITACHI	BZD23-C18
1N4746A	MICROSEMI	BZD23-C18

Type	Manufacturer	Philips Type
1N4746A	ON SEMICONDUCTOR	BZD23-C18
1N4746A	RECTRON	BZD23-C18
1N4746A	VISHAY	BZD23-C18
1N4747(A)	GEN.SEMIC.	BZD23-C20
1N4747A	FAIRCHILD	BZD23-C20
1N4747A	HITACHI	BZD23-C20
1N4747A	MICROSEMI	BZD23-C20
1N4747A	ON SEMICONDUCTOR	BZD23-C20
1N4747A	RECTRON	BZD23-C20
1N4747A	VISHAY	BZD23-C20
1N4748(A)	GEN.SEMIC.	BZD23-C22
1N4748A	FAIRCHILD	BZD23-C22
1N4748A	HITACHI	BZD23-C22
1N4748A	MICROSEMI	BZD23-C22
1N4748A	ON SEMICONDUCTOR	BZD23-C22
1N4748A	RECTRON	BZD23-C22
1N4748A	VISHAY	BZD23-C22
1N4749(A)	GEN.SEMIC.	BZD23-C24
1N4749A	FAIRCHILD	BZD23-C24
1N4749A	HITACHI	BZD23-C24
1N4749A	MICROSEMI	BZD23-C24
1N4749A	ON SEMICONDUCTOR	BZD23-C24
1N4749A	RECTRON	BZD23-C24
1N4749A	VISHAY	BZD23-C24
1N4750(A)	GEN.SEMIC.	BZD23-C27
1N4750A	FAIRCHILD	BZD23-C27
1N4750A	HITACHI	BZD23-C27
1N4750A	MICROSEMI	BZD23-C27
1N4750A	ON SEMICONDUCTOR	BZD23-C27
1N4750A	RECTRON	BZD23-C27
1N4750A	VISHAY	BZD23-C27
1N4751(A)	GEN.SEMIC.	BZD23-C30
1N4751A	FAIRCHILD	BZD23-C30
1N4751A	HITACHI	BZD23-C30
1N4751A	MICROSEMI	BZD23-C30
1N4751A	ON SEMICONDUCTOR	BZD23-C30
1N4751A	RECTRON	BZD23-C30
1N4751A	VISHAY	BZD23-C30
1N4752(A)	GEN.SEMIC.	BZD23-C33
1N4752A	FAIRCHILD	BZD23-C33
1N4752A	HITACHI	BZD23-C33
1N4752A	MICROSEMI	BZD23-C33
1N4752A	ON SEMICONDUCTOR	BZD23-C33
1N4752A	RECTRON	BZD23-C33
1N4752A	VISHAY	BZD23-C33
1N4753(A)	GEN.SEMIC.	BZD23-C36
1N4753A	HITACHI	BZD23-C36
1N4753A	MICROSEMI	BZD23-C36
1N4753A	ON SEMICONDUCTOR	BZD23-C36
1N4753A	RECTRON	BZD23-C36
1N4753A	VISHAY	BZD23-C36
1N4754(A)	GEN.SEMIC.	BZD23-C39
1N4754A	MICROSEMI	BZD23-C39

Type	Manufacturer	Philips Type
1N4754A	ON SEMICONDUCTOR	BZD23-C39
1N4754A	RECTRON	BZD23-C39
1N4754A	VISHAY	BZD23-C39
1N4755(A)	GEN.SEMIC.	BZD23-C43
1N4755A	MICROSEMI	BZD23-C43
1N4755A	ON SEMICONDUCTOR	BZD23-C43
1N4755A	RECTRON	BZD23-C43
1N4755A	VISHAY	BZD23-C43
1N4756(A)	GEN.SEMIC.	BZD23-C47
1N4756A	MICROSEMI	BZD23-C47
1N4756A	ON SEMICONDUCTOR	BZD23-C47
1N4756A	RECTRON	BZD23-C47
1N4756A	VISHAY	BZD23-C47
1N4757(A)	GEN.SEMIC.	BZD23-C51
1N4757A	MICROSEMI	BZD23-C51
1N4757A	ON SEMICONDUCTOR	BZD23-C51
1N4757A	RECTRON	BZD23-C51
1N4757A	VISHAY	BZD23-C51
1N4758(A)	GEN.SEMIC.	BZD23-C56
1N4758A	MICROSEMI	BZD23-C56
1N4758A	ON SEMICONDUCTOR	BZD23-C56
1N4758A	VISHAY	BZD23-C56
1N4759(A)	GEN.SEMIC.	BZD23-C62
1N4759A	MICROSEMI	BZD23-C62
1N4759A	ON SEMICONDUCTOR	BZD23-C62
1N4759A	VISHAY	BZD23-C62
1N4760(A)	GEN.SEMIC.	BZD23-C68
1N4760A	MICROSEMI	BZD23-C68
1N4760A	ON SEMICONDUCTOR	BZD23-C68
1N4760A	RECTRON	BZD23-C68
1N4760A	VISHAY	BZD23-C68
1N4761(A)	GEN.SEMIC.	BZD23-C75
1N4761A	MICROSEMI	BZD23-C75
1N4761A	ON SEMICONDUCTOR	BZD23-C75
1N4761A	VISHAY	BZD23-C75
1N4762(A)	GEN.SEMIC.	BZD23-C82
1N4762A	MICROSEMI	BZD23-C82
1N4762A	ON SEMICONDUCTOR	BZD23-C82
1N4763(A)	GEN.SEMIC.	BZD23-C91
1N4763A	MICROSEMI	BZD23-C91
1N4763A	ON SEMICONDUCTOR	BZD23-C91
1N4764(A)	GEN.SEMIC.	BZD23-C100
1N4764A	MICROSEMI	BZD23-C100
1N4764A	ON SEMICONDUCTOR	BZD23-C100
1N4816	INDUSTRY STANDARD – VARIOUS	1N5059
1N4817	INDUSTRY STANDARD – VARIOUS	1N5059
1N4818	INDUSTRY STANDARD – VARIOUS	1N5059
1N4819	INDUSTRY STANDARD – VARIOUS	1N5060
1N4820	INDUSTRY STANDARD – VARIOUS	1N5060
1N4821	INDUSTRY STANDARD – VARIOUS	1N5061
1N4822	INDUSTRY STANDARD – VARIOUS	1N5061
1N4937	GENERAL SEMICONDUCTOR	BYV36C
1N4937	ON SEMICONDUCTOR	BYV36C
1N4937GP	GENERAL SEMICONDUCTOR	BYV36C

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
1N4942	MICROSEMI	BYD33D
1N4944	MICROSEMI	BYD33G
1N4946	GENERAL SEMICONDUCTOR	BYV36C
1N4946	MICROSEMI	BYD33J
1N4946GP	GENERAL SEMICONDUCTOR	BYV36C
1N4948	GENERAL SEMICONDUCTOR	BYV36E
1N4948	MICROSEMI	BYD33M
1N4948	RECTRON	BYD33M
1N4948GP	GENERAL SEMICONDUCTOR	BYV36E
1N4955	MICROSEMI	BZW03-C7V5
1N4956	MICROSEMI	BZW03-C8V2
1N4957	MICROSEMI	BZW03-C9V1
1N4958	MICROSEMI	BZW03-C10
1N4959	MICROSEMI	BZW03-C11
1N4960	MICROSEMI	BZW03-C12
1N4961	MICROSEMI	BZW03-C13
1N4962	MICROSEMI	BZW03-C15
1N4963	MICROSEMI	BZW03-C16
1N4964	MICROSEMI	BZW03-C18
1N4965	MICROSEMI	BZW03-C20
1N4966	MICROSEMI	BZW03-C22
1N4967	MICROSEMI	BZW03-C24
1N4968	MICROSEMI	BZW03-C27
1N4969	MICROSEMI	BZW03-C30
1N4970	MICROSEMI	BZW03-C33
1N4971	MICROSEMI	BZW03-C36
1N4972	MICROSEMI	BZW03-C39
1N4973	MICROSEMI	BZW03-C43
1N4974	MICROSEMI	BZW03-C47
1N4975	MICROSEMI	BZW03-C51
1N4976	MICROSEMI	BZW03-C56
1N4977	MICROSEMI	BZW03-C62
1N4978	MICROSEMI	BZW03-C68
1N4979	MICROSEMI	BZW03-C75
1N4980	MICROSEMI	BZW03-C82
1N4981	MICROSEMI	BZW03-C91
1N4982	MICROSEMI	BZW03-C100
1N4983	MICROSEMI	BZW03-C110
1N4984	MICROSEMI	BZW03-C120
1N4985	MICROSEMI	BZW03-C130
1N4986	MICROSEMI	BZW03-C150
1N4987	MICROSEMI	BZW03-C160
1N4988	MICROSEMI	BZW03-C180
1N4989	INDUSTRY STANDARD – VARIOUS	BZW03-C200
1N4990	MICROSEMI	BZW03-C220
1N4991	MICROSEMI	BZW03-C240
1N4992	MICROSEMI	BZW03-C270
1N4993	MICROSEMI	BZW03-C300
1N4994	MICROSEMI	BZW03-C330
1N4995	MICROSEMI	BZW03-C360
1N4996	MICROSEMI	BZW03-C390
1N5052	INDUSTRY STANDARD – VARIOUS	1N5062
1N5053	INDUSTRY STANDARD – VARIOUS	1N5062

Type	Manufacturer	Philips Type
1N5059	GENERAL SEMICONDUCTOR	1N5059
1N5059	VISHAY	1N5059
1N5059GP	GENERAL SEMICONDUCTOR	1N5059
1N5060	GENERAL SEMICONDUCTOR	1N5060
1N5060	VISHAY	1N5060
1N5060GP	GENERAL SEMICONDUCTOR	1N5060
1N5061	GENERAL SEMICONDUCTOR	1N5061
1N5061	VISHAY	1N5061
1N5061GP	GENERAL SEMICONDUCTOR	1N5061
1N5062	GENERAL SEMICONDUCTOR	1N5062
1N5062	VISHAY	1N5062
1N5062GP	GENERAL SEMICONDUCTOR	1N5062
1N5064	MICROSEMI	BZT03-C7V5
1N5065	MICROSEMI	BZT03-C8V2
1N5066	MICROSEMI	BZT03-C9.1
1N5067	MICROSEMI	BZT03-C10
1N5068	MICROSEMI	BZT03-C11
1N5069	MICROSEMI	BZT03-C13
1N5070	MICROSEMI	BZT03-C13
1N5071	MICROSEMI	BZT03-C15
1N5072	MICROSEMI	BZT03-C16
1N5073	MICROSEMI	BZT03-C18
1N5074	MICROSEMI	BZT03-C22
1N5075	MICROSEMI	BZT03-C24
1N5076	MICROSEMI	BZT03-C27
1N5077	MICROSEMI	BZT03-C30
1N5078	MICROSEMI	BZT03-C33
1N5079	MICROSEMI	BZT03-C36
1N5080	MICROSEMI	BZT03-C39
1N5081	MICROSEMI	BZT03-C39
1N5082	MICROSEMI	BZT03-C43
1N5083	MICROSEMI	BZT03-C43
1N5084	MICROSEMI	BZT03-C47
1N5085	MICROSEMI	BZT03-C51
1N5086	MICROSEMI	BZT03-C51
1N5087	MICROSEMI	BZT03-C56
1N5088	MICROSEMI	BZT03-C62
1N5089	MICROSEMI	BZT03-C62
1N5090	MICROSEMI	BZT03-C68
1N5091	MICROSEMI	BZT03-C68
1N5092	MICROSEMI	BZT03-C75
1N5093	MICROSEMI	BZT03-C82
1N5094	MICROSEMI	BZT03-C82
1N5095	MICROSEMI	BZT03-C91
1N5096	MICROSEMI	BZT03-C110
1N5097	MICROSEMI	BZT03-C120
1N5098	MICROSEMI	BZT03-C130
1N5099	MICROSEMI	BZT03-C130
1N5100	MICROSEMI	BZT03-C160
1N5101	MICROSEMI	BZT03-C160
1N5102	MICROSEMI	BZT03-C180
1N5103	MICROSEMI	BZT03-C180
1N5104	MICROSEMI	BZT03-C200

Type	Manufacturer	Philips Type
1N5105	MICROSEMI	BZT03-C220
1N5106	MICROSEMI	BZT03-C240
1N5107	MICROSEMI	BZT03-C270
1N5108	MICROSEMI	BZT03-C270
1N5109	MICROSEMI	BZT03-C270
1N5110	MICROSEMI	BZT03-C300
1N5111	MICROSEMI	BZT03-C330
1N5112	MICROSEMI	BZT03-C330
1N5113	MICROSEMI	BZT03-C340
1N5114	MICROSEMI	BZT03-C370
1N5115	MICROSEMI	BZT03-C370
1N5116	MICROSEMI	BZT03-C400
1N5117	MICROSEMI	BZT03-C400
1N5181	MICROSEMI/MICRO QUALITY	BYX105G
1N5182	MICROSEMI/MICRO QUALITY	BYX105G
1N5183	MICROSEMI/MICRO QUALITY	BYX101G
1N5184	MICROSEMI/MICRO QUALITY	BYX101G
1N5185	INDUSTRY STANDARD - VARIOUS	BYW95A
1N5186	INDUSTRY STANDARD - VARIOUS	BYW95A
1N5187	INDUSTRY STANDARD - VARIOUS	BYW95A
1N5188	INDUSTRY STANDARD - VARIOUS	BYW95B
1N5190	MICROSEMI	BYM36C
1N5343B	MICROSEMI	BZW03-C7V5
1N5343B	ON SEMICONDUCTOR	BZW03-C7V5
1N5344B	MICROSEMI	BZW03-C8V2
1N5344B	ON SEMICONDUCTOR	BZW03-C8V2
1N5346B	MICROSEMI	BZW03-C9V1
1N5346B	ON SEMICONDUCTOR	BZW03-C9.1
1N5347B	MICROSEMI	BZW03-C10
1N5347B	ON SEMICONDUCTOR	BZW03-C10
1N5348B	MICROSEMI	BZW03-C11
1N5348B	ON SEMICONDUCTOR	BZW03-C11
1N5349B	MICROSEMI	BZW03-C12
1N5349B	ON SEMICONDUCTOR	BZW03-C12
1N5350B	MICROSEMI	BZW03-C13
1N5350B	ON SEMICONDUCTOR	BZW03-C13
1N5352B	MICROSEMI	BZW03-C15
1N5352B	ON SEMICONDUCTOR	BZW03-C15
1N5353B	MICROSEMI	BZW03-C16
1N5353B	ON SEMICONDUCTOR	BZW03-C16
1N5355B	MICROSEMI	BZW03-C18
1N5355B	ON SEMICONDUCTOR	BZW03-C18
1N5357B	MICROSEMI	BZW03-C20
1N5357B	ON SEMICONDUCTOR	BZW03-C20
1N5358B	MICROSEMI	BZW03-C22
1N5358B	ON SEMICONDUCTOR	BZW03-C22
1N5359B	MICROSEMI	BZW03-C24
1N5359B	ON SEMICONDUCTOR	BZW03-C24
1N5361B	MICROSEMI	BZW03-C27
1N5361B	ON SEMICONDUCTOR	BZW03-C27
1N5363B	MICROSEMI	BZW03-C30
1N5363B	ON SEMICONDUCTOR	BZW03-C30
1N5364B	MICROSEMI	BZW03-C33

Type	Manufacturer	Philips Type
1N5364B	ON SEMICONDUCTOR	BZW03-C33
1N5366B	MICROSEMI	BZW03-C39
1N5366B	ON SEMICONDUCTOR	BZW03-C39
1N5367B	MICROSEMI	BZW03-C43
1N5367B	ON SEMICONDUCTOR	BZW03-C43
1N5368B	MICROSEMI	BZW03-C47
1N5368B	ON SEMICONDUCTOR	BZW03-C47
1N5369B	MICROSEMI	BZW03-C51
1N5369B	ON SEMICONDUCTOR	BZW03-C51
1N5370B	MICROSEMI	BZW03-C56
1N5370B	ON SEMICONDUCTOR	BZW03-C56
1N5372B	MICROSEMI	BZW03-C62
1N5372B	ON SEMICONDUCTOR	BZW03-C62
1N5373B	MICROSEMI	BZW03-C68
1N5373B	ON SEMICONDUCTOR	BZW03-C68
1N5374B	MICROSEMI	BZW03-C75
1N5374B	ON SEMICONDUCTOR	BZW03-C75
1N5375B	MICROSEMI	BZW03-C82
1N5375B	ON SEMICONDUCTOR	BZW03-C82
1N5377B	MICROSEMI	BZW03-C91
1N5377B	ON SEMICONDUCTOR	BZW03-C91
1N5378B	MICROSEMI	BZW03-C100
1N5378B	ON SEMICONDUCTOR	BZW03-C100
1N5379B	MICROSEMI	BZW03-C110
1N5379B	ON SEMICONDUCTOR	BZW03-C110
1N5380B	MICROSEMI	BZW03-C120
1N5380B	ON SEMICONDUCTOR	BZW03-C120
1N5381B	MICROSEMI	BZW03-C130
1N5381B	ON SEMICONDUCTOR	BZW03-C130
1N5383B	MICROSEMI	BZW03-C150
1N5383B	ON SEMICONDUCTOR	BZW03-C150
1N5384B	MICROSEMI	BZW03-C160
1N5384B	ON SEMICONDUCTOR	BZW03-C160
1N5386B	MICROSEMI	BZW03-C180
1N5386B	ON SEMICONDUCTOR	BZW03-C180
1N5387A	INDUSTRY STANDARD - VARIOUS	BZW03-C200
1N5388A	INDUSTRY STANDARD - VARIOUS	BZW03-C200
1N5388B	MICROSEMI	BZW03-C200
1N5388B	ON SEMICONDUCTOR	BZW03-C200
1N5391	INDUSTRY STANDARD - VARIOUS	1N5059
1N5391	RECTRON	1N5059
1N5391G	INDUSTRY STANDARD - VARIOUS	1N5059
1N5391GP	GENERAL SEMICONDUCTOR	1N5059
1N5392	INDUSTRY STANDARD - VARIOUS	1N5059
1N5392	RECTRON	1N5059
1N5392G	INDUSTRY STANDARD - VARIOUS	1N5059
1N5392GP	GENERAL SEMICONDUCTOR	1N5059
1N5393	INDUSTRY STANDARD - VARIOUS	1N5059
1N5393	RECTRON	1N5059
1N5393G	INDUSTRY STANDARD - VARIOUS	1N5059
1N5393GP	GENERAL SEMICONDUCTOR	1N5059
1N5394	FAIRCHILD	1N5060
1N5394	GENERAL SEMICONDUCTOR	1N5060

Type	Manufacturer	Philips Type
1N5394	RECTRON	1N5060
1N5394GP	GENERAL SEMICONDUCTOR	1N5060
1N5395	FAIRCHILD	1N5060
1N5395	GENERAL SEMICONDUCTOR	1N5060
1N5395	RECTRON	1N5060
1N5395GP	GENERAL SEMICONDUCTOR	1N5060
1N5396	FAIRCHILD	1N5061
1N5396	GENERAL SEMICONDUCTOR	1N5061
1N5396	RECTRON	1N5061
1N5396GP	GENERAL SEMICONDUCTOR	1N5061
1N5397	FAIRCHILD	1N5061
1N5397	GENERAL SEMICONDUCTOR	1N5061
1N5397	RECTRON	1N5061
1N5397GP	GENERAL SEMICONDUCTOR	1N5061
1N5398	FAIRCHILD	1N5062
1N5398	GENERAL SEMICONDUCTOR	1N5062
1N5398	RECTRON	1N5062
1N5398GP	GENERAL SEMICONDUCTOR	1N5062
1N5399	FAIRCHILD	BYW56
1N5399	GENERAL SEMICONDUCTOR	BYW56
1N5399	RECTRON	BYW56
1N5399GP	GENERAL SEMICONDUCTOR	BYW56
1N5404	ON SEMICONDUCTOR	BYM56B
1N5406	ON SEMICONDUCTOR	BYM56C
1N5407	ON SEMICONDUCTOR	BYM56D
1N5408	ON SEMICONDUCTOR	BYM56E
1N5415	INDUSTRY STANDARD - VARIOUS	BYW95A
1N5416	INDUSTRY STANDARD - VARIOUS	BYW95A
1N5417	INDUSTRY STANDARD - VARIOUS	BYW95A
1N5418	GENERAL SEMICONDUCTOR	BYW95B
1N5418	INDUSTRY STANDARD - VARIOUS	BYW95B
1N5419	GENERAL SEMICONDUCTOR	BYW95C
1N5420	GENERAL SEMICONDUCTOR	BYW95C
1N5550	INDUSTRY STANDARD - VARIOUS	BYM56A
1N5551	INDUSTRY STANDARD - VARIOUS	BYM56B
1N5552	INDUSTRY STANDARD - VARIOUS	BYM56C
1N5553	INDUSTRY STANDARD - VARIOUS	BYM56D
1N5554	INDUSTRY STANDARD - VARIOUS	BYM56E
1N5614	INDUSTRY STANDARD - VARIOUS	1N5059
1N5614GP	GENERAL SEMICONDUCTOR	1N5059
1N5615US	MICROSEMI	BYD37D
1N5616	INDUSTRY STANDARD - VARIOUS	1N5060
1N5616GP	GENERAL SEMICONDUCTOR	1N5060
1N5617	INDUSTRY STANDARD - VARIOUS	BYW95B
1N5617GP	GENERAL SEMICONDUCTOR	BYW95B
1N5617US	MICROSEMI	BYD37G
1N5618	INDUSTRY STANDARD - VARIOUS	1N5061
1N5618GP	GENERAL SEMICONDUCTOR	1N5061
1N5619	MICROSEMI	BYW95C
1N5619US	MICROSEMI	BYD37J
1N5620	INDUSTRY STANDARD - VARIOUS	1N5062
1N5620GP	GENERAL SEMICONDUCTOR	1N5062
1N5621US	MICROSEMI	BYD37K

Type	Manufacturer	Philips Type
1N5622	GENERAL SEMICONDUCTOR	BYW56
1N5622	GENERAL SEMICONDUCTOR	BYW56
1N5622	MICROSEMI	1N4007G
1N5622GP	GENERAL SEMICONDUCTOR	BYW56
1N5623	MICROSEMI	BYV96E
1N5623US	MICROSEMI	BYD37M
1N5624	INDUSTRY STANDARD - VARIOUS	BYM56A
1N5624GP	GENERAL SEMICONDUCTOR	BYM56A
1N5625	INDUSTRY STANDARD - VARIOUS	BYM56B
1N5625GP	GENERAL SEMICONDUCTOR	BYM56B
1N5626	INDUSTRY STANDARD - VARIOUS	BYM56C
1N5626GP	GENERAL SEMICONDUCTOR	BYM56C
1N5627	INDUSTRY STANDARD - VARIOUS	BYM56D
1N5627GP	GENERAL SEMICONDUCTOR	BYM56D
1N5802	MICROSEMI	BYV27-50
1N5803	MICROSEMI	BYV27-100
1N5804	MICROSEMI	BYV27-100
1N5805	MICROSEMI	BYV27-150
1N5807	INDUSTRY STANDARD - VARIOUS	BYV28-50
1N5808	INDUSTRY STANDARD - VARIOUS	BYV28-100
1N5809	INDUSTRY STANDARD - VARIOUS	BYV28-100
1N5810	INDUSTRY STANDARD - VARIOUS	BYV28-150
1N5811	INDUSTRY STANDARD - VARIOUS	BYV28-150
1N5817G	MICROSEMI/MICRO QUALITY	1N5817
1N5817M	ITT	PRLL5817
1N5818G	MICROSEMI/MICRO QUALITY	1N5818
1N5818M	ITT	PRLL5818
1N5819G	MICROSEMI/MICRO QUALITY	1N5819
1N5819M	ITT	PRLL5819
1N5914	MICROSEMI	BZD23-C3V6
1N5922	MICROSEMI	BZD23-C7V5
1N5923B	ON SEMICONDUCTOR	BZT03-C8V2
1N5924B	ON SEMICONDUCTOR	BZT03-C9V1
1N5925B	ON SEMICONDUCTOR	BZT03-C10
1N5927B	ON SEMICONDUCTOR	BZT03-C12
1N5929B	ON SEMICONDUCTOR	BZT03-C15
1N5930B	ON SEMICONDUCTOR	BZT03-C16
1N5931B	ON SEMICONDUCTOR	BZT03-C18
1N5932B	ON SEMICONDUCTOR	BZT03-C20
1N5933B	ON SEMICONDUCTOR	BZT03-C22
1N5934B	ON SEMICONDUCTOR	BZT03-C24
1N5935B	ON SEMICONDUCTOR	BZT03-C27
1N5936B	ON SEMICONDUCTOR	BZT03-C30
1N5937B	ON SEMICONDUCTOR	BZT03-C33
1N5938B	ON SEMICONDUCTOR	BZT03-C36
1N5940B	ON SEMICONDUCTOR	BZT03-C43
1N5941B	ON SEMICONDUCTOR	BZT03-C47
1N5942B	ON SEMICONDUCTOR	BZT03-C51
1N5943B	ON SEMICONDUCTOR	BZT03-C56
1N5944B	ON SEMICONDUCTOR	BZT03-C62
1N5945B	ON SEMICONDUCTOR	BZT03-C68
1N5946B	ON SEMICONDUCTOR	BZT03-C75
1N5947B	ON SEMICONDUCTOR	BZT03-C82

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
1N5948B	ON SEMICONDUCTOR	BZT03-C91
1N5950B	ON SEMICONDUCTOR	BZT03-C110
1N5951B	ON SEMICONDUCTOR	BZT03-C120
1N5952B	ON SEMICONDUCTOR	BZT03-C130
1N5953B	ON SEMICONDUCTOR	BZT03-C150
1N5954B	ON SEMICONDUCTOR	BZT03-C160
1N5955B	ON SEMICONDUCTOR	BZT03-C180
1N5956B	ON SEMICONDUCTOR	BZT03-C200
1N6073	MICROSEMI	BYV28-50
1N6074	MICROSEMI	BYV28-100
1N6075	MICROSEMI	BYV28-150
1N6076	MICROSEMI/MICRO QUALITY	BYV28-50
1N6077	MICROSEMI/MICRO QUALITY	BYV28-100
1N6078	MICROSEMI/MICRO QUALITY	BYV28-150
1N6462	MICROSEMI	BZW03-C7V5
1N6463	MICROSEMI	BZW03-C16
1N6464	MICROSEMI	BZW03-C18
1N6465	MICROSEMI	BZW03-C30
1N6466	MICROSEMI	BZW03-C33
1N6467	MICROSEMI	BZW03-C47
1N6468	MICROSEMI	BZW03-C56
1N6478	GENERAL SEMICONDUCTOR	PRLL4001
1N6479	GENERAL SEMICONDUCTOR	S1B
1N6480	GENERAL SEMICONDUCTOR	BYD17D
1N6481	GENERAL SEMICONDUCTOR	BYD17G
1N6482	GENERAL SEMICONDUCTOR	BYD17J
1N6483	GENERAL SEMICONDUCTOR	S1K
1N6484	GENERAL SEMICONDUCTOR	BYD17M
1N6536	MICROSEMI	BYD143
1N6537	MICROSEMI	BYD163
1N6538	MICROSEMI	BYD163
1N6543	MICROSEMI	BYV28-400
1N6544	MICROSEMI	BYV28-600
1N6545	MICROSEMI	BYV28-600
1N6620	MICROSEMI	BYV27-200
1N6620U	MICROSEMI	BYD77D
1N6620US	MICROSEMI/MICRO QUALITY	BYD77D
1N6621US	MICROSEMI/MICRO QUALITY	BYD77G
1N6626	INDUSTRY STANDARD - VARIOUS	BYV27-200
1N6627	MICROSEMI	BYV28-400
1N6628	INDUSTRY STANDARD - VARIOUS	BYV28-600
1N8506	MICROSEMI	BYV27-150
1S1830	TOSHIBA	BYW56
1SMA26AT3	ON SEMICONDUCTOR	PSMA26A
1SMA5925	ON SEMICONDUCTOR	BZG03-C10
1SMA5926	ON SEMICONDUCTOR	BZG03-C11
1SMA5927	ON SEMICONDUCTOR	BZG03-C12
1SMA5928	ON SEMICONDUCTOR	BZG03-C13
1SMA5929	ON SEMICONDUCTOR	BZG03-C15
1SMA5930	ON SEMICONDUCTOR	BZG03-C16
1SMA5931	ON SEMICONDUCTOR	BZG03-C18
1SMA5932	ON SEMICONDUCTOR	BZG03-C20
1SMA5933	ON SEMICONDUCTOR	BZG03-C22

Type	Manufacturer	Philips Type
1SMA5934	ON SEMICONDUCTOR	BZG03-C24
1SMA5935	ON SEMICONDUCTOR	BZG03-C27
1SMA5936	ON SEMICONDUCTOR	BZG03-C30
1SMA5937	ON SEMICONDUCTOR	BZG03-C33
1SMA5938	ON SEMICONDUCTOR	BZG03-C36
1SMA5939	ON SEMICONDUCTOR	BZG03-C39
1SMA5940	ON SEMICONDUCTOR	BZG03-C43
1SMA5941	ON SEMICONDUCTOR	BZG03-C47
1SMA5942	ON SEMICONDUCTOR	BZG03-C51
1SMA5943	ON SEMICONDUCTOR	BZG03-C56
1SMA5944	ON SEMICONDUCTOR	BZG03-C62
1SMA5945	ON SEMICONDUCTOR	BZG03-C68
1SMA59xxBT3	ON SEMICONDUCTOR	PSMA59xxB
1SMAxxxAT3	ON SEMICONDUCTOR	PSMAxxxA
1SMB5925BT3	ON SEMICONDUCTOR	BZG03-C10
1SMB5926BT3	ON SEMICONDUCTOR	BZG03-C11
1SMB5927BT3	ON SEMICONDUCTOR	BZG03-C12
1SMB5928BT3	ON SEMICONDUCTOR	BZG03-C13
1SMB5929BT3	ON SEMICONDUCTOR	BZG03-C15
1SMB5930BT3	ON SEMICONDUCTOR	BZG03-C16
1SMB5931BT3	ON SEMICONDUCTOR	BZG03-C18
1SMB5932BT3	ON SEMICONDUCTOR	BZG03-C20
1SMB5933BT3	ON SEMICONDUCTOR	BZG03-C22
1SMB5934BT3	ON SEMICONDUCTOR	BZG03-C24
1SMB5935BT3	ON SEMICONDUCTOR	BZG03-C27
1SMB5936BT3	ON SEMICONDUCTOR	BZG03-C30
1SMB5937BT3	ON SEMICONDUCTOR	BZG03-C33
1SMB5938BT3	ON SEMICONDUCTOR	BZG03-C36
1SMB5939BT3	ON SEMICONDUCTOR	BZG03-C39
1SMB5940BT3	ON SEMICONDUCTOR	BZG03-C43
1SMB5941BT3	ON SEMICONDUCTOR	BZG03-C47
1SMB5942BT3	ON SEMICONDUCTOR	BZG03-C51
1SMB5943BT3	ON SEMICONDUCTOR	BZG03-C56
1SMB5944BT3	ON SEMICONDUCTOR	BZG03-C62
1SMB5945BT3	ON SEMICONDUCTOR	BZG03-C68
1SMB5946BT3	ON SEMICONDUCTOR	BZG03-C75
1SMB5947BT3	ON SEMICONDUCTOR	BZG03-C82
1SMB5948BT3	ON SEMICONDUCTOR	BZG03-C91
1SMB5949BT3	ON SEMICONDUCTOR	BZG03-C100
1SMB5950BT3	ON SEMICONDUCTOR	BZG03-C110
1SMB5951BT3	ON SEMICONDUCTOR	BZG03-C120
1SMB5952BT3	ON SEMICONDUCTOR	BZG03-C130
1SMB5953BT3	ON SEMICONDUCTOR	BZG03-C150
1SMB5954BT3	ON SEMICONDUCTOR	BZG03-C160
1SMB5955BT3	ON SEMICONDUCTOR	BZG03-C180
1SMB5956BT3	ON SEMICONDUCTOR	BZG03-C200
1SR139-600	ROHM	1N4005ID
1SR159-200	ROHM	BYG80D
20D05	IR	1N5059
20D1	IR	1N5059
20D2	IR	1N5059
20D4	IR	1N5060
20D6	IR	1N5061

Type	Manufacturer	Philips Type
20D8	IR	1N5062
2A01	AMOS	1N5059
2A02	AMOS	1N5059
2A03	AMOS	1N5059
2A04	AMOS	1N5060
2A05	AMOS	1N5061
2A06	AMOS	1N5062
2N6071A	ON SEMICONDUCTOR	BT134-600D
2N6073	ON SEMICONDUCTOR	BT134-600
2N6073A	ON SEMICONDUCTOR	BT134-600D
2N6075A	ON SEMICONDUCTOR	BT134-600D
2N6346	ON SEMICONDUCTOR	BT138-600
2N6346A	ON SEMICONDUCTOR	BT139-800G
2N6347	ON SEMICONDUCTOR	BT138-600
2N6347A	ON SEMICONDUCTOR	BT139-800G
2N6348	ON SEMICONDUCTOR	BT138-600
2N6348A	ON SEMICONDUCTOR	BT139-800G
2N6349	ON SEMICONDUCTOR	BT138-800
2N6349A	ON SEMICONDUCTOR	BT139-800G
2N7002	INDUSTRY STANDARD - VARIOUS	2N7002
2PFF0	SEMTECH	BYM26E
2PFF2	SEMTECH	BYM26B
2PFF4	SEMTECH	BYM26B
2PFF6	SEMTECH	BYM26C
2PFF8	SEMTECH	BYM26D
2PFT2	SEMTECH	BYV27-200
2SC3162	SHINDENGEN	BUJ103A
2SC3163	SHINDENGEN	BUJ105A
2SC3681	SANYO	BU4507DX
2SC3683	SANYO	BU2520DW
2SC3685	SANYO	BU4507AX
2SC3686	SANYO	BU4508AX
2SC3688	SANYO	BU4530AW
2SC3884A	TOSHIBA	BU4508AX
2SC3885A	TOSHIBA	BU4515AX
2SC3886A	TOSHIBA	BU4522AX
2SC3887A	TOSHIBA	BU4508AX
2SC3888A	TOSHIBA	BU4515AX
2SC3892A	TOSHIBA	BU4508DX
2SC3893A	TOSHIBA	BU4522DX
2SC3894	SANYO	BU4507AX
2SC3895	SANYO	BU4508AX
2SC3896	SANYO	BU4522AX
2SC3897	SANYO	BU4530AL
2SC3995	SANYO	BU4530AL
2SC3996	SANYO	BU4530AL
2SC4051	SHINDENGEN	BUJ202A
2SC4052	SHINDENGEN	BUJ202AX
2SC4053	SHINDENGEN	BUJ204A
2SC4055	SHINDENGEN	BUJ205A
2SC4056	SHINDENGEN	BUJ205AX
2SC4122	SANYO	BU4507DX
2SC4123	SANYO	BU4508DX

Type	Manufacturer	Philips Type
2SC4124	SANYO	BU4522DX
2SC4230	SHINDENGEN	BU1706AB
2SC4291	SANYO	BU4507DX
2SC4293	SANYO	BU4507DX
2SC4294	SANYO	BU4508DX
2SC4435	SANYO	BU4508AX
2SC4436	SANYO	BU4515AX
2SC4437	SANYO	BU4508AX
2SC4438	SANYO	BU4515AX
2SC4531	TOSHIBA	BU4523DX
2SC4542	TOSHIBA	BU4525AX
2SC4692	HITACHI	BU4530AL
2SC4743	HITACHI	BU4508AX
2SC4744	HITACHI	BU4508DF
2SC4745	HITACHI	BU4515AF
2SC4757	TOSHIBA	BU4515AX
2SC4758	TOSHIBA	BU4522AX
2SC4759	TOSHIBA	BU4525AX
2SC4762	TOSHIBA	BU4508DX
2SC4763	TOSHIBA	BU4522DX
2SC4764	TOSHIBA	BU4507DX
2SC4766	TOSHIBA	BU2720DX
2SC4769	SANYO	BU4508DX
2SC4770	SANYO	BU4508AX
2SC4830	TOSHIBA	BU4508AX
2SC4877	HITACHI	BU4523DF
2SC4916	TOSHIBA	BU4508DX
2SC4923	SANYO	BU4522AX
2SC4924	SANYO	BU4522AX
2SC4927	HITACHI	BU4522DF
2SC4962	HITACHI	BU2727DF
2SC4963	HITACHI	BU2727DF
2SC5002	SANKEN	BU4522AF
2SC5003	SANKEN	BU4522DF
2SC5043	SANYO	BU2727DX
2SC5048	TOSHIBA	BU4523AX
2SC5067	HITACHI	BU4522AF
2SC5105	HITACHI	BU4530AL
2SC5129	TOSHIBA	BU4515AX
2SC5132A	HITACHI	BU4508DF
2SC5133	HITACHI	BU4515DX
2SC5143	TOSHIBA	BU2727DX
2SC5148	TOSHIBA	BU4508AX
2SC5149	TOSHIBA	BU4508DX
2SC5207	HITACHI	BU4522AF
2SC5207A	HITACHI	BU4522AF
2SC5219	HITACHI	BU2727DF
2SC5250	HITACHI	BU4508DF
2SC5251	HITACHI	BU4522AF
2SC5296	SANYO	BU4508DX
2SC5297	SANYO	BU4522AX
2SC5298	SANYO	BU4522AX
2SC5299	SANYO	BU4522AX

Type	Manufacturer	Philips Type
2SC5302	SANYO	BU4530AL
2SC5326	HITACHI	BU4508AF
2SC5331	TOSHIBA	BU4530AL
2SC5339	TOSHIBA	BU4508DX
2SC5386	TOSHIBA	BU4515AX
2SC5387	TOSHIBA	BU4522AX
2SC5404	TOSHIBA	BU4522AX
2SC5421	TOSHIBA	BU4530AL
2SC5427	HITACHI	BU4522AF
2SC5440	MATSUSHITA	BU4525AX
2SC5448	HITACHI	BU4515AF
2SC5456	MATSUSHITA	BU4530AL
2SC5513	MATSUSHITA	BU4522AX
2SC5514	MATSUSHITA	BU4523AX
2SC5515	MATSUSHITA	BU4530AL
2SD1391	MATSUSHITA	BU4508AX
2SD1397	SANYO	BU4506DX
2SD1398	SANYO	BU4507DX
2SD1400	SANYO	BU505
2SD1401	SANYO	BU4506AX
2SD1402	SANYO	BU4507AX
2SD1403	SANYO	BU4508AX
2SD1426	TOSHIBA	BU4506DX
2SD1427	TOSHIBA	BU4507DX
2SD1429	TOSHIBA	BU505
2SD1430	TOSHIBA	BU4506AX
2SD1431	TOSHIBA	BU4507AX
2SD1432	TOSHIBA	BU4508AX
2SD1439	MATSUSHITA	BU4506DX
2SD1440	MATSUSHITA	BU4506DX
2SD1441	MATSUSHITA	BU4507DX
2SD1479	MATSUSHITA	BU505
2SD1541	MATSUSHITA	BU4506DF
2SD1544	TOSHIBA	BU4506AX
2SD1545	TOSHIBA	BU4507AX
2SD1546	TOSHIBA	BU4508AX
2SD1547	TOSHIBA	BU4522AX
2SD1554	TOSHIBA	BU4506DX
2SD1555	TOSHIBA	BU4507DX
2SD1556	TOSHIBA	BU4508DX
2SD1576	MATSUSHITA	BU4506AF
2SD1577	MATSUSHITA	BU4508AF
2SD1577FI	ST MICROELECTRONICS	BU4508AX
2SD1650	SANYO	BU4506DX
2SD1651	SANYO	BU4507DX
2SD1652	SANYO	BU4508DX
2SD1654	SANYO	BU4506AX
2SD1655	SANYO	BU4507AX
2SD1656	SANYO	BU4508AX
2SD1663	MATSUSHITA	BU4508AF
2SD1677	SANYO	BU4508AX
2SD1710	SANYO	BU4508AX
2SD1711	SANYO	BU4508DX

Type	Manufacturer	Philips Type
2SD1728	MATSUSHITA	BU4506DX
2SD1729	MATSUSHITA	BU4507DX
2SD1730	MATSUSHITA	BU4507DX
2SD1731	MATSUSHITA	BU2520DW
2SD1732	MATSUSHITA	BU4523DW
2SD1736	MATSUSHITA	BU4506AF
2SD1738	MATSUSHITA	BU4508AF
2SD1739	MATSUSHITA	BU4522AF
2SD1845	MATSUSHITA	BU4506DF
2SD1847	MATSUSHITA	BU4508DF
2SD1848	MATSUSHITA	BU4522DF
2SD1849	MATSUSHITA	BU4523DF
2SD1877	SANYO	BU4506DX
2SD1878	SANYO	BU4507DX
2SD1879	SANYO	BU4508DX
2SD1880	SANYO	BU4522DX
2SD1881	SANYO	BU4525DX
2SD1883	SANYO	BU4506AX
2SD1884	SANYO	BU4507AX
2SD1885	SANYO	BU4508AX
2SD1886	SANYO	BU4522AX
2SD1887	SANYO	BU4525AX
2SD2057	MATSUSHITA	BU4523DF
2SD2095	TOSHIBA	BU4507DX
2SD2125	TOSHIBA	BU4508DX
2SD2251	SANYO	BU4508AX
2SD2252	SANYO	BU4508AX
2SD2253	TOSHIBA	BU2720DX
2SD2293	HITACHI	BU4506DX
2SD2294	HITACHI	BU4506AX
2SD2296	HITACHI	BU4508AX
2SD2298	HITACHI	BU4508AX
2SD2299	HITACHI	BU4506DF
2SD2300	HITACHI	BU4508DF
2SD2301	HITACHI	BU4508AF
2SD2311	HITACHI	BU4508AF
2SD2348	TOSHIBA	BU4522DX
2SD2349	TOSHIBA	BU4523DX
2SD2368	MATSUSHITA	BU4506AX
2SD2369	MATSUSHITA	BU4506DX
2SD2370	MATSUSHITA	BU4507AX
2SD2371	MATSUSHITA	BU4508DX
2SD2372	MATSUSHITA	BU4507AX
2SD2373	MATSUSHITA	BU4508AX
2SD2381	HITACHI	BU4506AF
2SD2454	TOSHIBA	BU2720DX
2SD2498	TOSHIBA	BU4508AX
2SD2499	TOSHIBA	BU4508DX
2SD2500	TOSHIBA	BU4523AX
2SD2510	MATSUSHITA	BU4506DX
2SD2511	MATSUSHITA	BU4506AX
2SD2512	MATSUSHITA	BU4508DX
2SD2513	MATSUSHITA	BU4508AX

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
2SD2514	MATSUSHITA	BU4523DX
2SD2515	MATSUSHITA	BU4523AX
2SD2523	MATSUSHITA	BU2720DX
2SD2539	TOSHIBA	BU4522DX
2SD2551	TOSHIBA	BU2720DX
2SD2552	TOSHIBA	BU2720DX
2SD2553	TOSHIBA	BU2725DX
2SD818	TOSHIBA	BU505
2SD819	TOSHIBA	BU4506AX
2SD820	TOSHIBA	BU4507AX
2SD821	TOSHIBA	BU4508AX
2SD869	TOSHIBA	BU4506DX
2SD870	TOSHIBA	BU4507DX
30D1	NIEC	BYM56A
30D2	NIEC	BYM56B
30D4	NIEC	BYM56C
30DF1	NIEC	BYW95A
30DF2	NIEC	BYW95A
30DF4	NIEC	BYW95B
31DF1	IR	BYV28-100
31DF2	IR	BYV28-200
31DF3	IR	BYV28-400
31DF4	IR	BYV28-400
31DF6	NIEC	BYV28-600
3DL41A	TOSHIBA	BYV28-200
3EZ100D5	MICROSEMI	BZT03-C100
3EZ10D5	MICROSEMI	BZT03-C10
3EZ10D5	ON SEMICONDUCTOR	BZT03-C10
3EZ110D5	MICROSEMI	BZT03-C110
3EZ11D5	MICROSEMI	BZT03-C11
3EZ120D5	MICROSEMI	BZT03-C120
3EZ12D5	MICROSEMI	BZT03-C12
3EZ130D5	MICROSEMI	BZT03-C130
3EZ13D5	MICROSEMI	BZT03-C13
3EZ13D5	ON SEMICONDUCTOR	BZT03-C13
3EZ150D5	MICROSEMI	BZT03-C150
3EZ15D5	MICROSEMI	BZT03-C15
3EZ160D5	MICROSEMI	BZT03-C160
3EZ16D5	MICROSEMI	BZT03-C16
3EZ180D5	MICROSEMI	BZT03-C180
3EZ18D5	MICROSEMI	BZT03-C18
3EZ200D5	MICROSEMI	BZT03-C200
3EZ20D5	MICROSEMI	BZT03-C20
3EZ22D5	MICROSEMI	BZT03-C22
3EZ240D5	ON SEMICONDUCTOR	BZT03-C240
3EZ24D5	MICROSEMI	BZT03-C24
3EZ24D5	ON SEMICONDUCTOR	BZT03-C24
3EZ27D5	MICROSEMI	BZT03-C27
3EZ30D5	MICROSEMI	BZT03-C30
3EZ330D5	ON SEMICONDUCTOR	BZT03-C330
3EZ33D5	MICROSEMI	BZT03-C33
3EZ360D5	ON SEMICONDUCTOR	BZT03-C360
3EZ36D5	MICROSEMI	BZT03-C36

Type	Manufacturer	Philips Type
3EZ39D5	MICROSEMI	BZT03-C39
3EZ39D5	ON SEMICONDUCTOR	BZT03-C39
3EZ400D5	ON SEMICONDUCTOR	BZT03-C390
3EZ43D5	MICROSEMI	BZT03-C43
3EZ47D5	MICROSEMI	BZT03-C47
3EZ51D5	MICROSEMI	BZT03-C51
3EZ56D5	MICROSEMI	BZT03-C56
3EZ62D5	MICROSEMI	BZT03-C62
3EZ68D5	MICROSEMI	BZT03-C68
3EZ7.5D5	MICROSEMI	BZT03-C7V5
3EZ75D5	MICROSEMI	BZT03-C75
3EZ8.2D5	MICROSEMI	BZT03-C8V2
3EZ82D5	MICROSEMI	BZT03-C82
3EZ9.1D5	MICROSEMI	BZT03-C9.1
3EZ91D5	MICROSEMI	BZT03-C91
3PF0	SEMTECH	BYW96E
3PF8	SEMTECH	BYW96E
3PFR0	SEMTECH	BYM36E
3PFT05	SEMTECH	BYV28-50
3PFT1	SEMTECH	BYV28-100
3PFT15	SEMTECH	BYV28-150
3PFT2	SEMTECH	BYV28-200
3PM0	SEMTECH	BYM56E
3PM2	SEMTECH	BYM56A
3PM4	SEMTECH	BYM56B
3PM6	SEMTECH	BYM56C
3PM8	SEMTECH	BYM56D
3SF05	SEMTECH	BYW95A
3SF1	SEMTECH	BYW95A
3SF2	SEMTECH	BYW95A
3SF4	SEMTECH	BYW95B
3SFR0	SEMTECH	BYM36E
3SM0	SEMTECH	BYM56E
3SM2	SEMTECH	BYM56A
3SM4	SEMTECH	BYM56B
3SM6	SEMTECH	BYM56C
3SM8	SEMTECH	BYM56D
40CPQ040	IR	PBYR4040WVT
40CPQ045	IR	PBYR4045WVT
40SL05	MICROSEMI	BYW28-600
40SL1	MICROSEMI	BYW28-600
40SL2	MICROSEMI	BYW28-600
40SL4	MICROSEMI	BYW28-600
40SL5	MICROSEMI	BYW28-600
40SL6	MICROSEMI	BYW28-600
5817SM	MICROSEMI/MICRO QUALITY	PRLL5817
5817SMJ	MICROSEMI/MICRO QUALITY	BYG90-20
5818SM	MICROSEMI/MICRO QUALITY	PRLL5818
5818SMJ	MICROSEMI/MICRO QUALITY	BYG90-30
5819SM	MICROSEMI/MICRO QUALITY	PRLL5819
5819SMJ	MICROSEMI/MICRO QUALITY	BYG90-40
72CPQ030	IR	PBYR7025WVT
8T24A	HUTSON	BTA204-600B

Type	Manufacturer	Philips Type
8T24HA	HUTSON	BTA204-600F
8T24TH	HUTSON	BTA204-600F
8T44A	HUTSON	BTA204-600B
8T44HA	HUTSON	BTA204-600F
8T44TH	HUTSON	BTA204-600F
8T64A	HUTSON	BTA204-600B
8T64HA	HUTSON	BTA204-600F
8T64TH	HUTSON	BTA204-600F
A114C	INDUSTRY STANDARD - VARIOUS	BYV95B
A114D	INDUSTRY STANDARD - VARIOUS	BYV95B
A115A	INDUSTRY STANDARD - VARIOUS	BYW95A
A115B	INDUSTRY STANDARD - VARIOUS	BYW95A
A115C	INDUSTRY STANDARD - VARIOUS	BYW95B
A115D	INDUSTRY STANDARD - VARIOUS	BYW95B
A115F	INDUSTRY STANDARD - VARIOUS	BYW95A
A14A	INDUSTRY STANDARD - VARIOUS	1N5059
A14B	INDUSTRY STANDARD - VARIOUS	1N5059
A14C	INDUSTRY STANDARD - VARIOUS	1N5060
A14D	INDUSTRY STANDARD - VARIOUS	1N5060
A14E	INDUSTRY STANDARD - VARIOUS	1N5061
A14F	INDUSTRY STANDARD - VARIOUS	1N5059
A14M	INDUSTRY STANDARD - VARIOUS	1N5061
A14N	INDUSTRY STANDARD - VARIOUS	1N5062
A15A	INDUSTRY STANDARD - VARIOUS	BYM56A
A15B	INDUSTRY STANDARD - VARIOUS	BYM56A
A15C	INDUSTRY STANDARD - VARIOUS	BYM56B
A15D	INDUSTRY STANDARD - VARIOUS	BYM56B
A15E	INDUSTRY STANDARD - VARIOUS	BYM56C
A15F	INDUSTRY STANDARD - VARIOUS	BYM56A
AC01DJM	NEC	BT134V-600D
AC03DGM	NEC	BTA204-600E
AC03DJM-Z	NEC	BTA204S-600E
AC03DSM	NEC	BTA204X-600E
AC03DSMA	NEC	BTA204X-600E
AC03EGM	NEC	BTA204-600E
AC03FGM	NEC	BTA204-600E
AC03FJM-Z	NEC	BTA204S-600E
AC03FSM	NEC	BTA204X-600E
AC03FSMA	NEC	BTA204X-600E
AC0V8DGM	NEC	BT132-600D
AGP15-400	GENERAL SEMICONDUCTOR	1N5060
AGP15-600	GENERAL SEMICONDUCTOR	1N5061
AGP15-800	GENERAL SEMICONDUCTOR	1N5062
AK03	SANKEN	1N5818
AK04	SANKEN	1N5819
AM01	SANKEN	1N5060
AM01A	SANKEN	1N5061
AM01Z	SANKEN	1N5059
BA157	GENERAL SEMICONDUCTOR	BYD33G
BA157GP	GENERAL SEMICONDUCTOR	BYD33G
BA158	GENERAL SEMICONDUCTOR	BYD33J
BA158GP	GENERAL SEMICONDUCTOR	BYD33J
BA159	GENERAL SEMICONDUCTOR	BYD33M

Type	Manufacturer	Philips Type
BA159GP	GENERAL SEMICONDUCTOR	BYD33M
BA201-2	FUJI	BYD33D
BA201-4	FUJI	BYD33G
BA201-6	FUJI	BYD33J
BCR08AS-8	MITSUBISHI	BT134V-600D
BCR10CS-12	MITSUBISHI	BTA212B-800B
BCR10CS-8	MITSUBISHI	BTA212B-600B
BCR12CS-12	MITSUBISHI	BTA216B-800B
BCR12CS-8	MITSUBISHI	BTA216B-600B
BCR16C-10	MITSUBISHI	BTA225-800B
BCR16C-8	MITSUBISHI	BTA225-600B
BCR16CS-12	MITSUBISHI	BTA225B-800B
BCR16CS-8	MITSUBISHI	BTA225B-600B
BCR16HM-12	MITSUBISHI	BTA216-800B
BCR16HM-8	MITSUBISHI	BTA216-600B
BCR16PM-12	MITSUBISHI	BTA216X-800B
BCR16PM-8	MITSUBISHI	BTA216X-600B
BCR1AM-12	MITSUBISHI	BT132-600D
BCR1AM-8	MITSUBISHI	BT132-600D
BCR20C-10	MITSUBISHI	BTA225-800B
BCR20C-8	MITSUBISHI	BTA225-600B
BCR3AM-12	MITSUBISHI	BTA204-600F
BCR3AM-8	MITSUBISHI	BTA204-600F
BCR3AS-12	MITSUBISHI	BTA204S-600E
BCR3AS-8	MITSUBISHI	BTA204S-600E
BCR3PM-12	MITSUBISHI	BTA204X-600F
BCR3PM-8	MITSUBISHI	BTA204X-600F
BCR8CS-12	MITSUBISHI	BTA212B-800B
BCR8CS-8	MITSUBISHI	BTA212B-600B
BSH040N	PHILIPS SEMICONDUCTORS	BSH105
BSH100P	PHILIPS SEMICONDUCTORS	BSH205
BSN3005L	PHILIPS SEMICONDUCTORS	BSH103
BSP75	INFINEON	BUK107-50DL
BSP76	INFINEON	BUK107-50DL
BSP77	INFINEON	BUK108-50DL
BTA04-400A	ST MICROELECTRONICS	BT136X-600E
BTA04-400D	ST MICROELECTRONICS	BT136X-600D
BTA04-400S	ST MICROELECTRONICS	BT136X-600D
BTA04-600A	ST MICROELECTRONICS	BT136X-600E
BTA04-600D	ST MICROELECTRONICS	BT136X-600D
BTA04-600S	ST MICROELECTRONICS	BT136X-600D
BTA04-700A	ST MICROELECTRONICS	BT136X-800E
BTA04-700D	ST MICROELECTRONICS	BT136X-600D
BTA04-700S	ST MICROELECTRONICS	BT136X-600D
BTA06-400A	ST MICROELECTRONICS	BT137X-600E
BTA06-400B	ST MICROELECTRONICS	BT137X-600G
BTA06-400BW	ST MICROELECTRONICS	BTA208X-600B
BTA06-400C	ST MICROELECTRONICS	BT137X-600F
BTA06-400S	ST MICROELECTRONICS	BT137X-600D
BTA06-600A	ST MICROELECTRONICS	BT137X-600E
BTA06-600B	ST MICROELECTRONICS	BT137X-600G
BTA06-600BV	ST MICROELECTRONICS	BTA208X-600B

Type	Manufacturer	Philips Type
BTA06-600C	ST MICROELECTRONICS	BT137X-600F
BTA06-600D	ST MICROELECTRONICS	BT137X-600D
BTA06-600S	ST MICROELECTRONICS	BT137X-600D
BTA06-700A	ST MICROELECTRONICS	BT137X-800E
BTA06-700BV	ST MICROELECTRONICS	BTA208X-800B
BTA06-700D	ST MICROELECTRONICS	BT137X-600D
BTA06-700S	ST MICROELECTRONICS	BT137X-600D
BTA06-800BV	ST MICROELECTRONICS	BTA208X-800B
BTA08-400A	ST MICROELECTRONICS	BT137X-600E
BTA08-400B	ST MICROELECTRONICS	BT137X-600G
BTA08-400BV	ST MICROELECTRONICS	BTA208X-600B
BTA08-400C	ST MICROELECTRONICS	BT137X-600F
BTA08-400S	ST MICROELECTRONICS	BT137X-600D
BTA08-600A	ST MICROELECTRONICS	BT137X-600E
BTA08-600B	ST MICROELECTRONICS	BT137X-600G
BTA08-600BV	ST MICROELECTRONICS	BTA208X-600B
BTA08-600C	ST MICROELECTRONICS	BT137X-600F
BTA08-600S	ST MICROELECTRONICS	BT137X-600D
BTA08-700B	ST MICROELECTRONICS	BT137X-800E
BTA08-700BV	ST MICROELECTRONICS	BTA208X-600B
BTA08-700C	ST MICROELECTRONICS	BTA208X-800B
BTA08-700S	ST MICROELECTRONICS	BT137X-600D
BTA08-800BV	ST MICROELECTRONICS	BTA208X-800B
BTA10-400BV	ST MICROELECTRONICS	BTA212X-600B
BTA10-400C	ST MICROELECTRONICS	BT138X-600F
BTA10-400GP	ST MICROELECTRONICS	BT139X-600G
BTA10-600BW	ST MICROELECTRONICS	BTA212X-600B
BTA10-600C	ST MICROELECTRONICS	BT138X-600F
BTA10-600GP	ST MICROELECTRONICS	BT139X-600G
BTA10-700BV	ST MICROELECTRONICS	BTA212X-800B
BTA10-700C	ST MICROELECTRONICS	BT138X-800F
BTA10-800BV	ST MICROELECTRONICS	BTA212X-800B
BTA10-800C	ST MICROELECTRONICS	BT138X-800F
BTA12-400B	ST MICROELECTRONICS	BT139X-600G
BTA12-400BV	ST MICROELECTRONICS	BTA216X-600B
BTA12-400C	ST MICROELECTRONICS	BT139X-600F
BTA12-600B	ST MICROELECTRONICS	BT139X-600G
BTA12-600BV	ST MICROELECTRONICS	BTA216X-600B
BTA12-600C	ST MICROELECTRONICS	BT139X-600F
BTA12-700BV	ST MICROELECTRONICS	BTA216X-800B
BTA12-800BV	ST MICROELECTRONICS	BTA216X-800B
BTA16-400B	ST MICROELECTRONICS	BT139X-600G
BTA16-400BV	ST MICROELECTRONICS	BTA216X-600B
BTA16-600B	ST MICROELECTRONICS	BT139X-600G
BTA16-600BV	ST MICROELECTRONICS	BTA216X-600B
BTA16-700BV	ST MICROELECTRONICS	BTA216X-800B
BTA16-800BV	ST MICROELECTRONICS	BTA216X-800B
BTB04-400A	ST MICROELECTRONICS	BT136-600E
BTB04-400D	ST MICROELECTRONICS	BT136-600D
BTB04-400S	ST MICROELECTRONICS	BT136-600D
BTB04-600A	ST MICROELECTRONICS	BT136-600E
BTB04-600D	ST MICROELECTRONICS	BT136-600D
BTB04-600S	ST MICROELECTRONICS	BT136-600D

Type	Manufacturer	Philips Type
BTB04-700A	ST MICROELECTRONICS	BT136-800E
BTB04-700D	ST MICROELECTRONICS	BT136-600D
BTB04-700S	ST MICROELECTRONICS	BT136-600D
BTB06-400A	ST MICROELECTRONICS	BT137-600E
BTB06-400B	ST MICROELECTRONICS	BT137-600G
BTB06-400BV	ST MICROELECTRONICS	BTA208-600B
BTB06-400C	ST MICROELECTRONICS	BT137-600F
BTB06-400D	ST MICROELECTRONICS	BT137-600D
BTB06-400S	ST MICROELECTRONICS	BT137-600D
BTB06-600A	ST MICROELECTRONICS	BT137-600E
BTB06-600B	ST MICROELECTRONICS	BT137-600G
BTB06-600BV	ST MICROELECTRONICS	BTA208-600B
BTB06-600C	ST MICROELECTRONICS	BT137-600F
BTB06-600D	ST MICROELECTRONICS	BT137-600D
BTB06-600S	ST MICROELECTRONICS	BT137-600D
BTB06-700A	ST MICROELECTRONICS	BT137-800E
BTB06-700BV	ST MICROELECTRONICS	BTA208-800B
BTB06-700D	ST MICROELECTRONICS	BT137-600D
BTB06-700S	ST MICROELECTRONICS	BT137-600D
BTB06-800BV	ST MICROELECTRONICS	BTA208X-800B
BTB08-400A	ST MICROELECTRONICS	BT137-600E
BTB08-400B	ST MICROELECTRONICS	BT137-600G
BTB08-400BV	ST MICROELECTRONICS	BTA208-600B
BTB08-400C	ST MICROELECTRONICS	BT137-600F
BTB08-400S	ST MICROELECTRONICS	BT137-600D
BTB08-600A	ST MICROELECTRONICS	BT137-600E
BTB08-600B	ST MICROELECTRONICS	BT137-600G
BTB08-600BV	ST MICROELECTRONICS	BTA208-600B
BTB08-600C	ST MICROELECTRONICS	BT137-600F
BTB08-600S	ST MICROELECTRONICS	BT137-600D
BTB08-700B	ST MICROELECTRONICS	BT137-800E
BTB08-700C	ST MICROELECTRONICS	BTA208-800B
BTB08-700S	ST MICROELECTRONICS	BT137-600D
BTB08-800BV	ST MICROELECTRONICS	BTA208-600B
BTB10-400B	ST MICROELECTRONICS	BT138-600G
BTB10-400BV	ST MICROELECTRONICS	BTA212-600B
BTB10-400C	ST MICROELECTRONICS	BT138-600F
BTB10-600B	ST MICROELECTRONICS	BT138-600G
BTB10-600BV	ST MICROELECTRONICS	BTA212-600B
BTB10-600C	ST MICROELECTRONICS	BT138-600F
BTB10-700B	ST MICROELECTRONICS	BT138-800G
BTB10-700BV	ST MICROELECTRONICS	BTA212-800B
BTB10-700C	ST MICROELECTRONICS	BT138-800F
BTB10-800B	ST MICROELECTRONICS	BT138-800G
BTB10-800BV	ST MICROELECTRONICS	BTA212-800B
BTB10-800C	ST MICROELECTRONICS	BT138-800F
BTB12-400B	ST MICROELECTRONICS	BT139-800G
BTB12-400BV	ST MICROELECTRONICS	BTA216-600B
BTB12-400C	ST MICROELECTRONICS	BT139-600F
BTB12-600B	ST MICROELECTRONICS	BT139-800G
BTB12-600BV	ST MICROELECTRONICS	BTA216-600B
BTB12-600C	ST MICROELECTRONICS	BT139-600F
BTB12-700B	ST MICROELECTRONICS	BT139-800G

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
BTB12-700BW	ST MICROELECTRONICS	BTA216-800B
BTB12-700C	ST MICROELECTRONICS	BT139-800F
BTB12-800B	ST MICROELECTRONICS	BT139-800G
BTB12-800BW	ST MICROELECTRONICS	BTA216-800B
BTB12-800C	ST MICROELECTRONICS	BT139-800F
BTB16-400B	ST MICROELECTRONICS	BT139-800G
BTB16-400BW	ST MICROELECTRONICS	BTA216-600B
BTB16-600B	ST MICROELECTRONICS	BT139-800G
BTB16-600BW	ST MICROELECTRONICS	BTA216-600B
BTB16-700B	ST MICROELECTRONICS	BT139-800G
BTB16-700BW	ST MICROELECTRONICS	BTA216-800B
BTB16-800B	ST MICROELECTRONICS	BT139-800G
BTB16-800BW	ST MICROELECTRONICS	BTA216-800B
BTB20-400BW	ST MICROELECTRONICS	BTA225-600B
BTB20-600BW	ST MICROELECTRONICS	BTA225-600B
BTB20-700BW	ST MICROELECTRONICS	BTA225-800B
BTB20-800BW	ST MICROELECTRONICS	BTA225-800B
BTB24-400BW	ST MICROELECTRONICS	BTA225-600B
BTB24-600BW	ST MICROELECTRONICS	BTA225-600B
BTB24-700BW	ST MICROELECTRONICS	BTA225-800B
BTB24-800BW	ST MICROELECTRONICS	BTA225-800B
BTS 112 / 117	INFINEON	PIP3115-B
BTS 113 / 115 / 117 / 118	INFINEON	PIP3104-P
BTS 132	INFINEON	PIP3117-B
BTS 134	INFINEON	PIP3105-P
BTS 140 / 142	INFINEON	PIP3119-P
BTS 142	INFINEON	PIP3118-B
BTS 247-Z	INFINEON	PIP3121-A
BTS 247-Z	INFINEON	PIP3122-R
BTS 409L1	INFINEON	PIP3208-A
BTS 409L1	INFINEON	PIP3209-R
BTS 432 E2 / 436 L2	INFINEON	PIP3201-A
BTS 432 E2 / 436 L2	INFINEON	PIP3210-R
BTS 432 E2 / 436 L2	INFINEON	PIP3211-R
BTS 441T / 441R / 442 E2	INFINEON	PIP3213-R
BTS 621 L1	INFINEON	PIP3202-DC
BTS112A	INFINEON	BUK100-50GS
BTS113A	INFINEON	BUK100-50DL
BTS114	INFINEON	BUK100-50GS
BTS114A	INFINEON	BUK100-50GS
BTS115	INFINEON	BUK100-50GL
BTS115A	INFINEON	BUK100-50GL
BTS117	INFINEON	BUK100-50GS
BTS129	INFINEON	BUK101-50GS
BTS130	INFINEON	BUK101-50GS
BTS131	INFINEON	BUK101-50DL
BTS132	INFINEON	BUK101-50GL
BTS133	INFINEON	BUK101-50GS
BTS134	INFINEON	BUK109-50DL
BTS140A	INFINEON	BUK102-50GS
BTS141	INFINEON	BUK102-50GS
BTS409	INFINEON	BUK203-50Y
BTS410D	INFINEON	BUK203-50Y

Type	Manufacturer	Philips Type
BTS410E	INFINEON	BUK203-50Y
BTS410F	INFINEON	BUK203-50Y
BTS410G	INFINEON	BUK203-50Y
BTS410H	INFINEON	BUK203-50Y
BTS412	INFINEON	BUK203-50Y
BTS425	INFINEON	BUK205-50Y
BTS426	INFINEON	BUK201-50Y
BTS432D	INFINEON	BUK202-50X/Y
BTS432E	INFINEON	BUK202-50X/Y
BTS432F	INFINEON	BUK202-50X/Y
BTS436L2	INFINEON	BUK202-50Y
BTS436L2S	INFINEON	BYK206-50Y
BTS462T	INFINEON	BUK204-50Y
BU1508DX	PHILIPS SEMICONDUCTORS	BU4508DZ
BU208A	ST MICROELECTRONICS	BU4508AX
BU208D	ST MICROELECTRONICS	BU4508AX
BU2506DF	PHILIPS SEMICONDUCTORS	BU4506DF
BU2506DX	PHILIPS SEMICONDUCTORS	BU4506DX
BU2507AX	PHILIPS SEMICONDUCTORS	BU4507AX
BU2507DX	PHILIPS SEMICONDUCTORS	BU4507DX
BU2508AF	PHILIPS SEMICONDUCTORS	BU4508AF
BU2508AX	PHILIPS SEMICONDUCTORS	BU4508AX
BU2508DF	PHILIPS SEMICONDUCTORS	BU4508DF
BU2508DX	PHILIPS SEMICONDUCTORS	BU4508DX
BU2515AX	PHILIPS SEMICONDUCTORS	BU4515AX
BU2520AF	PHILIPS SEMICONDUCTORS	BU4522AF
BU2520AX	PHILIPS SEMICONDUCTORS	BU4522AX
BU2522AF	PHILIPS SEMICONDUCTORS	BU4522AF
BU2522AX	PHILIPS SEMICONDUCTORS	BU4522AX
BU2523AX	PHILIPS SEMICONDUCTORS	BU4523AX
BU2525AX	PHILIPS SEMICONDUCTORS	BU4525AX
BU2527AX	PHILIPS SEMICONDUCTORS	BU4525AX
BU2530AW	PHILIPS SEMICONDUCTORS	BU4530AW
BU2532AW	PHILIPS SEMICONDUCTORS	BU4530AW
BU505	ST MICROELECTRONICS	BU505
BU508	ON SEMICONDUCTOR	BU508AW
BU508	SANYO	BU508AW
BU508	ST MICROELECTRONICS	BU508AW
BU508	TELEFUNKEN	BU508AW
BU508A	ON	BU508AW
BU508A	SANYO	BU508AW
BU508A	ST MICROELECTRONICS	BU508AW
BU508A	TELEFUNKEN	BU508AW
BU508AD	ON SEMICONDUCTOR	BU508DW
BU508AD	ST MICROELECTRONICS	BU508DW
BU508AD	TELEFUNKEN	BU508DW
BU508ADF	FAIRCHILD	BU508DW
BU508D	SANYO	BU508DW
BU508D	ST MICROELECTRONICS	BU508DW
BU508D	TELEFUNKEN	BU508DW
BU508DR	TELEFUNKEN	BU508DW
BU508DXI	ST MICROELECTRONICS	BU4508DZ
BU705	TELEFUNKEN	BU505

Type	Manufacturer	Philips Type
BU908	TELEFUNKEN	BU4506AX
BUD43	ON SEMICONDUCTOR	BUJ101A, BUJ101AX
BUD600	VISHAY/ SILICONIX	BUJ101
BUD620	VISHAY/ SILICONIX	BUJ103
BUD630	VISHAY/ SILICONIX	BUJ103, BUJ105
BUD636A	VISHAY/ SILICONIX	BUJ202, BUJ303
BUD86	VISHAY/ SILICONIX	BUJ101, BUJ202
BUD87	VISHAY/ SILICONIX	BUJ202, BUJ301
BUF405	ST MICROELECTRONICS	BUJ204A
BUF620	VISHAY/ SILICONIX	BUJ103A
BUF630	VISHAY/ SILICONIX	BUJ103A, BUJ105A
BUF636A	VISHAY/ SILICONIX	BUJ202A, BUJ303A
BUF640A	VISHAY/ SILICONIX	BUJ204A, BUJ303A
BUF642	VISHAY/ SILICONIX	BUJ204A
BUF644	VISHAY/ SILICONIX	BUJ105A
BUF646A	VISHAY/ SILICONIX	BUJ204A, BUJ304A
BUF650	VISHAY/ SILICONIX	BUJ105A, BUJ106A
BUF654	VISHAY/ SILICONIX	BUJ106A
BUF742	VISHAY/ SILICONIX	BUJ303A
BUF744	VISHAY/ SILICONIX	BUJ105A
BUH100	ON SEMICONDUCTOR	BUJ105A, BUJ106A
BUH1015	ST MICROELECTRONICS	BU4540AVV
BUH1215	ST MICROELECTRONICS	BU4540AW
BUH150	ON SEMICONDUCTOR	BUJ106A
BUH315	ST MICROELECTRONICS	BU4506AX
BUH315D	ST MICROELECTRONICS	BU4506DX
BUH315DXI	ST MICROELECTRONICS	BU4506DZ
BUH315XI	ST MICROELECTRONICS	BU4506AZ
BUH50	ON SEMICONDUCTOR	BUJ303A
BUH515	ST MICROELECTRONICS	BU4508AX
BUH515D	ST MICROELECTRONICS	BU4508DX
BUH515DX1	ST MICROELECTRONICS	BU4508DZ
BUH515FP	ST MICROELECTRONICS	BU4508DZ
BUH517D	ST MICROELECTRONICS	BU2720DX
BUH615	ST MICROELECTRONICS	BU4522AX
BUH615D	ST MICROELECTRONICS	BU4522DX
BUH715	ST MICROELECTRONICS	BU4523AX
BUL128	ST MICROELECTRONICS	BUJ103A
BUL128FP	ST MICROELECTRONICS	BUJ103AX
BUL138	ST MICROELECTRONICS	BUJ103A, BUJ202A
BUL138FP	ST MICROELECTRONICS	BUJ103AX, BUJ202AX
BUL146	ON SEMICONDUCTOR	BUJ105A
BUL146F	ON SEMICONDUCTOR	BUJ105AX
BUL147	ON SEMICONDUCTOR	BUJ105A
BUL147F	ON SEMICONDUCTOR	BUJ105AX
BUL216	ST MICROELECTRONICS	BU1706AB
BUL26	ST MICROELECTRONICS	BUJ103A
BUL310	ST MICROELECTRONICS	BUJ303A
BUL310PI	ST MICROELECTRONICS	BUJ303AX
BUL381	ST MICROELECTRONICS	BUJ103A, BUJ202A
BUL382	ST MICROELECTRONICS	BUJ103A, BUJ202A
BUL410	ST MICROELECTRONICS	BUJ204A, BUJ304A
BUL416	ST MICROELECTRONICS	BU1706AB

Type	Manufacturer	Philips Type
BUL44	ON SEMICONDUCTOR	BUJ101A
BUL44F	ON SEMICONDUCTOR	BUJ101AX
BUL45	ON SEMICONDUCTOR	BUJ103A
BUL45F	ON SEMICONDUCTOR	BUJ103AX
BUL48	ST MICROELECTRONICS	BUJ105A, BUJ204A
BUL49	ST MICROELECTRONICS	BUJ204A
BUL510	ST MICROELECTRONICS	BUJ304A
BUL57	ST MICROELECTRONICS	BUJ105A
BUL57PI	ST MICROELECTRONICS	BUJ105AX
BUL59	ST MICROELECTRONICS	BUJ204A
BUL67	ST MICROELECTRONICS	BUJ106A
BUL810	ST MICROELECTRONICS	BUJ305A
BUL87	ST MICROELECTRONICS	BUJ106A
BULK26	ST MICROELECTRONICS	BUJ103
BULK381	ST MICROELECTRONICS	BUJ103, BUJ202
BULK382	ST MICROELECTRONICS	BUJ103, BUJ202
BULT118	ST MICROELECTRONICS	BUJ101
BUT11A	PHILIPS SEMICONDUCTORS	BUJ202A, BUJ303A
BUT11AF	PHILIPS SEMICONDUCTORS	BUJ202AX, BUJ303AX
BUT11AX	PHILIPS SEMICONDUCTORS	BUJ202AX, BUJ303AX
BUT12A	PHILIPS SEMICONDUCTORS	BUJ204A, BUJ304A
BUT12AF	PHILIPS SEMICONDUCTORS	BUJ304AX
BUT12AX	PHILIPS SEMICONDUCTORS	BUJ304AX
BUT18A	PHILIPS SEMICONDUCTORS	BUJ204A, BUJ303A, BUJ304A
BUT18AF	PHILIPS SEMICONDUCTORS	BUJ303AX, BUJ304AX
BUT18AX	PHILIPS SEMICONDUCTORS	BUJ303AX, BUJ304AX
BUX84F	PHILIPS SEMICONDUCTORS	BUJ101AX, BUJ202AX
BUX85	PHILIPS SEMICONDUCTORS	BUJ202A, BUJ301A
BUX85F	PHILIPS SEMICONDUCTORS	BUJ202AX, BUJ301AX
BUX86P	PHILIPS SEMICONDUCTORS	BUJ101, BUJ202
BUX87P	PHILIPS SEMICONDUCTORS	BUJ202, BUJ301
BUZ100S	PHILIPS SEMICONDUCTORS	BUK7514-55A
BUZ101LE	PHILIPS SEMICONDUCTORS	BUK9575-55A
BUZ11	INFINEON	BUK7535-55A
BUZ22	INFINEON	BUK7550-100A
BV4	DIOTEC	BYX120G
BV8	DIOTEC	BYX90G
BY134	DIOTEC	1N5061
BY135	DIOTEC	1N5059
BY228	GENERAL SEMICONDUCTOR	BY228
BY228	VISHAY	BY228
BY228/13	VISHAY/ SILICONIX	BY228
BY228/15	VISHAY/ SILICONIX	BY228
BY228-13	VISHAY	BY228
BY228-15	VISHAY	BY228
BY228GP	GENERAL SEMICONDUCTOR	BY228

Type	Manufacturer	Philips Type
BY251	ITT	BYM56A
BY252	ITT	BYM56B
BY252GP	GENERAL SEMICONDUCTOR	BYM56B
BY253	ITT	BYM56C
BY253GP	GENERAL SEMICONDUCTOR	BYM56C
BY254	ITT	BYM56D
BY254GP	GENERAL SEMICONDUCTOR	BYM56D
BY255	ITT	BY228
BY255GP	GENERAL SEMICONDUCTOR	BYM56E
BY296	ITT	BYW95A
BY297	ITT	BYW95A
BY298	ITT	BYW95B
BY299	ITT	BYW96E
BY299S	FAGOR	BYW96E
BY396	ITT	BYW95A
BY396GP	FAGOR	BYW95A
BY396P	GENERAL SEMICONDUCTOR	BYW95A
BY397	ITT	BYW95A
BY397GP	FAGOR	BYW95A
BY397P	GENERAL SEMICONDUCTOR	BYW95A
BY398	ITT	BYW95B
BY398GP	FAGOR	BYW95B
BY398P	GENERAL SEMICONDUCTOR	BYW95B
BY399	ITT	BYW96E
BY399GP	FAGOR	BYW96E
BY399P	GENERAL SEMICONDUCTOR	BYW96E
BY399S	FAGOR	BYW96E
BY448	VISHAY	BY448
BY448GP	GENERAL SEMICONDUCTOR	BY448
BY458	VISHAY	BY448
BY527	VISHAY	BY527
BYG10D	VISHAY	BYG50D
BYG10G	VISHAY	BYG50G
BYG10J	VISHAY	BYG50J
BYG10K	VISHAY	BYG50K
BYG10M	VISHAY	BYG50M
BYG20D	VISHAY/ SILICONIX	BYG80D
BYG20G	VISHAY/ SILICONIX	BYG80G
BYG20J	VISHAY/ SILICONIX	BYG80J
BYG22A	VISHAY/ SILICONIX	BYG80D
BYG22B	VISHAY/ SILICONIX	BYG80D
BYG22D	VISHAY/ SILICONIX	BYG80D
BYGR20D	GENERAL SEMICONDUCTOR	BYG80D
BYGR20G	GENERAL SEMICONDUCTOR	BYG80G
BYGR20J	GENERAL SEMICONDUCTOR	BYG80J
BYM07-100	GENERAL SEMICONDUCTOR	BYD77B
BYM07-150	GENERAL SEMICONDUCTOR	BYD77C
BYM07-200	GENERAL SEMICONDUCTOR	BYD77D
BYM07-300	GENERAL SEMICONDUCTOR	BYD77G
BYM07-400	GENERAL SEMICONDUCTOR	BYD77G
BYM07-50	GENERAL SEMICONDUCTOR	BYD77A
BYM07-50	GENERAL SEMICONDUCTOR	BYD77A
BYM10-1000	GENERAL SEMICONDUCTOR	BYD17M

Type	Manufacturer	Philips Type
BYM10-1000	GENERAL SEMICONDUCTOR	S1M
BYM10-200	GENERAL SEMICONDUCTOR	BYD17D
BYM10-400	GENERAL SEMICONDUCTOR	BYD17G
BYM10-50	GENERAL SEMICONDUCTOR	PRLL4001
BYM10-50	GENERAL SEMICONDUCTOR	S1A
BYM10-600	GENERAL SEMICONDUCTOR	BYD17J
BYM10-800	GENERAL SEMICONDUCTOR	S1K
BYM11-100	GENERAL SEMICONDUCTOR	BYD37D
BYM11-1000	GENERAL SEMICONDUCTOR	BYD37M
BYM11-200	GENERAL SEMICONDUCTOR	BYD37D
BYM11-400	GENERAL SEMICONDUCTOR	BYD37G
BYM11-50	GENERAL SEMICONDUCTOR	BYD37D
BYM11-600	GENERAL SEMICONDUCTOR	BYD37J
BYM11-800	GENERAL SEMICONDUCTOR	BYD37M
BYM12-100	GENERAL SEMICONDUCTOR	BYD77B
BYM12-150	GENERAL SEMICONDUCTOR	BYD77C
BYM12-200	GENERAL SEMICONDUCTOR	BYD77D
BYM12-300	GENERAL SEMICONDUCTOR	BYD77G
BYM12-400	GENERAL SEMICONDUCTOR	BYD77G
BYM12-50	GENERAL SEMICONDUCTOR	BYD77A
BYM13-20	GENERAL SEMICONDUCTOR	PRLL5817
BYM13-30	GENERAL SEMICONDUCTOR	PRLL5818
BYM13-40	GENERAL SEMICONDUCTOR	PRLL5819
BYM36C	VISHAY	BYM36C
BYM36D	VISHAY	BYM36D
BYM36E	VISHAY	BYM36E
BYS10-25	VISHAY/ SILICONIX	BYG90-20
BYS10-35	VISHAY/ SILICONIX	BYG90-30
BYS10-45	VISHAY/ SILICONIX	BYG90-40
BYS11-90	VISHAY/ SILICONIX	BYG90-90
BYS12-90	VISHAY/ SILICONIX	BYG90-90
BYS21-45	EUPEC	1N5819
BYT03-200	ST MICROELECTRONICS	BYV28-200
BYT03-300	ST MICROELECTRONICS	BYV28-400
BYT03-400	ST MICROELECTRONICS	BYV28-400
BYT08P-200	ST MICROELECTRONICS	BYV29E-200
BYT08P-400	ST MICROELECTRONICS	BYV29-400
BYT13-1000	ST MICROELECTRONICS	BYM36E
BYT13-600	ST MICROELECTRONICS	BYM36C
BYT13-800	ST MICROELECTRONICS	BYM36E
BYT40Y	VISHAY	BYX10G
BYT42J	VISHAY	BYV36C
BYT42M	VISHAY	BYV36E
BYT43K	VISHAY/ SILICONIX	BYV26D
BYT43M	VISHAY/ SILICONIX	BYV26E
BYT51A	VISHAY/ SILICONIX	1N5059
BYT51B	VISHAY/ SILICONIX	1N5059
BYT51D	VISHAY/ SILICONIX	1N5059
BYT51G	VISHAY/ SILICONIX	1N5060
BYT51J	VISHAY/ SILICONIX	1N5061
BYT51K	VISHAY/ SILICONIX	1N5062
BYT51M	VISHAY	BYW56
BYT52G	VISHAY/ SILICONIX	BYV95B

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
BYT53D	VISHAY/ SILICONIX	BYV27-200
BYT53G	VISHAY	BYV27-400
BYT54J	VISHAY	BYV36C
BYT54M	VISHAY	BYV36E
BYT56A	VISHAY/ SILICONIX	BYM36C
BYT56B	VISHAY/ SILICONIX	BYM36C
BYT56D	VISHAY/ SILICONIX	BYM36C
BYT56G	VISHAY/ SILICONIX	BYM36C
BYT56J	VISHAY/ SILICONIX	BYM36C
BYT56K	VISHAY/ SILICONIX	BYM36E
BYT56M	VISHAY/ SILICONIX	BYM36E
BYT62	VISHAY/ SILICONIX	BYX120G
BYT77	VISHAY/ SILICONIX	BYW96E
BYT78	VISHAY/ SILICONIX	BYW96E
BYV10-20A	ST MICROELECTRONICS	1N5817
BYV12	VISHAY	BYV95A
BYV13	VISHAY/ SILICONIX	BYV95B
BYV14	VISHAY	BYV95C
BYV16	VISHAY	BYV96E
BYV26A	VISHAY	BYV26A
BYV26B	VISHAY	BYV26B
BYV26C	VISHAY	BYV26C
BYV26D	GENERAL SEMICONDUCTOR	BYV26D
BYV26D	VISHAY	BYV26D
BYV26DGP	GENERAL SEMICONDUCTOR	BYV26D
BYV26E	GENERAL SEMICONDUCTOR	BYV26E
BYV26E	VISHAY	BYV26E
BYV26EGP	GENERAL SEMICONDUCTOR	BYV26E
BYV27-100	GENERAL SEMICONDUCTOR	BYV27-100
BYV27-100	VISHAY	BYV27-100
BYV27-150	GENERAL SEMICONDUCTOR	BYV27-150
BYV27-150	VISHAY	BYV27-150
BYV27-200	GENERAL SEMICONDUCTOR	BYV27-200
BYV27-200	VISHAY	BYV27-200
BYV27-50	GENERAL SEMICONDUCTOR	BYV27-50
BYV27-50	VISHAY	BYV27-50
BYV27-600	VISHAY	BYV27-600
BYV28-100	GENERAL SEMICONDUCTOR	BYV28-100
BYV28-100	VISHAY	BYV28-100
BYV28-150	GENERAL SEMICONDUCTOR	BYV28-150
BYV28-150	VISHAY	BYV28-150
BYV28-200	GENERAL SEMICONDUCTOR	BYV28-200
BYV28-200	VISHAY	BYV28-200
BYV28-50	GENERAL SEMICONDUCTOR	BYV28-50
BYV28-50	VISHAY	BYV28-50
BYV28-600	VISHAY	BYV28-600
BYV95A	GENERAL SEMICONDUCTOR	BYV95A
BYV95B	GENERAL SEMICONDUCTOR	BYV95B
BYV95C	GENERAL SEMICONDUCTOR	BYV95C
BYV96E	GENERAL SEMICONDUCTOR	BYV96E
BYV98-100	VISHAY	BYV28-100
BYV98-150	VISHAY	BYV28-150
BYV98-200	VISHAY	BYV28-200

Type	Manufacturer	Philips Type
BYV98-50	VISHAY	BYV28-50
BYW100-200	ST MICROELECTRONICS	BYV27-200
BYW27-100	FAGOR	1N5059
BYW27-200	FAGOR	1N5059
BYW27-400	FAGOR	1N5060
BYW27-50	FAGOR	1N5059
BYW27-600	FAGOR	1N5061
BYW27-800	FAGOR	1N5062
BYW33	VISHAY/ SILICONIX	BYV95B
BYW34	VISHAY/ SILICONIX	BYV95B
BYW52	VISHAY/ SILICONIX	1N5059
BYW53	VISHAY/ SILICONIX	1N5060
BYW54	VISHAY	BYW54
BYW55	VISHAY	BYW55
BYW56	VISHAY	BYW56
BYW72	VISHAY/ SILICONIX	BYW95A
BYW73	VISHAY/ SILICONIX	BYW95B
BYW74	VISHAY/ SILICONIX	BYW95B
BYW75	GENERAL SEMICONDUCTOR	BYW95D
BYW76	GENERAL SEMICONDUCTOR	BYW95E
BYW82	VISHAY/ SILICONIX	BYM56A
BYW83	VISHAY/ SILICONIX	BYM56B
BYW84	VISHAY/ SILICONIX	BYM56C
BYW85	VISHAY/ SILICONIX	BYM56D
BYW86	VISHAY/ SILICONIX	BYM56E
BYW98-100	ST MICROELECTRONICS	BYV28-100
BYW98-150	ST MICROELECTRONICS	BYV28-150
BYW98-200	ST MICROELECTRONICS	BYV28-200
BYX55/350	DIOTEC	BYW95B
BYX82	VISHAY/ SILICONIX	1N5059
BYX83	VISHAY/ SILICONIX	1N5060
BYX84	VISHAY/ SILICONIX	1N5061
BYX85	VISHAY/ SILICONIX	1N5062
BYX86	VISHAY	BYW56
BZG03-C10	VISHAY	BZG03-C10
BZG03-C100	VISHAY	BZG03-C100
BZG03-C11	VISHAY	BZG03-C11
BZG03-C110	VISHAY	BZG03-C110
BZG03-C12	VISHAY	BZG03-C12
BZG03-C120	VISHAY	BZG03-C120
BZG03-C13	VISHAY	BZG03-C13
BZG03-C130	VISHAY	BZG03-C130
BZG03-C15	VISHAY	BZG03-C15
BZG03-C150	VISHAY	BZG03-C150
BZG03-C16	VISHAY	BZG03-C16
BZG03-C160	VISHAY	BZG03-C160
BZG03-C18	VISHAY	BZG03-C18
BZG03-C180	VISHAY	BZG03-C180
BZG03-C20	VISHAY	BZG03-C20
BZG03-C200	VISHAY	BZG03-C200
BZG03-C22	VISHAY	BZG03-C22
BZG03-C220	VISHAY	BZG03-C220

Type	Manufacturer	Philips Type
BZG03-C24	VISHAY	BZG03-C24
BZG03-C240	VISHAY	BZG03-C240
BZG03-C27	VISHAY	BZG03-C27
BZG03-C270	VISHAY	BZG03-C270
BZG03-C30	VISHAY	BZG03-C30
BZG03-C33	VISHAY	BZG03-C33
BZG03-C36	VISHAY	BZG03-C36
BZG03-C39	VISHAY	BZG03-C39
BZG03-C43	VISHAY	BZG03-C43
BZG03-C47	VISHAY	BZG03-C47
BZG03-C51	VISHAY	BZG03-C51
BZG03-C56	VISHAY	BZG03-C56
BZG03-C62	VISHAY	BZG03-C62
BZG03-C68	VISHAY	BZG03-C68
BZG03-C75	VISHAY	BZG03-C75
BZG03-C82	VISHAY	BZG03-C82
BZG03-C91	VISHAY	BZG03-C91
BZG04-10	VISHAY	BZG04-10
BZG04-100	VISHAY	BZG04-100
BZG04-11	VISHAY	BZG04-11
BZG04-110	VISHAY	BZG04-110
BZG04-12	VISHAY	BZG04-12
BZG04-120	VISHAY	BZG04-120
BZG04-13	VISHAY	BZG04-13
BZG04-130	VISHAY	BZG04-130
BZG04-15	VISHAY	BZG04-15
BZG04-150	VISHAY	BZG04-150
BZG04-16	VISHAY	BZG04-16
BZG04-160	VISHAY	BZG04-160
BZG04-18	VISHAY	BZG04-18
BZG04-180	VISHAY	BZG04-180
BZG04-20	VISHAY	BZG04-20
BZG04-200	VISHAY	BZG04-200
BZG04-22	VISHAY	BZG04-22
BZG04-220	VISHAY	BZG04-220
BZG04-24	VISHAY	BZG04-24
BZG04-27	VISHAY	BZG04-27
BZG04-30	VISHAY	BZG04-30
BZG04-33	VISHAY	BZG04-33
BZG04-36	VISHAY	BZG04-36
BZG04-39	VISHAY	BZG04-39
BZG04-43	VISHAY	BZG04-43
BZG04-47	VISHAY	BZG04-47
BZG04-51	VISHAY	BZG04-51
BZG04-56	VISHAY	BZG04-56
BZG04-62	VISHAY	BZG04-62
BZG04-68	VISHAY	BZG04-68
BZG04-75	VISHAY	BZG04-75
BZG04-82	VISHAY	BZG04-82
BZG04-8V2	VISHAY	BZG04-8V2
BZG04-91	VISHAY	BZG04-91
BZG04-9V1	VISHAY	BZG04-9V1
BZG05C10	GEN.SEMIC.	BZG01C10

Type	Manufacturer	Philips Type
BZG05C10	VISHAY	BZG03-C10
BZG05-C100	VISHAY	BZG03-C100
BZG05C11	GEN.SEMIC.	BZG01C11
BZG05C11	VISHAY	BZG03-C11
BZG05C12	GEN.SEMIC.	BZG01C12
BZG05C12	VISHAY	BZG03-C12
BZG05C13	GEN.SEMIC.	BZG01C13
BZG05C13	VISHAY	BZG03-C13
BZG05C15	GEN.SEMIC.	BZG01C15
BZG05C15	VISHAY	BZG03-C15
BZG05-C16	VISHAY	BZG03-C16
BZG05-C18	VISHAY	BZG03-C18
BZG05-C20	VISHAY	BZG03-C20
BZG05-C22	VISHAY	BZG03-C22
BZG05-C24	VISHAY	BZG03-C24
BZG05-C27	VISHAY	BZG03-C27
BZG05-C30	VISHAY	BZG03-C30
BZG05-C33	VISHAY	BZG03-C33
BZG05-C36	VISHAY	BZG03-C36
BZG05-C39	VISHAY	BZG03-C39
BZG05-C43	VISHAY	BZG03-C43
BZG05-C47	VISHAY	BZG03-C47
BZG05-C51	VISHAY	BZG03-C51
BZG05-C56	VISHAY	BZG03-C56
BZG05-C62	VISHAY	BZG03-C62
BZG05-C68	VISHAY	BZG03-C68
BZG05-C75	VISHAY	BZG03-C75
BZG05-C82	VISHAY	BZG03-C82
BZG05-C91	VISHAY	BZG03-C91
BZT03/Cxxx	VISHAY/ SILICONIX	BZT03-Cxxx
BZT03/Dxxx	VISHAY/ SILICONIX	BZT03-Cxxx
BZV47-Cxxx	ST MICROELECTRONICS	BZD23-Cxxx
BZW03-C10	VISHAY	BZW03-C10
BZW03-C100	VISHAY	BZW03-C100
BZW03-C11	VISHAY	BZW03-C11
BZW03-C110	VISHAY	BZW03-C110
BZW03-C12	VISHAY	BZW03-C12
BZW03-C120	VISHAY	BZW03-C120
BZW03-C13	VISHAY	BZW03-C13
BZW03-C130	VISHAY	BZW03-C130
BZW03-C15	VISHAY	BZW03-C15
BZW03-C150	VISHAY	BZW03-C150
BZW03-C16	VISHAY	BZW03-C16
BZW03-C160	VISHAY	BZW03-C160
BZW03-C18	VISHAY	BZW03-C18
BZW03-C180	VISHAY	BZW03-C180
BZW03-C20	VISHAY	BZW03-C20
BZW03-C200	VISHAY	BZW03-C200
BZW03-C22	VISHAY	BZW03-C22
BZW03-C220	VISHAY	BZW03-C220
BZW03-C24	VISHAY	BZW03-C24
BZW03-C240	VISHAY	BZW03-C240
BZW03-C27	VISHAY	BZW03-C27

Type	Manufacturer	Philips Type
BZW03-C270	VISHAY	BZW03-C270
BZW03-C30	VISHAY	BZW03-C30
BZW03-C33	VISHAY	BZW03-C33
BZW03-C36	VISHAY	BZW03-C36
BZW03-C39	VISHAY	BZW03-C39
BZW03-C43	VISHAY	BZW03-C43
BZW03-C47	VISHAY	BZW03-C47
BZW03-C51	VISHAY	BZW03-C51
BZW03-C56	VISHAY	BZW03-C56
BZW03-C62	VISHAY	BZW03-C62
BZW03-C68	VISHAY	BZW03-C68
BZW03-C75	VISHAY	BZW03-C75
BZW03-C7V5	VISHAY	BZW03-C7V5
BZW03-C82	VISHAY	BZW03-C82
BZW03-C8V2	VISHAY	BZW03-C8V2
BZW03-C9.1	VISHAY	BZW03-C9.1
BZW03-C91	VISHAY	BZW03-C91
BZW03-D10	VISHAY	BZW03-C10
BZW03-D100	VISHAY	BZW03-C100
BZW03-D11	VISHAY	BZW03-C11
BZW03-D110	VISHAY	BZW03-C110
BZW03-D12	VISHAY	BZW03-C12
BZW03-D120	VISHAY	BZW03-C120
BZW03-D13	VISHAY	BZW03-C13
BZW03-D130	VISHAY	BZW03-C130
BZW03-D15	VISHAY	BZW03-C15
BZW03-D150	VISHAY	BZW03-C150
BZW03-D16	VISHAY	BZW03-C16
BZW03-D160	VISHAY	BZW03-C160
BZW03-D18	VISHAY	BZW03-C18
BZW03-D180	VISHAY	BZW03-C180
BZW03-D20	VISHAY	BZW03-C20
BZW03-D200	VISHAY	BZW03-C200
BZW03-D22	VISHAY	BZW03-C22
BZW03-D220	VISHAY	BZW03-C220
BZW03-D24	VISHAY	BZW03-C24
BZW03-D240	VISHAY	BZW03-C240
BZW03-D27	VISHAY	BZW03-C27
BZW03-D270	VISHAY	BZW03-C270
BZW03-D30	VISHAY	BZW03-C30
BZW03-D33	VISHAY	BZW03-C33
BZW03-D36	VISHAY	BZW03-C36
BZW03-D39	VISHAY	BZW03-C39
BZW03-D43	VISHAY	BZW03-C43
BZW03-D47	VISHAY	BZW03-C47
BZW03-D51	VISHAY	BZW03-C51
BZW03-D56	VISHAY	BZW03-C56
BZW03-D62	VISHAY	BZW03-C62
BZW03-D68	VISHAY	BZW03-C68
BZW03-D7.5	VISHAY	BZW03-C7V5
BZW03-D75	VISHAY	BZW03-C75
BZW03-D8.2	VISHAY	BZW03-C8V2

Type	Manufacturer	Philips Type
BZW03-D82	VISHAY	BZW03-C82
BZW03-D9.1	VISHAY	BZW03-C9.1
BZW03-D91	VISHAY	BZW03-C91
BZW04-10	GEN.SEMIC.	BZW03-C10
BZW04-10	ST MICROELECTRONICS	BZW03-C10
BZW04-102	GEN.SEMIC.	BZW03-C100
BZW04-102	ST MICROELECTRONICS	BZW03-C100
BZW04-11	GEN.SEMIC.	BZW03-C11
BZW04-11	ST MICROELECTRONICS	BZW03-C11
BZW04-110	GEN.SEMIC.	BZW03-C110
BZW04-110	ST MICROELECTRONICS	BZW03-C110
BZW04-128	GEN.SEMIC.	BZW03-C120
BZW04-128	ST MICROELECTRONICS	BZW03-C120
BZW04-13	GEN.SEMIC.	BZW03-C12
BZW04-13	ST MICROELECTRONICS	BZW03-C12
BZW04-136	GEN.SEMIC.	BZW03-C130
BZW04-136	ST MICROELECTRONICS	BZW03-C130
BZW04-14	GEN.SEMIC.	BZW03-C13
BZW04-14	ST MICROELECTRONICS	BZW03-C13
BZW04-145	GEN.SEMIC.	BZW03-C130
BZW04-145	ST MICROELECTRONICS	BZW03-C130
BZW04-15	GEN.SEMIC.	BZW03-C15
BZW04-15	ST MICROELECTRONICS	BZW03-C15
BZW04-154	GEN.SEMIC.	BZW03-C150
BZW04-154	ST MICROELECTRONICS	BZW03-C150
BZW04-17	GEN.SEMIC.	BZW03-C16
BZW04-17	ST MICROELECTRONICS	BZW03-C16
BZW04-171	GEN.SEMIC.	BZW03-C160
BZW04-171	ST MICROELECTRONICS	BZW03-C160
BZW04-188	GEN.SEMIC.	BZW03-C180
BZW04-188	ST MICROELECTRONICS	BZW03-C180
BZW04-19	GEN.SEMIC.	BZW03-C18
BZW04-19	ST MICROELECTRONICS	BZW03-C18
BZW04-20	GEN.SEMIC.	BZW03-C20
BZW04-20	ST MICROELECTRONICS	BZW03-C20
BZW04-213	GEN.SEMIC.	BZW03-C200
BZW04-213	ST MICROELECTRONICS	BZW03-C200
BZW04-23	GEN.SEMIC.	BZW03-C22
BZW04-23	ST MICROELECTRONICS	BZW03-C22
BZW04-239	GEN.SEMIC.	BZW03-C220
BZW04-239	ST MICROELECTRONICS	BZW03-C220
BZW04-256	GEN.SEMIC.	BZW03-C240
BZW04-256	ST MICROELECTRONICS	BZW03-C240
BZW04-26	GEN.SEMIC.	BZW03-C24
BZW04-26	ST MICROELECTRONICS	BZW03-C24
BZW04-273	GEN.SEMIC.	BZW03-C270
BZW04-273	ST MICROELECTRONICS	BZW03-C270
BZW04-28	GEN.SEMIC.	BZW03-C27
BZW04-28	ST MICROELECTRONICS	BZW03-C27
BZW04-299	GEN.SEMIC.	BZW03-C300
BZW04-299	ST MICROELECTRONICS	BZW03-C300
BZW04-31	GEN.SEMIC.	BZW03-C30
BZW04-31	ST MICROELECTRONICS	BZW03-C30

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
BZW04-33	GEN.SEMIC.	BZW03-C33
BZW04-33	ST MICROELECTRONICS	BZW03-C33
BZW04-342	GEN.SEMIC.	BZW03-C330
BZW04-342	ST MICROELECTRONICS	BZW03-C330
BZW04-37	GEN.SEMIC.	BZW03-C36
BZW04-37	ST MICROELECTRONICS	BZW03-C36
BZW04-376	GEN.SEMIC.	BZW03-C360
BZW04-376	ST MICROELECTRONICS	BZW03-C360
BZW04-40	GEN.SEMIC.	BZW03-C39
BZW04-40	ST MICROELECTRONICS	BZW03-C39
BZW04-44	GEN.SEMIC.	BZW03-C43
BZW04-44	ST MICROELECTRONICS	BZW03-C43
BZW04-48	GEN.SEMIC.	BZW03-C47
BZW04-48	ST MICROELECTRONICS	BZW03-C47
BZW04-53	GEN.SEMIC.	BZW03-C51
BZW04-53	ST MICROELECTRONICS	BZW03-C51
BZW04-58	GEN.SEMIC.	BZW03-C56
BZW04-58	ST MICROELECTRONICS	BZW03-C56
BZW04-64	GEN.SEMIC.	BZW03-C62
BZW04-64	ST MICROELECTRONICS	BZW03-C62
BZW04-70	GEN.SEMIC.	BZW03-C68
BZW04-70	ST MICROELECTRONICS	BZW03-C68
BZW04-78	GEN.SEMIC.	BZW03-C75
BZW04-78	ST MICROELECTRONICS	BZW03-C75
BZW04-7V8	GEN.SEMIC.	BZW03-C7V5
BZW04-7V8	ST MICROELECTRONICS	BZW03-C7V5
BZW04-85	GEN.SEMIC.	BZW03-C82
BZW04-85	ST MICROELECTRONICS	BZW03-C82
BZW04-8V5	GEN.SEMIC.	BZW03-C8V2
BZW04-8V5	ST MICROELECTRONICS	BZW03-C8V2
BZW04-94	GEN.SEMIC.	BZW03-C91
BZW04-94	ST MICROELECTRONICS	BZW03-C91
BZW04-9V4	GEN.SEMIC.	BZW03-C9V1
BZW04-9V4	ST MICROELECTRONICS	BZW03-C9V1
BZW06-10	GEN.SEMIC.	BZW03-C10
BZW06-102	GEN.SEMIC.	BZW03-C100
BZW06-128	GEN.SEMIC.	BZW03-C120
BZW06-13	GEN.SEMIC.	BZW03-C12
BZW06-15	GEN.SEMIC.	BZW03-C15
BZW06-154	GEN.SEMIC.	BZW03-C150
BZW06-171	GEN.SEMIC.	BZW03-C160
BZW06-188	GEN.SEMIC.	BZW03-C180
BZW06-19	GEN.SEMIC.	BZW03-C18
BZW06-20	GEN.SEMIC.	BZW03-C20
BZW06-213	GEN.SEMIC.	BZW03-C200
BZW06-23	GEN.SEMIC.	BZW03-C22
BZW06-256	GEN.SEMIC.	BZW03-C240
BZW06-26	GEN.SEMIC.	BZW03-C24
BZW06-273	GEN.SEMIC.	BZW03-C270
BZW06-28	GEN.SEMIC.	BZW03-C27
BZW06-299	GEN.SEMIC.	BZW03-C300
BZW06-31	GEN.SEMIC.	BZW03-C30
BZW06-33	GEN.SEMIC.	BZW03-C33

Type	Manufacturer	Philips Type
BZW06-342	GEN.SEMIC.	BZW03-C330
BZW06-376	GEN.SEMIC.	BZW03-C360
BZW06-40	GEN.SEMIC.	BZW03-C39
BZW06-48	GEN.SEMIC.	BZW03-C47
BZW06-58	GEN.SEMIC.	BZW03-C56
BZW06-6V4	GEN.SEMIC.	BZW03-C7V5
BZW06-70	GEN.SEMIC.	BZW03-C68
BZW06-85	GEN.SEMIC.	BZW03-C82
BZW06-8V5	GEN.SEMIC.	BZW03-C8V2
BZX85-C10	GEN.SEMIC.	BZD23-C10
BZX85-C10	VISHAY	BZD23-C10
BZX85-C100	GEN.SEMIC.	BZD23-C100
BZX85-C100RL	ON SEMICONDUCTOR	BZD23-C100
BZX85-C10RL	ON SEMICONDUCTOR	BZD23-C10
BZX85-C11	GEN.SEMIC.	BZD23-C11
BZX85-C11	VISHAY	BZD23-C11
BZX85-C110	GEN.SEMIC.	BZD23-C110
BZX85-C12	GEN.SEMIC.	BZD23-C12
BZX85-C12	VISHAY	BZD23-C12
BZX85-C120	GEN.SEMIC.	BZD23-C120
BZX85-C12RL	ON SEMICONDUCTOR	BZD23-C12
BZX85-C13	GEN.SEMIC.	BZD23-C13
BZX85-C13	VISHAY	BZD23-C13
BZX85-C130	GEN.SEMIC.	BZD23-C130
BZX85-C13RL	ON SEMICONDUCTOR	BZD23-C13
BZX85-C15	GEN.SEMIC.	BZD23-C15
BZX85-C15	VISHAY	BZD23-C15
BZX85-C150	GEN.SEMIC.	BZD23-C150
BZX85-C15RL	ON SEMICONDUCTOR	BZD23-C15
BZX85-C16	GEN.SEMIC.	BZD23-C16
BZX85-C16	VISHAY	BZD23-C16
BZX85-C160	GEN.SEMIC.	BZD23-C160
BZX85-C16RL	ON SEMICONDUCTOR	BZD23-C16
BZX85-C18	GEN.SEMIC.	BZD23-C18
BZX85-C18	VISHAY	BZD23-C18
BZX85-C180	GEN.SEMIC.	BZD23-C180
BZX85-C18RL	ON SEMICONDUCTOR	BZD23-C18
BZX85-C20	GEN.SEMIC.	BZD23-C20
BZX85-C20	VISHAY	BZD23-C20
BZX85-C200	GEN.SEMIC.	BZD23-C200
BZX85-C22	GEN.SEMIC.	BZD23-C22
BZX85-C22	VISHAY	BZD23-C22
BZX85-C22RL	ON SEMICONDUCTOR	BZD23-C22
BZX85-C24	GEN.SEMIC.	BZD23-C24
BZX85-C24RL	ON SEMICONDUCTOR	BZD23-C24
BZX85-C27	GEN.SEMIC.	BZD23-C27
BZX85-C27	VISHAY	BZD23-C27
BZX85-C27RL	ON SEMICONDUCTOR	BZD23-C27
BZX85-C30	GEN.SEMIC.	BZD23-C30
BZX85-C30	VISHAY	BZD23-C30
BZX85-C30RL	ON SEMICONDUCTOR	BZD23-C30
BZX85-C33	GEN.SEMIC.	BZD23-C33

Type	Manufacturer	Philips Type
BZX85-C33	VISHAY	BZD23-C33
BZX85-C33RL	ON SEMICONDUCTOR	BZD23-C33
BZX85-C36	GEN.SEMIC.	BZD23-C36
BZX85-C36	VISHAY	BZD23-C36
BZX85-C36RL	ON SEMICONDUCTOR	BZD23-C36
BZX85-C39	GEN.SEMIC.	BZD23-C39
BZX85-C39	VISHAY	BZD23-C39
BZX85-C43	GEN.SEMIC.	BZD23-C43
BZX85-C43	VISHAY	BZD23-C43
BZX85-C43RL	ON SEMICONDUCTOR	BZD23-C43
BZX85-C47	GEN.SEMIC.	BZD23-C47
BZX85-C47	VISHAY	BZD23-C47
BZX85-C47RL	ON SEMICONDUCTOR	BZD23-C47
BZX85-C51	GEN.SEMIC.	BZD23-C51
BZX85-C51	VISHAY	BZD23-C51
BZX85-C56	GEN.SEMIC.	BZD23-C56
BZX85-C56	VISHAY	BZD23-C56
BZX85-C56RL	ON SEMICONDUCTOR	BZD23-C56
BZX85-C62	GEN.SEMIC.	BZD23-C62
BZX85-C62	VISHAY	BZD23-C62
BZX85-C62RL	ON SEMICONDUCTOR	BZD23-C62
BZX85-C68	GEN.SEMIC.	BZD23-C68
BZX85-C68	VISHAY	BZD23-C68
BZX85-C75	GEN.SEMIC.	BZD23-C75
BZX85-C75	VISHAY	BZD23-C75
BZX85-C75RL	ON SEMICONDUCTOR	BZD23-C75
BZX85-C7V5	GEN.SEMIC.	BZD23-C7V5
BZX85-C7V5	VISHAY	BZD23-C7V5
BZX85-C7V5RL	ON SEMICONDUCTOR	BZD23-C7V5
BZX85-C82	GEN.SEMIC.	BZD23-C82
BZX85-C82RL	ON SEMICONDUCTOR	BZD23-C82
BZX85-C8V2	GEN.SEMIC.	BZD23-C8V2
BZX85-C8V2	VISHAY	BZD23-C8V2
BZX85-C8V2RL	ON SEMICONDUCTOR	BZD23-C8V2
BZX85-C91	GEN.SEMIC.	BZD23-C91
BZX85-C9V1	GEN.SEMIC.	BZD23-C9V1
BZX85-C9V1	VISHAY	BZD23-C9V1
BZX85-C9V1RL	ON SEMICONDUCTOR	BZD23-C9V1
BZY97-Cxxx	FAGOR	BZT03-Cxxx
CA201-2	FUJI	BYV95A
CA201-4	FUJI	BYV95B
CA201-6	FUJI	BYV95C
CB903-4	FUJI	BYV27-400
CB903-4S	FUJI	BYV27-400
CB903-6	FUJI	BYV28-600
CG1	GENERAL SEMICONDUCTOR	BY448
CG2	GENERAL SEMICONDUCTOR	BY228
CG3	GENERAL SEMICONDUCTOR	BY228
CGP15	GENERAL SEMICONDUCTOR	BY228
CGP20	GENERAL SEMICONDUCTOR	BY228
CGP30	GENERAL SEMICONDUCTOR	BY228
CTB33	SANKEN	PBYR3045WT
CTB33M	SANKEN	PBYR3045WT

Type	Manufacturer	Philips Type
CTB34	ALLEGRO	PBYR3045WT
CTB34M	ALLEGRO	PBYR3045WT
D1F20	SHINDENGEN	S1D
D1F60	SHINDENGEN	S1J
D1FL20U	SHINDENGEN	BYG80D
D1FL40	SHINDENGEN	BYG80G
D1FS4	SHINDENGEN	BYG90-40
D1NS4	SHINDENGEN	1N5819
D2L20U	SHINDENGEN	BYV27-200
DA3/1000	EUPEC	BYM56E
DD1000	DIOTEC	BY8410
DD1200	DIOTEC	BY8412
DD1400	DIOTEC	BY8414
DD1600	DIOTEC	BY8416
DD1800	DIOTEC	BY8418
DD300	DIOTEC	BY8404
DD600	DIOTEC	BY8406
DFB20TB	SANYO	BYW95A
DFB20TE	SANYO	BYW95B
DFB20TL	SANYO	BYW96E
DFC15TE	SANYO	BYV95B
DFH10TE	SANYO	BYV95B
DG1	GENERAL SEMICONDUCTOR	BY448
DG2	GENERAL SEMICONDUCTOR	BY228
DG3	GENERAL SEMICONDUCTOR	BY228
DGP15	GENERAL SEMICONDUCTOR	BY228
DGP20	GENERAL SEMICONDUCTOR	BY228
DGP30	GENERAL SEMICONDUCTOR	BY228
DHM3E30	HITACHI	BY8404
DHM3FJ60	HITACHI	BY8206
DHM3FL80	HITACHI	BY8108
DHM3HC80	HITACHI	BY8108
DHM3HD80	HITACHI	BY8108
DHM3HE120	HITACHI	BY8112
DHM3K20	HITACHI	BY505
DL4001	MICROSEMI/MICRO QUALITY	PRLL4001
DL4003	MICROSEMI/MICRO QUALITY	BYD17D
DL4004	MICROSEMI/MICRO QUALITY	BYD17G
DL4005	MICROSEMI/MICRO QUALITY	BYD17J
DL4007	MICROSEMI/MICRO QUALITY	BYD17M
DL4737A	RECTRON	BZD27-C7V5
DL4738A	RECTRON	BZD27-C8V2
DL4739A	RECTRON	BZD27-C9V1
DL4740A	RECTRON	BZD27-C10
DL4741A	RECTRON	BZD27-C11
DL4742A	RECTRON	BZD27-C12
DL4743A	RECTRON	BZD27-C13
DL4744A	RECTRON	BZD27-C15
DL4745A	RECTRON	BZD27-C16
DL4746A	RECTRON	BZD27-C18
DL4747A	RECTRON	BZD27-C20
DL4748A	RECTRON	BZD27-C22
DL4749A	RECTRON	BZD27-C24

Type	Manufacturer	Philips Type
DL4750A	RECTRON	BZD27-C27
DL4751A	RECTRON	BZD27-C30
DL4752A	RECTRON	BZD27-C33
DL4753A	RECTRON	BZD27-C36
DL4754A	RECTRON	BZD27-C39
DL4755A	RECTRON	BZD27-C43
DL4756A	RECTRON	BZD27-C47
DL4757A	RECTRON	BZD27-C51
DL4758A	RECTRON	BZD27-C56
DL4759A	RECTRON	BZD27-C62
DL4760A	RECTRON	BZD27-C68
DL4761A	RECTRON	BZD27-C75
DL4762A	RECTRON	BZD27-C82
DL4763A	RECTRON	BZD27-C91
DL4764A	RECTRON	BZD27-C100
DL4933	MICROSEMI/MICRO QUALITY	BYD37D
DL4934	MICROSEMI/MICRO QUALITY	BYD37D
DL4935	MICROSEMI/MICRO QUALITY	BYD37D
DL4936	MICROSEMI/MICRO QUALITY	BYD37G
DL4937	MICROSEMI/MICRO QUALITY	BYD37J
DL5817	MICROSEMI/MICRO QUALITY	PRLL5817
DL5818	MICROSEMI/MICRO QUALITY	PRLL5818
DL5819	MICROSEMI/MICRO QUALITY	PRLL5819
DLA11C	SANYO	BYG80D
DLC20C	SANYO	BYV27-200
DLE30B	SANYO	BYV28-100
DLE30C	SANYO	BYV28-200
DLE30E	SANYO	BYV28-400
DLF30C	SANYO	BYV28-200
DLF30E	SANYO	BYV28-400
DLFR106	MICROSEMI/MICRO QUALITY	BYD37M
DLFR107	MICROSEMI/MICRO QUALITY	BYD37M
DLSF11	MICROSEMI/MICRO QUALITY	BYD77A
DLSF12	MICROSEMI/MICRO QUALITY	BYD77B
DLSF13	MICROSEMI/MICRO QUALITY	BYD77C
DLSF14	MICROSEMI/MICRO QUALITY	BYD77D
DLSF15	MICROSEMI/MICRO QUALITY	BYD77G
DLSF16	MICROSEMI/MICRO QUALITY	BYD77G
DS135C	SANYO	1N5060
DS135E	SANYO	1N5059
DSA12TG	SANYO	1N5061
DSA17C	SANYO	1N5059
DSA17E	SANYO	1N5060
DSA20TG	SANYO	BYM56C
DSA20TL	SANYO	BYM56E
DSA26C	SANYO	BYM56A
DSA26E	SANYO	BYM56B
DTA6C-N	SANYO	BT137-600
DTA6E-N	SANYO	BT137-600
DTA6G-N	SANYO	BT137-600
DTB3B	SANYO	BTA204-600F
DTB3C	SANYO	BTA204-600F
DTB3E	SANYO	BTA204-600F

Type	Manufacturer	Philips Type
DTB3G	SANYO	BTA204-600F
DTC10C-N	SANYO	BT138-600F
DTC10E-N	SANYO	BT138-600F
DTC10G-N	SANYO	BT138-800F
DTC12		
DTC12C-N	SANYO	BT139-600
DTC12C-N	SANYO	BT139-600
DTC12E-N	SANYO	BT139-600
DTC12E-N	SANYO	BT139-600
DTC12G-N	SANYO	BT139-600
DTC8C-N	SANYO	BT138-600
DTC8E-N	SANYO	BT138-600
DTC8G-N	SANYO	BT138-600
DTM10C-N	SANYO	BT138X-600
DTM10E-N	SANYO	BT138X-600
DTM10G-N	SANYO	BT138X-600
DTM6C-N	SANYO	BT137X-600
DTM6E-N	SANYO	BT137X-600
DTM6G-N	SANYO	BT137X-600
DTM8C-N	SANYO	BT138X-600
DTM8E-N	SANYO	BT138X-600
DTM8G-N	SANYO	BT138X-600
DTN12G	SANYO	BT139X-600F
DTN6E	SANYO	BT137X-600F
DTN6G	SANYO	BT137X-600F
DTN8E	SANYO	BT137X-600F
DTN8G	SANYO	BT138X-600F
EBT1103	SHINDENGEN	BUJ403B, BUJ403BX
EC10QS02L	NIEC	BYG90-20
EC10QS03	NIEC	BYG90-30
EC10QS04	NIEC	BYG90-40
EC10QS09	NIEC	BYG90-90
EC11FS1	NIEC	BYG80D
EC11FS2	NIEC	BYG80D
EC11FS3	NIEC	BYG80G
EC11FS4	NIEC	BYG80G
EC8FS6	NIEC	BYG80J
EPM101	RECTRON	BYG80A
EPM102	RECTRON	BYG80B
EPM103	RECTRON	BYG80C
EPM104	RECTRON	BYG80D
EPM106	RECTRON	BYG80G
EG01C	SANKEN	BYV26E
EGF1A	FAIRCHILD	ES1A
EGF1A	GENERAL SEMICONDUCTOR	BYG80D
EGF1B	FAIRCHILD	ES1B
EGF1B	GENERAL SEMICONDUCTOR	BYG80D
EGF1C	FAIRCHILD	ES1C
EGF1C	GENERAL SEMICONDUCTOR	BYG80D
EGF1D	FAIRCHILD	ES1D
EGF1D	GENERAL SEMICONDUCTOR	BYG80D
EGL34A	GENERAL SEMICONDUCTOR	BYD77A
EGL34B	GENERAL SEMICONDUCTOR	BYD77B

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
EGL34C	GENERAL SEMICONDUCTOR	BYD77C
EGL34D	GENERAL SEMICONDUCTOR	BYD77D
EGL34F	GENERAL SEMICONDUCTOR	BYD77G
EGL34G	GENERAL SEMICONDUCTOR	BYD77G
EGL41A	GENERAL SEMICONDUCTOR	BYD77A
EGL41B	GENERAL SEMICONDUCTOR	BYD77B
EGL41C	GENERAL SEMICONDUCTOR	BYD77C
EGL41D	GENERAL SEMICONDUCTOR	BYD77D
EGL41F	GENERAL SEMICONDUCTOR	BYD77G
EGL41G	GENERAL SEMICONDUCTOR	BYD77G
EGL41G	GENERAL SEMICONDUCTOR	BYD77G
EGP10A	GENERAL SEMICONDUCTOR	BYD73A
EGP10B	GENERAL SEMICONDUCTOR	BYD73B
EGP10C	GENERAL SEMICONDUCTOR	BYD73C
EGP10D	GENERAL SEMICONDUCTOR	BYD73D
EGP10G	FAIRCHILD	BYD73G
EGP10G	GENERAL SEMICONDUCTOR	BYD73G
EGP10J	FAIRCHILD	BYV27-600
EGP10K	FAIRCHILD	BYV26D
EGP20A	GENERAL SEMICONDUCTOR	BYV27-50
EGP20B	GENERAL SEMICONDUCTOR	BYV27-100
EGP20C	GENERAL SEMICONDUCTOR	BYV27-150
EGP20D	GENERAL SEMICONDUCTOR	BYV27-200
EGP20G	GENERAL SEMICONDUCTOR	BYV27-400
EGP30A	GENERAL SEMICONDUCTOR	BYV28-50
EGP30B	GENERAL SEMICONDUCTOR	BYV28-100
EGP30C	GENERAL SEMICONDUCTOR	BYV28-150
EGP30D	GENERAL SEMICONDUCTOR	BYV28-200
EGP30F	GENERAL SEMICONDUCTOR	BYV28-400
EGP30G	GENERAL SEMICONDUCTOR	BYV28-400
EK03	SANKEN	1N5818
EK04	SANKEN	1N5819
EK13	SANKEN	1N5818
EK14	SANKEN	1N5819
EM01	SANKEN	1N5060
EM01A	SANKEN	1N5061
EM01Z	SANKEN	1N5059
EM1	SANKEN	1N5060
EM1A	SANKEN	1N5061
EM1B	SANKEN	1N5062
EM1Y	SANKEN	1N5059
EM1Z	SANKEN	1N5059
EM2	SANKEN	BYM56B
EM2A	SANKEN	BYM56C
EM2B	SANKEN	BYM56D
ER1A	DIOTEC	BYG80D
ER1B	DIOTEC	BYG80D
ER1C	DIOTEC	BYG80D
ER1D	DIOTEC	BYG80D
ER1E	DIOTEC	BYG80G
ER1G	MICROSEMI/MICRO QUALITY	BYG80G
ER1J	MICROSEMI/MICRO QUALITY	BYG80J
ERA15-01	FUJI	1N5059

Type	Manufacturer	Philips Type
ERA15-02	FUJI	1N5059
ERA15-04	FUJI	1N5060
ERA15-06	FUJI	1N4005ID
ERA15-08	FUJI	1N4006ID
ERA15-10	FUJI	BYW56
ERA17-02	FUJI	1N5059
ERA17-04	FUJI	1N5060
ERA18-02	FUJI	BYV95A
ERA18-04	FUJI	BYV95B
ERA22-02	FUJI	BYD33D
ERA22-04	FUJI	BYD33G
ERA22-06	FUJI	BYD33J
ERA22-10	FUJI	BYD33M
ERA34-10	FUJI	BYD53M
ERA37-10	FUJI	BYD33M
ERA81-004	FUJI	1N5819
ERA82-004	FUJI	1N5819
ERA83-004	FUJI	1N5819
ERA91-02	FUJI	BYD73D
ERA92-02	FUJI	BYD73D
ERB06-15	FUJI	BY228
ERB12-01	FUJI	1N5059
ERB12-02	FUJI	1N5059
ERB12-04	FUJI	1N5060
ERB12-06	FUJI	1N5061
ERB12-10	FUJI	BYW56
ERB32-02	FUJI	BYV27-200
ERB37-10	FUJI	BYV36E
ERB38-04	FUJI	BYV26B
ERB38-05	FUJI	BYV26C
ERB38-06	FUJI	BYV26C
ERB43-02	FUJI	BYD33D
ERB43-04	FUJI	BYD33G
ERB43-06	FUJI	BYD33J
ERB44-06	FUJI	BYV36C
ERB44-10	FUJI	BYV36E
ERB91-02	FUJI	BYD73D
ERB93-02	FUJI	BYD73D
ERC01-02	FUJI	BYM56A
ERC01-02F	FUJI	BYM56A
ERC01-04	FUJI	BYM56B
ERC01-04F	FUJI	BYM56B
ERC01-06	FUJI	BYM56C
ERC01-10	FUJI	BYM56E
ERC04-02	FUJI	BYM56A
ERC04-02F	FUJI	BYM56A
ERC04-04	FUJI	BYM56B
ERC04-04F	FUJI	BYM56B
ERC04-06	FUJI	BYM56C
ERC04-10	FUJI	BYM56E
ERC05-06	FUJI	BYM56C
ERC05-08	FUJI	BYM56D
ERC06-13	FUJI	BY228

Type	Manufacturer	Philips Type
ERC06-15	FUJI	BY228
ERC18-04	FUJI	BYV95B
ERC25-04	FUJI	BYV95B
ERC30-02	FUJI	BYV27-200
ERC35-02	FUJI	BYV28-200
ERC37-10	FUJI	BYV96E
ERC38-04	FUJI	BYV26B
ERC38-05	FUJI	BYV26C
ERC38-06	FUJI	BYV26C
ERC91-02	FUJI	BYV28-200
ERD03-02	FUJI	BYM56A
ERD03-04	FUJI	BYM56B
ERD07-13	FUJI	BY228
ERD07-15	FUJI	BY228
ERD09-13	FUJI	BYV97G
ERD28-04	FUJI	BYV95B
ERD28-06	FUJI	BYV95C
ERD28-08	FUJI	BYV96D
ERD29-02	FUJI	BYV95A
ERD29-02	FUJI	BYV95A
ERD29-04	FUJI	BYV95B
ERD29-04	FUJI	BYV95B
ERD29-06	FUJI	BYV95C
ERD29-08	FUJI	BYV96D
ERD32-01	FUJI	BYV28-100
ERD32-02	FUJI	BYV28-200
ERD33-02	FUJI	BYV28-200
ERD38-04	FUJI	BYM26B
ERD38-04	FUJI	BYV28-400
ERD38-05	FUJI	BYM26C
ERD38-05	FUJI	BYV28-600
ERD38-06	FUJI	BYM26C
ERD38-06	FUJI	BYV28-600
ERE41-15	FUJI	BY328
ES1A	GENERAL SEMICONDUCTOR	ES1A
ES1B	GENERAL SEMICONDUCTOR	ES1B
ES1C	GENERAL SEMICONDUCTOR	ES1C
ES1D	GENERAL SEMICONDUCTOR	ES1D
ES1E	AMOS	BYG80G
ES1G	MICROSEMI/MICRO QUALITY	BYG80G
ES1J	MICROSEMI/MICRO QUALITY	BYG80J
ESAC83-004K	COLLMER SEMICONDUCTOR	PBYR3045VWT
ESJA04-02	FUJI	BY505
ESJA53-18	FUJI	BY8418
ESJA53-20	FUJI	BY8420
ESJA54-08	FUJI	BY8408
ESJA56-20	FUJI	BY8420
ESJA56-24	FUJI	BY8424
ESJA82-10	FUJI	BY8110
ESJA82-12	FUJI	BY8112
ESJA82-14	FUJI	BY8114
ESJA83-16	FUJI	BY8116
ESJA88-06	FUJI	BY8206

Type	Manufacturer	Philips Type
ESJA89-14	FUJI	BY8114
ESJA92-10	FUJI	BY8110
ESJA92-12	FUJI	BY8112
ESJA98-06	FUJI	BY8206
ESJC03-09	FUJI	BYX101G
ESJC04-05	FUJI	BYX105G
ESJC12-09	FUJI	BYX101G
ESJC30-05	FUJI	BYX106G
ESJC30-08	FUJI	BYX102G
ESJC37-03	EUPEC	BYX120G
ESJC37-05	EUPEC	BYX105G
ESJC37-08	EUPEC	BYX101G
ESJC37-10	EUPEC	BYX101G
ESM101	RECTRON	BYD77A
ESM102	RECTRON	BYD77B
ESM103	RECTRON	BYD77C
ESM104	RECTRON	BYD77D
ESM105	RECTRON	BYD77G
ESM106	RECTRON	BYD77G
FDB6030L	FAIRCHILD	PHB50N03LT
FDB6035L	FAIRCHILD	PHB55N03LT
FDB6670AL	FAIRCHILD	PHB110N03LT
FDB6670AL	FAIRCHILD	PHB95N03LT
FDB7030BL	FAIRCHILD	PHB83N03LT
FDB7030L	FAIRCHILD	PHB95N03LT
FDB7030L	FAIRCHILD	PHB87N03LT
FDB7042L	FAIRCHILD	PHB95N03LT
FDB7045L	FAIRCHILD	PHB125N03LT
FDB7045L	FAIRCHILD	PHB150N03LT
FDB8030L	FAIRCHILD	PHB150N03LT
FDB8030L	FAIRCHILD	PHB190N03LT
FDP6030L	FAIRCHILD	PHP50N03LT
FDP6035L	FAIRCHILD	PHP55N03LT
FDP7030L	FAIRCHILD	PHP87N03LT
FDS2570	FAIRCHILD	PSMN085-150K
FDS3670	FAIRCHILD	PSMN038-100K
FDS3680	FAIRCHILD	PSMN038-100K
FDS8936A	FAIRCHILD	PHN2031)
FDS8936S	FAIRCHILD	PHN203 1) 2)
FDS8936S	FAIRCHILD	PHN203 1) 2)
FE1A	GENERAL SEMICONDUCTOR	BYD73A
FE1B	GENERAL SEMICONDUCTOR	BYD73B
FE1C	GENERAL SEMICONDUCTOR	BYD73C
FE1D	GENERAL SEMICONDUCTOR	BYD73D
FE201-6	FUJI	BYW95C
FE2A	GENERAL SEMICONDUCTOR	BYV27-50
FE2B	GENERAL SEMICONDUCTOR	BYV27-100
FE2C	GENERAL SEMICONDUCTOR	BYV27-150
FE2D	GENERAL SEMICONDUCTOR	BYV27-200
FE2D	GENERAL SEMICONDUCTOR	BYV27-200
FE301-1	FUJI	BYV28-100
FE3A	GENERAL SEMICO	BYV28-50
FE3A	GENERAL SEMICONDUCTOR	BYV28-50

Type	Manufacturer	Philips Type
FE3B	GENERAL SEMICONDUCTOR	BYV28-100
FE3B	GENERAL SEMICONDUCTOR	BYV28-100
FE3C	GENERAL SEMICONDUCTOR	BYV28-150
FE3C	GENERAL SEMICONDUCTOR	BYV28-150
FE3D	GENERAL SEMICONDUCTOR	BYV28-200
FE3D	GENERAL SEMICONDUCTOR	BYV28-200
FE3E	DIOTEC	BYV28-400
FE3F	DIOTEC	BYV28-400
FE3G	DIOTEC	BYV28-400
FE3H	DIOTEC	BYV28-400
FES1A	FAGOR	BYG80D
FES1B	FAGOR	BYG80D
FES1D	FAGOR	BYG80D
FES1F	FAGOR	BYG80G
FES1G	FAGOR	BYG80G
FF1504	FAGOR	BYV95B
FFM101	RECTRON	RS1A
FFM102	RECTRON	RS1B
FFM103	RECTRON	RS1C
FFM104	RECTRON	RS1G
FFM105	RECTRON	RS1J
FFM106	RECTRON	RS1K
FFM107	RECTRON	RS1M
FM201	RECTRON	S1A
FM202	RECTRON	S1B
FM203	RECTRON	S1D
FM204	RECTRON	S1G
FM205	RECTRON	S1J
FM206	RECTRON	S1K
FM207	RECTRON	S1M
FM4001	RECTRON	S1A
FM4002	RECTRON	S1B
FM4003	RECTRON	S1D
FM4004	RECTRON	S1G
FM4005	RECTRON	S1J
FM4006	RECTRON	S1K
FM4007	RECTRON	S1M
FM4740W	RECTRON	BZG03-C10
FM4741W	RECTRON	BZG03-C11
FM4742W	RECTRON	BZG03-C12
FM4743W	RECTRON	BZG03-C13
FM4744W	RECTRON	BZG03-C15
FM4745W	RECTRON	BZG03-C16
FM4746W	RECTRON	BZG03-C18
FM4747W	RECTRON	BZG03-C20
FM4748W	RECTRON	BZG03-C22
FM4749W	RECTRON	BZG03-C24
FM4750W	RECTRON	BZG03-C27
FM4751W	RECTRON	BZG03-C30
FM4752W	RECTRON	BZG03-C33
FM4753W	RECTRON	BZG03-C36
FM4754W	RECTRON	BZG03-C39
FM4755W	RECTRON	BZG03-C43

Type	Manufacturer	Philips Type
FM4756W	RECTRON	BZG03-C47
FM4757W	RECTRON	BZG03-C51
FM4758W	RECTRON	BZG03-C56
FM4759W	RECTRON	BZG03-C62
FM4760W	RECTRON	BZG03-C68
FM4761W	RECTRON	BZG03-C75
FM4762W	RECTRON	BZG03-C82
FM4763W	RECTRON	BZG03-C91
FM4933	RECTRON	RS1A
FM4934	RECTRON	RS1B
FM4935	RECTRON	RS1C
FM4936	RECTRON	RS1G
FM4937	RECTRON	RS1J
FQ08C (2SM161-200)	HITACHI	BTA225-600B
FQ08D (2SM161-300)	HITACHI	BTA225-600B
FQ08E (2SM161-400)	HITACHI	BTA225-600B
FQ08F (2SM161-500)	HITACHI	BTA225-600B
FQ08G (2SM161-600)	HITACHI	BTA225-600B
FQ09C (2SM162-200)	HITACHI	BTA225-600B
FQ09D (2SM162-300)	HITACHI	BTA225-600B
FQ09E (2SM162-400)	HITACHI	BTA225-600B
FQ09F (2SM162-500)	HITACHI	BTA225-600B
FQ09G (2SM162-600)	HITACHI	BTA225-600B
FR08C (2SM159-200)	HITACHI	BTA225-600B
FR08D (2SM159-300)	HITACHI	BTA225-600B
FR08E (2SM159-400)	HITACHI	BTA225-600B
FR08F (2SM159-500)	HITACHI	BTA225-600B
FR08G (2SM159-600)	HITACHI	BTA225-600B
FR09C (2SM160-200)	HITACHI	BTA225-600B
FR09D (2SM160-300)	HITACHI	BTA225-600B
FR09E (2SM160-400)	HITACHI	BTA225-600B
FR09F (2SM160-500)	HITACHI	BTA225-600B
FR09F (2SM160-600)	HITACHI	BTA225-600B
FR104	RECTRON	BYV95B
FR104GP	MICROSEMI/MICRO QUALITY	BYV95B
FR105	RECTRON	BYV36C
FR105P	RECTRON	BYV36C
FR107	RECTRON	BYV36E
FR107G	RECTRON	BYD33M
FR107P	RECTRON	BYV36E
FR154	RECTRON	BYV95B
FR154GP	MICROSEMI/MICRO QUALITY	BYV95B
FR201	RECTRON	BYW95A
FR201G	RECTRON	BYW95A
FR202	RECTRON	BYW95A
FR202G	RECTRON	BYW95A
FR203	RECTRON	BYW95A
FR203G	RECTRON	BYW95A
FR204	RECTRON	BYW95B
FR204G	RECTRON	BYW95B
FR205G	RECTRON	BYW95C
FR206	RECTRON	BYW96E
FR206G	RECTRON	BYW96D

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
FR207	RECTRON	BYW96E
FR207G	RECTRON	BYW96E
FS08C (2SM157-200)	HITACHI	BTA212-600B
FS08D (2SM157-300)	HITACHI	BTA212-600B
FS08E (2SM157-400)	HITACHI	BTA212-600B
FS08F (2SM157-500)	HITACHI	BTA212-600B
FS08G (2SM157-600)	HITACHI	BTA212-600B
FS09C (2SM158-200)	HITACHI	BTA212-600B
FS09D (2SM158-300)	HITACHI	BTA212-600B
FS09E (2SM158-400)	HITACHI	BTA212-600B
FS09F (2SM158-500)	HITACHI	BTA212-600B
FS09G (2SM158-600)	HITACHI	BTA212-600B
FSM101	RECTRON	BYD37D
FSM102	RECTRON	BYD37D
FSM103	RECTRON	BYD37D
FSM104	RECTRON	BYD37G
FSM105	RECTRON	BYD37J
FSM106	RECTRON	BYD37M
FSM107	RECTRON	BYD37M
FSM16C2	HITACHI	BTA216-600B
FSM16C4	HITACHI	BTA216-600B
FSM16C6	HITACHI	BTA216-600B
FSM20C2	HITACHI	BTA225-600B
FSM20C4	HITACHI	BTA225-600B
FSM20C6	HITACHI	BTA225-600B
FSM25C2	HITACHI	BTA225-600B
FSM25C4	HITACHI	BTA225-600B
FSM25C6	HITACHI	BTA225-600B
FT08C (2SM155-200)	HITACHI	BTA208-600B
FT08D (2SM155-300)	HITACHI	BTA208-600B
FT08E (2SM155-400)	HITACHI	BTA208-600B
FT08F (2SM155-500)	HITACHI	BTA208-600B
FT08G (2SM155-600)	HITACHI	BTA208-600B
FT09C (2SM156-200)	HITACHI	BTA208-600B
FT09D (2SM156-300)	HITACHI	BTA208-600B
FT09E (2SM156-400)	HITACHI	BTA208-600B
FT09F (2SM156-500)	HITACHI	BTA208-600B
FT09G (2SM156-600)	HITACHI	BTA208-600B
FUF4006	FAGOR	BYV26D
FUF5400	FAGOR	BYV28-50
FUF5401	FAGOR	BYV28-100
FUF5402	FAGOR	BYV28-200
FUF5404	FAGOR	BYV28-400
FUF5406	FAGOR	BYV28-600
G1A	GENERAL SEMICONDUCTOR	1N5059
G1B	GENERAL SEMICONDUCTOR	1N5059
G1D	GENERAL SEMICONDUCTOR	1N5059
G1G	GENERAL SEMICONDUCTOR	1N5060
G1J	GENERAL SEMICONDUCTOR	1N5061
G1K	GENERAL SEMICONDUCTOR	1N5062
G1M	GENERAL SEMICONDUCTOR	BYW56
G2A	GENERAL SEMICONDUCTOR	1N5059
G2B	GENERAL SEMICONDUCTOR	1N5059

Type	Manufacturer	Philips Type
G2D	GENERAL SEMICONDUCTOR	1N5059
G2G	GENERAL SEMICONDUCTOR	1N5060
G2J	GENERAL SEMICONDUCTOR	1N5061
G2K	GENERAL SEMICONDUCTOR	1N5062
G2M	GENERAL SEMICONDUCTOR	BYW56
G3A	GENERAL SEMICONDUCTOR	BYM56A
G3B	GENERAL SEMICONDUCTOR	BYM56A
G3D	GENERAL SEMICONDUCTOR	BYM56A
G3G	GENERAL SEMICONDUCTOR	BYM56B
G3J	GENERAL SEMICONDUCTOR	BYM56C
G3K	GENERAL SEMICONDUCTOR	BYM56D
G3M	GENERAL SEMICONDUCTOR	BYM56E
G4A	GENERAL SEMICONDUCTOR	BYM56A
G4B	GENERAL SEMICONDUCTOR	BYM56A
G4D	GENERAL SEMICONDUCTOR	BYM56A
G4G	GENERAL SEMICONDUCTOR	BYM56B
G4J	GENERAL SEMICONDUCTOR	BYM56C
GF1A	FAIRCHILD	S1A
GF1A	GENERAL SEMICONDUCTOR	S1A
GF1B	FAIRCHILD	S1B
GF1B	GENERAL SEMICONDUCTOR	S1B
GF1D	FAIRCHILD	S1D
GF1D	GENERAL SEMICONDUCTOR	S1D
GF1G	FAIRCHILD	S1G
GF1G	GENERAL SEMICONDUCTOR	S1G
GF1J	FAIRCHILD	S1J
GF1J	GENERAL SEMICONDUCTOR	S1J
GF1K	FAIRCHILD	S1K
GF1K	GENERAL SEMICONDUCTOR	S1K
GF1M	FAIRCHILD	S1M
GF1M	GENERAL SEMICONDUCTOR	S1M
GH1101	GENERAL SEMICONDUCTOR	BYV27-50
GH1102	GENERAL SEMICONDUCTOR	BYV27-100
GH1103	GENERAL SEMICONDUCTOR	BYV27-150
GH1104	GENERAL SEMICONDUCTOR	BYV27-200
GI1-1200	GENERAL SEMICONDUCTOR	BY228
GI1-1200GP	GENERAL SEMICONDUCTOR	BY228
GI1-1400	GENERAL SEMICONDUCTOR	BY228
GI1-1400GP	GENERAL SEMICONDUCTOR	BY228
GI1-1600	GENERAL SEMICONDUCTOR	BY228
GI1-1600GP	GENERAL SEMICONDUCTOR	BY228
GI250-1	GENERAL SEMICONDUCTOR	BYW56
GI4001	GENERAL SEMICONDUCTOR	BYD73A
GI4002	GENERAL SEMICONDUCTOR	BYD73B
GI4003	GENERAL SEMICONDUCTOR	BYD73C
GI4004	GENERAL SEMICONDUCTOR	BYD73D
GI500	GENERAL SEMICONDUCTOR	BYM56A
GI501	GENERAL SEMICONDUCTOR	BYM56A
GI502	GENERAL SEMICONDUCTOR	BYM56A
GI504	GENERAL SEMICONDUCTOR	BYM56B
GI506	GENERAL SEMICONDUCTOR	BYM56C
GI508	GENERAL SEMICONDUCTOR	BYM56D
GI510	GENERAL SEMICONDUCTOR	BYM56E

Type	Manufacturer	Philips Type
GI810	GENERAL SEMICONDUCTOR	BYD33D
GI811	GENERAL SEMICONDUCTOR	BYD33D
GI812	GENERAL SEMICONDUCTOR	BYD33D
GI814	GENERAL SEMICONDUCTOR	BYD33G
GI816	GENERAL SEMICONDUCTOR	BYD33J
GI818	GENERAL SEMICONDUCTOR	BYD33M
GI850	GENERAL SEMICONDUCTOR	BYW95A
GI851	GENERAL SEMICONDUCTOR	BYW95A
GI852	GENERAL SEMICONDUCTOR	BYW95A
GI854	GENERAL SEMICONDUCTOR	BYW95B
GI858	GENERAL SEMICONDUCTOR	BYW96E
GI910	GENERAL SEMICONDUCTOR	BYW95A
GI911	GENERAL SEMICONDUCTOR	BYW95A
GI912	GENERAL SEMICONDUCTOR	BYW95A
GI914	GENERAL SEMICONDUCTOR	BYW95B
GI917	GENERAL SEMICONDUCTOR	BYW96E
GL34A	GENERAL SEMICONDUCTOR	PRLL4001
GL34A	GENERAL SEMICONDUCTOR	S1A
GL34B	GENERAL SEMICONDUCTOR	S1B
GL34D	GENERAL SEMICONDUCTOR	BYD17D
GL34D	GENERAL SEMICONDUCTOR	S1D
GL34G	GENERAL SEMICONDUCTOR	BYD17G
GL34G	GENERAL SEMICONDUCTOR	S1G
GL34J	GENERAL SEMICONDUCTOR	BYD17J
GL41A	GENERAL SEMICONDUCTOR	S1A
GL41B	GENERAL SEMICONDUCTOR	S1B
GL41D	GENERAL SEMICONDUCTOR	BYD17D
GL41D	GENERAL SEMICONDUCTOR	S1D
GL41G	GENERAL SEMICONDUCTOR	BYD17G
GL41G	GENERAL SEMICONDUCTOR	S1G
GL41J	GENERAL SEMICONDUCTOR	BYD17J
GL41J	GENERAL SEMICONDUCTOR	S1J
GL41K	GENERAL SEMICONDUCTOR	S1K
GL41M	GENERAL SEMICONDUCTOR	BYD17M
GL41M	GENERAL SEMICONDUCTOR	S1M
GLL4737	GENERAL SEMICONDUCTOR	BZD27-C7V5
GLL4738	GENERAL SEMICONDUCTOR	BZD27-C8V2
GLL4739(A)	GEN.SEMIC.	BZD27-C9V1
GLL4740	GENERAL SEMICONDUCTOR	BZD27-C10
GLL4741	GENERAL SEMICONDUCTOR	BZD27-C11
GLL4741(A)	GEN.SEMIC.	BZD27-C11
GLL4742	GENERAL SEMICONDUCTOR	BZD27-C12
GLL4743(A)	GEN.SEMIC.	BZD27-C13
GLL4744	GENERAL SEMICONDUCTOR	BZD27-C15
GLL4745(A)	GEN.SEMIC.	BZD27-C16
GLL4746	GENERAL SEMICONDUCTOR	BZD27-C18
GLL4747	GENERAL SEMICONDUCTOR	BZD27-C20
GLL4748	GENERAL SEMICONDUCTOR	BZD27-C22
GLL4749	GENERAL SEMICONDUCTOR	BZD27-C24
GLL4750	GENERAL SEMICONDUCTOR	BZD27-C27
GLL4751	GENERAL SEMICONDUCTOR	BZD27-C30
GLL4752	GENERAL SEMICONDUCTOR	BZD27-C33
GLL4753	GENERAL SEMICONDUCTOR	BZD27-C36

Type	Manufacturer	Philips Type
GLL4754	GENERAL SEMICONDUCTOR	BZD27-C39
GLL4755	GENERAL SEMICONDUCTOR	BZD27-C43
GLL4756	GENERAL SEMICONDUCTOR	BZD27-C47
GLL4757(A)	GEN.SEMIC.	BZD27-C51
GLL4758(A)	GEN.SEMIC.	BZD27-C56
GLL4759(A)	GEN.SEMIC.	BZD27-C62
GLL4760	GENERAL SEMICONDUCTOR	BZD27-C68
GLL4761	GENERAL SEMICONDUCTOR	BZD27-C75
GLL4762(A)	GEN.SEMIC.	BZD27-C82
GLL4763(A)	GEN.SEMIC.	BZD27-C91
GP08A	GENERAL SEMICONDUCTOR	BYD13J
GP08B	GENERAL SEMICONDUCTOR	BYD13J
GP08D	GENERAL SEMICONDUCTOR	BYD13J
GP08G	GENERAL SEMICONDUCTOR	BYD13J
GP08J	GENERAL SEMICONDUCTOR	BYD13J
GP10A	GENERAL SEMICONDUCTOR	BYD13J
GP10B	GENERAL SEMICONDUCTOR	BYD13J
GP10D	GENERAL SEMICONDUCTOR	BYD13J
GP10G	GENERAL SEMICONDUCTOR	BYD13J
GP10J	GENERAL SEMICONDUCTOR	BYD13J
GP10K	GENERAL SEMICONDUCTOR	BYD13K
GP10M	GENERAL SEMICONDUCTOR	BYD13M
GP10N	GENERAL SEMICONDUCTOR	BY527
GP10Q	GENERAL SEMICONDUCTOR	BY527
GP10T	GENERAL SEMICONDUCTOR	BYX10G
GP10V	GENERAL SEMICONDUCTOR	BYX10G
GP10W	GENERAL SEMICONDUCTOR	BYX10G
GP10Y	GENERAL SEMICONDUCTOR	BYX10G
GP15A	GENERAL SEMICONDUCTOR	1N5059
GP15B	GENERAL SEMICONDUCTOR	1N5059
GP15D	GENERAL SEMICONDUCTOR	1N5059
GP15G	GENERAL SEMICONDUCTOR	1N5060
GP15J	GENERAL SEMICONDUCTOR	1N5061
GP15K	GENERAL SEMICONDUCTOR	1N5062
GP15M	GENERAL SEMICONDUCTOR	BYW56
GP20A	GENERAL SEMICONDUCTOR	BYM56A
GP20B	GENERAL SEMICONDUCTOR	BYM56A
GP20D	GENERAL SEMICONDUCTOR	BYM56A
GP20G	GENERAL SEMICONDUCTOR	BYM56B
GP20J	GENERAL SEMICONDUCTOR	BYM56C
GP30A	GENERAL SEMICONDUCTOR	BYM56A
GP30B	GENERAL SEMICONDUCTOR	BYM56A
GP30D	GENERAL SEMICONDUCTOR	BYM56A
GP30G	GENERAL SEMICONDUCTOR	BYM56B
GP30J	GENERAL SEMICONDUCTOR	BYM56C
GP30K	GENERAL SEMICONDUCTOR	BYM56D
GP30M	GENERAL SEMICONDUCTOR	BYM56E
GPP10A	GENERAL SEMICONDUCTOR	BYD13D
GPP10B	GENERAL SEMICONDUCTOR	BYD13D
GPP10D	GENERAL SEMICONDUCTOR	BYD13D
GPP10G	GENERAL SEMICONDUCTOR	BYD13G
GPP10J	GENERAL SEMICONDUCTOR	BYD13J
GPP10K	GENERAL SEMICONDUCTOR	BYD13K

Type	Manufacturer	Philips Type
GPP10M	GENERAL SEMICONDUCTOR	BYD13M
GPP15A	MICROSEMI/MICRO QUALITY	1N5059
GPP15B	MICROSEMI/MICRO QUALITY	1N5059
GPP15D	MICROSEMI/MICRO QUALITY	1N5059
GPP15G	MICROSEMI/MICRO QUALITY	1N5060
GPP15J	MICROSEMI/MICRO QUALITY	1N5061
GPP15K	MICROSEMI/MICRO QUALITY	1N5062
GPP20A	MICROSEMI/MICRO QUALITY	1N5059
GPP20B	MICROSEMI/MICRO QUALITY	1N5059
GPP20D	MICROSEMI/MICRO QUALITY	1N5059
GPP20G	MICROSEMI/MICRO QUALITY	1N5060
GPP20J	MICROSEMI/MICRO QUALITY	1N5061
GPP20K	MICROSEMI/MICRO QUALITY	1N5062
GPP20M	GENERAL SEMICONDUCTOR	BYW56
GPP30A	MICROSEMI/MICRO QUALITY	BYM56A
GPP30B	MICROSEMI/MICRO QUALITY	BYM56A
GPP30D	MICROSEMI/MICRO QUALITY	BYM56A
GPP30G	MICROSEMI/MICRO QUALITY	BYM56B
GPP30J	MICROSEMI/MICRO QUALITY	BYM56C
GPP30K	MICROSEMI/MICRO QUALITY	BYM56D
GPP30M	MICROSEMI/MICRO QUALITY	BYM56E
HER153	MASTER INSTRUMENT	BYV27-200
HER203	RECTRON	BYV27-200
HFM101	RECTRON	US1A
HFM102	RECTRON	US1B
HFM103	RECTRON	US1D
HFM104	RECTRON	US1D
HFM105	RECTRON	US1G
HFM106	RECTRON	US1G
HFM108	RECTRON	US1J
HP4410DY	INTERSIL	SI4410DY
HP4936DY	INTERSIL	PHN203
HRFZ44N	INTERSIL	PHF54N06T
HSM101	RECTRON	BYD77A
HSM102	RECTRON	BYD77B
HSM103	RECTRON	BYD77D
HSM104	RECTRON	BYD77G
HSM105	RECTRON	BYD77G
HSM106	RECTRON	BYD77G
HSMBJ5925B	MICROSEMI	BZG03-C10
HSMBJ5926B	MICROSEMI	BZG03-C11
HSMBJ5927B	MICROSEMI	BZG03-C12
HSMBJ5928B	MICROSEMI	BZG03-C13
HSMBJ5929B	MICROSEMI	BZG03-C15
HSMBJ5930B	MICROSEMI	BZG03-C16
HSMBJ5931B	MICROSEMI	BZG03-C18
HSMBJ5932B	MICROSEMI	BZG03-C20
HSMBJ5933B	MICROSEMI	BZG03-C22
HSMBJ5934B	MICROSEMI	BZG03-C24
HSMBJ5935B	MICROSEMI	BZG03-C27
HSMBJ5936B	MICROSEMI	BZG03-C30
HSMBJ5937B	MICROSEMI	BZG03-C33
HSMBJ5938B	MICROSEMI	BZG03-C36

Type	Manufacturer	Philips Type
HSMBJ5939B	MICROSEMI	BZG03-C39
HSMBJ5940B	MICROSEMI	BZG03-C43
HSMBJ5941B	MICROSEMI	BZG03-C47
HSMBJ5942B	MICROSEMI	BZG03-C51
HSMBJ5943B	MICROSEMI	BZG03-C56
HSMBJ5944B	MICROSEMI	BZG03-C62
HSMBJ5945B	MICROSEMI	BZG03-C68
HSMBJ5946B	MICROSEMI	BZG03-C75
HSMBJ5947B	MICROSEMI	BZG03-C82
HSMBJ5948B	MICROSEMI	BZG03-C91
HSMBJ5949B	MICROSEMI	BZG03-C100
HSMBJ5950B	MICROSEMI	BZG03-C110
HSMBJ5951B	MICROSEMI	BZG03-C120
HSMBJ5952B	MICROSEMI	BZG03-C130
HSMBJ5953B	MICROSEMI	BZG03-C150
HSMBJ5954B	MICROSEMI	BZG03-C160
HSMBJ5955B	MICROSEMI	BZG03-C180
HSMBJ5956B	MICROSEMI	BZG03-C200
HUF131SK8	INTERSIL	SI4410DY
HUF75307D3S	INTERSIL	PHD21N06LT
HUF75307D3S	INTERSIL	PHD20N06T
HUF75307P3	INTERSIL	PHP20N06T
HUF75307T3ST	INTERSIL	PHT8N06LT
HUF75309D3S	INTERSIL	PHD21N06LT
HUF75309D3S	INTERSIL	PHD20N06T
HUF75309P3	INTERSIL	PHP21N06LT
HUF75309P3	INTERSIL	PHP20N06T
HUF75309T3S	INTERSIL	PHT8N06LT
HUF75309T3S	INTERSIL	PHT8N06LT
HUF75321D3S	INTERSIL	PHD37N06LT
HUF75321P3	INTERSIL	PHP54N06T
HUF75329P3	INTERSIL	PHP54N06T
HUF75332P3	INTERSIL	PHP73N06T
HUF75332S3S	INTERSIL	PHB60N06LT
HUF75333P3	INTERSIL	PHP73N06T
HUF75337P3	INTERSIL	PHP73N06T
HUF75339P3	INTERSIL	PHP112N06T
HUF75339S3S	INTERSIL	BUK9614-55A
HUF75343G3	INTERSIL	PSMN004-55W
HUF75343P3	INTERSIL	BUK9508-55
HUF75343S3S	INTERSIL	BUK9608-55
HUF75344G3	INTERSIL	PSMN004-55W
HUF75344P3	INTERSIL	BUK9508-55
HUF75344S3S	INTERSIL	BUK9608-55
HUF75345G3	INTERSIL	PSMN004-55W
HUF75345P3	INTERSIL	PSMN005-55P
HUF75345S3S	INTERSIL	PSMN005-55B
HUF75545P3	INTERSIL	PSMN008-75P
HUF75545S3S	INTERSIL	PSMN008-75B
HUF75613D3S	INTERSIL	PHD18NQ10T
HUF75623P3	INTERSIL	PHP27NQ10T
HUF75623S3S	INTERSIL	PHB27NQ10T
HUF75631P3	INTERSIL	PHP34NQ10T

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
HUF75631S3S	INTERSIL	PHB34NQ10T
HUF75631SK8	INTERSIL	PSMN038-100K
HUF75637P3	INTERSIL	PHP45NQ10T
HUF75639G3	INTERSIL	PHW45NQ10T
HUF75639S3S	INTERSIL	BUK7620-100A
HUF75639S3S	INTERSIL	PHB45NQ10T
HUF75645P3	INTERSIL	PSMN015-100P
HUF75645S3S	INTERSIL	PSMN015-100B
HUF75652G3	INTERSIL	PSMN009-100VW
HUF75831SK8	INTERSIL	PSMN085-150K
HUF75842P3	INTERSIL	PSMN035-150P
HUF75842S3S	INTERSIL	PSMN035-150B
HUF75852G3	INTERSIL	PSMN020-150VW
HUF76013P3	INTERSIL	PHP45N03LTA
HUF76105DK8	INTERSIL	SI9956DY
HUF76105SK8	INTERSIL	SI9936DY
HUF76107D3S	INTERSIL	PHD24N03LT
HUF76112SK8	INTERSIL	SI4416DY
HUF76113SK8	INTERSIL	SI9410DY
HUF76121D3S	INTERSIL	PHD45N03LT
HUF76121P3	INTERSIL	PHP45N03LT
HUF76121S3S	INTERSIL	PHB45N03LT
HUF76121SK8	INTERSIL	SI4416DY
HUF76129D3S	INTERSIL	PHD50N03LT
HUF76129P3	INTERSIL	PHP50N03LT
HUF76129S3S	INTERSIL	PHB50N03LT
HUF76132P3	INTERSIL	PHP69N03LT
HUF76132S3S	INTERSIL	PHB69N03LT
HUF76132SK8	INTERSIL	SI4420DY
HUF76137P3	INTERSIL	PHP87N03LT
HUF76137S3S	INTERSIL	PHB83N03LT
HUF76137S3S	INTERSIL	PHB87N03LT
HUF76139P3	INTERSIL	PSMN004-36P
HUF76139S3S	INTERSIL	PHB95N03LT
HUF76143P3	INTERSIL	PSMN004-25P
HUF76143S3S	INTERSIL	PHB125N03LT
HUF76143S3S	INTERSIL	PSMN004-25B
HUF76145P3	INTERSIL	PSMN004-25P
HUF76145S3S	INTERSIL	PHB150N03LT
HUF76145S3S	INTERSIL	PHB190N03LT
HUF76145S3S	INTERSIL	PSMN004-25B
HUF76409D3S	INTERSIL	PHD20N06T
HUF76409P3	INTERSIL	PHP20N06T
HUF76423P3	INTERSIL	PHP54N06T
HUF76429P3	INTERSIL	PHP54N06T
HUF76432P3	INTERSIL	PHP73N06T
HUF76437P3	INTERSIL	PHP73N06T
HUF76439P3	INTERSIL	PHP112N06T
HUF76443P3	INTERSIL	PHP112N06T
HUF76443S3S	INTERSIL	PSMN005-55B
HUF76445P3	INTERSIL	PSMN005-55P
HUF76445S3S	INTERSIL	PSMN005-55B
HVR-1X-40B	SANKEN	BYX101G

Type	Manufacturer	Philips Type
HVR3-7	FAGOR	BYX90G
HZ10	HITACHI	BZD23-C10
HZ11	HITACHI	BZD23-C11
HZ12	HITACHI	BZD23-C12
HZ13	HITACHI	BZD23-C13
HZ15	HITACHI	BZD23-C15
HZ16	HITACHI	BZD23-C16
HZ18	HITACHI	BZD23-C18
HZ20	HITACHI	BZD23-C20
HZ22	HITACHI	BZD23-C22
HZ24	HITACHI	BZD23-C24
HZ27	HITACHI	BZD23-C27
HZ30	HITACHI	BZD23-C30
HZ33	HITACHI	BZD23-C33
HZ36	HITACHI	BZD23-C36
HZ7.5	HITACHI	BZD23-C7V5
HZ8.2	HITACHI	BZD23-C8V2
HZ9.1	HITACHI	BZD23-C9V1
HZF10	HITACHI	BZG01-C10
HZF11	HITACHI	BZG01-C11
HZF12	HITACHI	BZG01-C12
HZF13	HITACHI	BZG01-C13
HZF15	HITACHI	BZG01-C15
HZF16	HITACHI	BZG01-C16
HZF18	HITACHI	BZG01-C18
HZF20	HITACHI	BZG01-C20
HZF22	HITACHI	BZG01-C22
HZF24	HITACHI	BZG01-C24
HZF27	HITACHI	BZG01-C27
HZF30	HITACHI	BZG01-C30
HZF33	HITACHI	BZG01-C33
HZF36	HITACHI	BZG01-C36
IRF1310NS	IR	PHB45NQ10T
IRF3315	IR	PHP30NQ15T
IRF3315S	IR	PHB23NQ15T
IRF3415	IR	PSMN035-150P
IRF3415S	IR	PSMN035-150B
IRF3515S	IR	PSMN035-150B
IRF3710	IR	PHP45NQ10T
IRF3710S	IR	PHB45NQ10T
IRF530	ST MICROELECTRONICS	IRF530N
IRF530	IR	IRF530N
IRF530	ST MICROELECTRONICS	IRF530N
IRF530	ON SEMICONDUCTOR	IRF530N
IRF530N	IR	PHP18NQ10T
IRF540	IR	IRF540
IRF540	ST MICROELECTRONICS	IRF540
IRF540	ST MICROELECTRONICS	IRF540
IRF540	ON SEMICONDUCTOR	IRF540
IRF540N	IR	IRF540N
IRF540NS	IR	PHB27NQ10T
IRF630	IR	IRF630
IRF630FP	ST MICROELECTRONICS	IRF630

Type	Manufacturer	Philips Type
IRF630FP	ST MICROELECTRONICS	IRF630
IRF630N	IR	PHP14NQ20T
IRF630NS	IR	PHB14NQ20T
IRF640	IR	IRF640
IRF640	ST MICROELECTRONICS	IRF640
IRF640	ST MICROELECTRONICS	IRF640
IRF640	ON SEMICONDUCTOR	IRF640
IRF640N	IR	PHP20NQ20T
IRF640NS	IR	PHB20NQ20T
IRF7452	IR	PHK5NQ10T
IRF7473	IR	PSMN038-100K
IRFB23N15D	IR	PHP23NQ15T
IRFB23N20D	IR	PSMN070-200P
IRFB31N20D	IR	PSMN070-200P
IRFB33N15D	IR	PSMN035-150P
IRFB41N15D	IR	PSMN035-150P
IRFB59N10D	IR	PHP45NQ10T
IRF1404S	IR	PHB150N03LT
IRFI630G	IR	PHX9NQ20T
IRFI640G	IR	PHX18NQ20T
IRFL014	IR	PHT6N06T
IRFL1004S	IR	PSMN005-55B
IRFL1006	IR	PHT4NQ10T
IRFP140N	IR	PHW45NQ10T
IRFP150N	IR	PHW45NQ10T
IRFP250	IR	PHW35NQ20T
IRFP250N	IR	PHW35NQ20T
IRFP260	IR	PSMN040-200W
IRFP260N	IR	PSMN040-200W
IRFP3710	IR	PHW45NQ10T
IRFR014	IR	BUK72150-55
IRFR024N	IR	BUK7277-55
IRFR120	IR	PHD18NQ10T
IRFR120N	IR	PHD18NQ10T
IRFR13N15D	IR	PSMN063-150D
IRFR13N20D	IR	PSMN130-200D
IRFR18N15D	IR	PHD23NQ15T
IRFR220	IR	IRFR220
IRFR220N	IR	PHD9NQ20T
IRFR3910	IR	PHD18NQ10T
IRFR4105	IR	BUK7237-55
IRFR4105	IR	PSMN010-55D
IRFR9N20D	IR	PHD9NQ20T
IRFS17N20D	IR	PHB20NQ20T
IRFS23N15D	IR	PHB23NQ15T
IRFS23N20D	IR	PSMN070-200B
IRFS31N20D	IR	PSMN070-200B
IRFS33N15D	IR	PHB30NQ15T
IRFS59N10D	IR	PHB45NQ10T
IRFZ24N	IR	PHP21N06T
IRFZ24S	IR	PHB21N06T
IRFZ46S	IR	PHB50N06T
IRL1004S	IR	PHB125N03LT

Type	Manufacturer	Philips Type
IRL1004S	IR	PHB111N03LT
IRL1104S	IR	PHB83N03LT
IRL1104S	IR	PHB95N03LT
IRL2203NS	IR	PHB10N03LT
IRL3103	IR	PHP55N03LT
IRL3103S	IR	PHB55N03LT
IRL3215	IR	PHP23NQ15T
IRL3705N	IR	BUK9511-55A
IRL3803	IR	PHP87N03LT
IRL3803S	IR	PHB125N03LT
IRL3803S	IR	PHB87N03LT
IRLL014	IR	PHT6N06LT
IRLML2803	IR	BSH103
IRLR014	IR	BUK92150-55
IRLR024N	IR	BUK9277-55
IRLZ24N	IR	PHP21N06LT
IRLZ24S	IR	PHB21N06LT
IRLZ44N	IR	BUK9524-55A
IRLZ44NS	IR	BUK9624-55A
IRLZ44NS	IR	PHB50N06LT
IRLZ44S	IR	PHB50N06LT
J05	RECTRON	1N5059
J1	RECTRON	1N5059
J2	RECTRON	1N5059
J4	RECTRON	1N5060
J6	RECTRON	1N5061
J8	RECTRON	1N5062
KSC2333	FAIRCHILD	BUJ101A
KSC2335	FAIRCHILD	BUJ105A
KSC2335F	FAIRCHILD	BUJ105AX
KSC2518	FAIRCHILD	BUJ103A
KSC2752	FAIRCHILD	BUJ101
KSC5020	FAIRCHILD	BUJ301A
KSC5021	FAIRCHILD	BUJ303A
KSC5021F	FAIRCHILD	BUJ303AX
KSC5039	FAIRCHILD	BUJ103A
KSC5039F	FAIRCHILD	BUJ103AX
KSC5321	FAIRCHILD	BUJ303A
KSC5321F	FAIRCHILD	BUJ303AX
KSC5338	FAIRCHILD	BUJ202A, BUJ204A
KSC5338F	FAIRCHILD	BUJ202AX
KSD5061	FAIRCHILD	BU4506DX
KSD5062	FAIRCHILD	BU4507DX
KSD5064	FAIRCHILD	BU505
KSD5065	FAIRCHILD	BU4506AX
KSD5066	FAIRCHILD	BU4507AX
KSD5071	FAIRCHILD	BU4506DX
KSD5072	FAIRCHILD	BU4507DX
KSD5075	FAIRCHILD	BU4506AX
KSD5076	FAIRCHILD	BU4507AX
KSD5078	FAIRCHILD	BU4522AX
KSD5080	FAIRCHILD	BU4522DX
KSD5086	FAIRCHILD	BU4508DX

Type	Manufacturer	Philips Type
KSD5088	FAIRCHILD	BU4522AX
KSD5090	FAIRCHILD	BU2520DW
KSE13004	FAIRCHILD	BUJ103A
KSE13005	FAIRCHILD	PHE12005, BUJ103A
KSE13005F	FAIRCHILD	BUJ103AX
KSE13006	FAIRCHILD	BUJ105A
KSE13007	FAIRCHILD	BUJ105A
KSE13007F	FAIRCHILD	BUJ105AX
KSE13008	FAIRCHILD	BUJ106A
KSE13009	FAIRCHILD	BUJ106A
L2004F61	TECCOR	BT134-600D
L2004F81	TECCOR	BT134-600E
L2004L6	TECCOR	BT136X-600D
L2004L8	TECCOR	BT136X-600E
L2006L6	TECCOR	BT137X-600D
L2006L8	TECCOR	BT137X-600E
L2008L6	TECCOR	BT137X-600D
L2008L8	TECCOR	BT137X-600E
L201E6	TECCOR	BT132-600D
L201E8	TECCOR	BT132-600D
L4004F61	TECCOR	BT136-600D
L4004F81	TECCOR	BT136-600E
L4004L6	TECCOR	BT136X-600D
L4004L8	TECCOR	BT136X-600E
L4006L6	TECCOR	BT137X-600D
L4006L8	TECCOR	BT137X-600E
L4008L6	TECCOR	BT137X-600D
L4008L8	TECCOR	BT137X-600E
L401E6	TECCOR	BT132-600D
L401E8	TECCOR	BT132-600D
L6004F61	TECCOR	BT136-600D
L6004F81	TECCOR	BT136-600E
L6004L6	TECCOR	BT136X-600D
L6004L8	TECCOR	BT136X-600E
L6006L6	TECCOR	BT137X-600D
L6006L8	TECCOR	BT137X-600E
L6008L6	TECCOR	BT137X-600D
L6008L8	TECCOR	BT137X-600E
L601E6	TECCOR	BT132-600D
L601E8	TECCOR	BT132-600D
M100A	GENERAL SEMICONDUCTOR	1N5059
M100B	GENERAL SEMICONDUCTOR	1N5059
M100D	GENERAL SEMICONDUCTOR	1N5059
M100G	GENERAL SEMICONDUCTOR	1N5060
M100J	GENERAL SEMICONDUCTOR	1N5061
M100K	GENERAL SEMICONDUCTOR	1N5062
M1F80	SHINDENGEN	S1K
M1FE40	SHINDENGEN	S1G
M30	SEMTECH	BYX120G
MAC12D	ON SEMICONDUCTOR	BTA212-600B
MAC12M	ON SEMICONDUCTOR	BTA212-600B
MAC12N	ON SEMICONDUCTOR	BTA212-800B
MAC15A10	ON SEMICONDUCTOR	BT139-800

Type	Manufacturer	Philips Type
MAC15A10FP	ON SEMICONDUCTOR	BT139X-800
MAC15A4	ON SEMICONDUCTOR	BT139-600
MAC15A4FP	ON SEMICONDUCTOR	BT139X-600
MAC15A6	ON SEMICONDUCTOR	BT139-600
MAC15A6FP	ON SEMICONDUCTOR	BT139X-600
MAC15A8	ON SEMICONDUCTOR	BT139-600
MAC15A8FP	ON SEMICONDUCTOR	BT139X-600
MAC15D	ON SEMICONDUCTOR	BTA216-600B
MAC15M	ON SEMICONDUCTOR	BTA216-600B
MAC15N	ON SEMICONDUCTOR	BTA216-800B
MAC16D	ON SEMICONDUCTOR	BTA216-600B
MAC16M	ON SEMICONDUCTOR	BTA216-600B
MAC16N	ON SEMICONDUCTOR	BTA216-800B
MAC210A10	ON SEMICONDUCTOR	BT138-800
MAC210A10FP	ON SEMICONDUCTOR	BT138X-800
MAC210A4	ON SEMICONDUCTOR	BT138-600
MAC210A4FP	ON SEMICONDUCTOR	BT138X-600
MAC210A6	ON SEMICONDUCTOR	BT138-600
MAC210A6FP	ON SEMICONDUCTOR	BT138X-600
MAC210A8	ON SEMICONDUCTOR	BT138-600
MAC210A8FP	ON SEMICONDUCTOR	BT138X-600
MAC212A10	ON SEMICONDUCTOR	BT138-800
MAC212A10FP	ON SEMICONDUCTOR	BT138X-800
MAC212A4	ON SEMICONDUCTOR	BT138-600
MAC212A4FP	ON SEMICONDUCTOR	BT138X-600
MAC212A6	ON SEMICONDUCTOR	BT138-600
MAC212A6FP	ON SEMICONDUCTOR	BT138X-600
MAC212A8	ON SEMICONDUCTOR	BT138-600
MAC212A8FP	ON SEMICONDUCTOR	BT138X-600
MAC218A10	ON SEMICONDUCTOR	BT138-800
MAC218A10FP	ON SEMICONDUCTOR	BT138X-800
MAC218A4	ON SEMICONDUCTOR	BT138-600
MAC218A4FP	ON SEMICONDUCTOR	BT138X-600
MAC218A6	ON SEMICONDUCTOR	BT138-600
MAC218A6FP	ON SEMICONDUCTOR	BT138X-600
MAC218A8	ON SEMICONDUCTOR	BT138-600
MAC218A8FP	ON SEMICONDUCTOR	BT138X-600
MAC228A4	ON SEMICONDUCTOR	BT137-600D
MAC228A6	ON SEMICONDUCTOR	BT137-600D
MAC228A8	ON SEMICONDUCTOR	BT137-600D
MAC229A4FP	ON SEMICONDUCTOR	BT137X-600D
MAC229A6FP	ON SEMICONDUCTOR	BT137X-600D
MAC229A8FP	ON SEMICONDUCTOR	BT137X-600D
MAC24D	ON SEMICONDUCTOR	BTA225-600B
MAC24M	ON SEMICONDUCTOR	BTA225-600B
MAC24N	ON SEMICONDUCTOR	BTA225-800B
MAC25D	ON SEMICONDUCTOR	BTA225-600B
MAC25M	ON SEMICONDUCTOR	BTA225-600B
MAC25N	ON SEMICONDUCTOR	BTA225-800B
MAC320A10	ON SEMICONDUCTOR	BT139-800
MAC320A10FP	ON SEMICONDUCTOR	BT139X-800
MAC320A4	ON SEMICONDUCTOR	BT139-600
MAC320A4FP	ON SEMICONDUCTOR	BT139X-600

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
MAC320A6	ON SEMICONDUCTOR	BT139-600
MAC320A6FP	ON SEMICONDUCTOR	BT139X-600
MAC320A8	ON SEMICONDUCTOR	BT139-600
MAC320A8FP	ON SEMICONDUCTOR	BT139X-600
MAC321-10	ON SEMICONDUCTOR	BTA216-800B
MAC321-4	ON SEMICONDUCTOR	BTA216-600B
MAC321-6	ON SEMICONDUCTOR	BTA216-600B
MAC321-8	ON SEMICONDUCTOR	BTA216-600B
MAC8D	ON SEMICONDUCTOR	BTA208-600B
MAC8M	ON SEMICONDUCTOR	BTA208-600B
MAC8N	ON SEMICONDUCTOR	BTA208-800B
MAC97-4	ON SEMICONDUCTOR	BT132-600D
MAC97-6	ON SEMICONDUCTOR	BT132-600D
MAC97-8	ON SEMICONDUCTOR	BT132-600D
MAC97A6	ON SEMICONDUCTOR	MAC97A6
MAC9D	ON SEMICONDUCTOR	BTA208-600B
MAC9D	ON SEMICONDUCTOR	BTA208-600B
MAC9M	ON SEMICONDUCTOR	BTA208-600B
MAC9N	ON SEMICONDUCTOR	BTA208-800B
MACH15D	ON SEMICONDUCTOR	BTA216-600B
MACH15M	ON SEMICONDUCTOR	BTA216-600B
MACH15N	ON SEMICONDUCTOR	BTA216-800B
MACH16D	ON SEMICONDUCTOR	BTA216-600B
MACH16M	ON SEMICONDUCTOR	BTA216-600B
MACH16N	ON SEMICONDUCTOR	BTA216-800B
MB206	MICROSEMI/MICRO QUALITY	BYV27-200
MBR1020	ON SEMICONDUCTOR	PBYR1040
MBR1035	ON SEMICONDUCTOR	PBYR1040
MBR1045	ON SEMICONDUCTOR	PBYR1045
MBR1545CT	ON SEMICONDUCTOR	PBYR1545CT
MBR1645	ON SEMICONDUCTOR	PBYR1645
MBR2045CT	ON SEMICONDUCTOR	PBYR2045CT
MBR2545CT	ON SEMICONDUCTOR	PBYR2545CT
MBR3045PT	ON SEMICONDUCTOR	PBYR3045WT
MBR3045WT	ON SEMICONDUCTOR	PBYR3045WT
MBR4045PT	GENERAL SEMICONDUCTOR	PBYR4045WT
MBR4045WT	ON SEMICONDUCTOR	PBYR4045WT
MBR4045WT	ON SEMICONDUCTOR	PBYR4045WT
MBR6045WT	IR	PBYR6045WT
MBR6045WT	ON SEMICONDUCTOR	PBYR6045WT
MBR7030WT	ON SEMICONDUCTOR	PBYR7025WT
MBR745	ON SEMICONDUCTOR	PBYR745
MBRA130LT3	ON SEMICONDUCTOR	BYG90-30
MBRA140T3	ON SEMICONDUCTOR	BYG90-40
MBRB1545CT	ON SEMICONDUCTOR	PBYR1545CTB
MBRD340	ON SEMICONDUCTOR	PBYR340CTD
MBRD640CT	ON SEMICONDUCTOR	PBYR640CTD
MBRF1045	ON SEMICONDUCTOR	PBYR1045X
MBRS120T3	ON SEMICONDUCTOR	BYG90-20
MBRS130LT3	ON SEMICONDUCTOR	BYG90-30
MBRS140T3	ON SEMICONDUCTOR	BYG90-40
MBT6045WT	ON SEMICONDUCTOR	PBYR6045WT
MC5602	MICROSEMI/MICRO QUALITY	BYX120G

Type	Manufacturer	Philips Type
MC5603	MICROSEMI/MICRO QUALITY	BYX120G
MC5604	MICROSEMI/MICRO QUALITY	BYX105G
MC5605	MICROSEMI/MICRO QUALITY	BYX105G
MC5606	MICROSEMI/MICRO QUALITY	BYX101G
MC5607	MICROSEMI/MICRO QUALITY	BYX101G
MC5612	MICROSEMI/MICRO QUALITY	BYX106G
MC5615	MICROSEMI/MICRO QUALITY	BYX106G
MC5616	MICROSEMI/MICRO QUALITY	BYX106G
MC5617	MICROSEMI/MICRO QUALITY	BYX106G
MC5618	MICROSEMI/MICRO QUALITY	BYX106G
MC5619	MICROSEMI/MICRO QUALITY	BYX106G
MDV04-600	ST MICROELECTRONICS	BYV28-400
MES1304	MICROSEMI/MICRO QUALITY	BYV28-200
MES1305	MICROSEMI/MICRO QUALITY	BYV28-400
MES1306	MICROSEMI/MICRO QUALITY	BYV28-400
MJD13003	ON SEMICONDUCTOR	BUJ101
MJE13003	ON SEMICONDUCTOR	BUJ101
MJE13005	ON SEMICONDUCTOR	PHE13005, BUJ103A
MJE13007	ON SEMICONDUCTOR	PHE13007, BUJ105A
MJE13009	ON SEMICONDUCTOR	BUJ106A
MJE16002	ON SEMICONDUCTOR	BUJ204A
MJE16004	ON SEMICONDUCTOR	BUJ202A, BUJ204A
MJE16106	ON SEMICONDUCTOR	BUJ105A
MJE18002	ON SEMICONDUCTOR	BUJ202A, BUJ301A
MJE18004	ON SEMICONDUCTOR	BUJ202A, BUJ303A
MJE18006	ON SEMICONDUCTOR	BUJ204A, BUJ303A
MJE18008	ON SEMICONDUCTOR	BUJ205A, BUJ304A
MJE18009	ON SEMICONDUCTOR	BUJ205A, BUJ304A
MJE18204	ON SEMICONDUCTOR	BUJ403A
MJE18206	ON SEMICONDUCTOR	BUJ403A
MJF13007	ON SEMICONDUCTOR	BUJ105AX
MJF18002	ON SEMICONDUCTOR	BUJ202AX, BUJ301AX
MJF18004	ON SEMICONDUCTOR	BUJ202AX, BUJ303AX
MJF18006	ON SEMICONDUCTOR	BUJ202AX, BUJ303AX
MJF18008	ON SEMICONDUCTOR	BUJ205AX, BUJ304AX
MJF18009	ON SEMICONDUCTOR	BUJ205AX, BUJ304AX
MLL3830A	MICROSEMI	BZD27-C7V5
MLL4737A	MICROSEMI	BZD27-C7V5
MLL4738A	MICROSEMI	BZD27-C8V2
MLL4739A	MICROSEMI	BZD27-C9V1
MLL4740A	MICROSEMI	BZD27-C10
MLL4741A	MICROSEMI	BZD27-C11
MLL4742A	MICROSEMI	BZD27-C12
MLL4743A	MICROSEMI	BZD27-C13
MLL4744A	MICROSEMI	BZD27-C15
MLL4745A	MICROSEMI	BZD27-C16
MLL4746A	MICROSEMI	BZD27-C18
MLL4747A	MICROSEMI	BZD27-C20

Type	Manufacturer	Philips Type
MLL4748A	MICROSEMI	BZD27-C22
MLL4749A	MICROSEMI	BZD27-C24
MLL4750A	MICROSEMI	BZD27-C27
MLL4751A	MICROSEMI	BZD27-C30
MLL4752A	MICROSEMI	BZD27-C33
MLL4753A	MICROSEMI	BZD27-C36
MLL4754A	MICROSEMI	BZD27-C39
MLL4755A	MICROSEMI	BZD27-C43
MLL4756A	MICROSEMI	BZD27-C47
MLL4757A	MICROSEMI	BZD27-C51
MLL4758A	MICROSEMI	BZD27-C56
MLL4759A	MICROSEMI	BZD27-C62
MLL4760A	MICROSEMI	BZD27-C68
MLL4761A	MICROSEMI	BZD27-C75
MLL4762A	MICROSEMI	BZD27-C82
MLL4763A	MICROSEMI	BZD27-C91
MLL4764A	MICROSEMI	BZD27-C100
MLL5817	MICROSEMI/MICRO QUALITY	PRLL5817
MLL5818	MICROSEMI/MICRO QUALITY	PRLL5818
MLL5819	MICROSEMI/MICRO QUALITY	PRLL5819
MLL5922	MICROSEMI	BZD27-C7V5
MMDf6N03HD	ON SEMICONDUCTOR	PHN203 1)
MMDf7N02ZR2	ON SEMICONDUCTOR	SI4466DY
MMFT1N10ET1/3	ON SEMICONDUCTOR	PHT4NQ10T
MMFT3055EL	ON SEMICONDUCTOR	PHT6N06LT
MMFT3055V	ON SEMICONDUCTOR	PHT6N06T
MMFT3055VL	ON SEMICONDUCTOR	PHT6N06LT
MMSF10N02ZR2	ON SEMICONDUCTOR	SI4466DY
MMSF1308R2	ON SEMICONDUCTOR	SI9410DY
MMSF1310R2	ON SEMICONDUCTOR	SI4410DY
MMSF3350R2	ON SEMICONDUCTOR	SI4420DY
MMSF4N01HDR2	ON SEMICONDUCTOR	SI9925DY
MMSF7N03HDR2	ON SEMICONDUCTOR	SI9410DY
MR850	ON SEMICONDUCTOR	BYW95A
MR850GP	FAGOR	BYW95A
MR851	ON SEMICONDUCTOR	BYW95A
MR851GP	FAGOR	BYW95A
MR852	ON SEMICONDUCTOR	BYW95A
MR852GP	FAGOR	BYW95A
MR854	ON SEMICONDUCTOR	BYW95B
MR854GP	FAGOR	BYW95B
MRA4003	ON SEMICONDUCTOR	S1D
MRA4004	ON SEMICONDUCTOR	S1G
MRA4005	ON SEMICONDUCTOR	S1J
MRA4006	ON SEMICONDUCTOR	S1K
MRA4007	ON SEMICONDUCTOR	S1M
MTB1306	ON SEMICONDUCTOR	PHB87N03LT
MTB1306/T4	ON SEMICONDUCTOR	PHB11N03LT
MTB15N06V	ON SEMICONDUCTOR	PHB21N06T
MTB15N06VL	ON SEMICONDUCTOR	PHB21N06LT
MTB20N06V	ON SEMICONDUCTOR	PHB21N06T
MTB20N20E/T4	ON SEMICONDUCTOR	PHB20N20T
MTB29N15E1/T4	ON SEMICONDUCTOR	PHB30N15T

Type	Manufacturer	Philips Type
MTB33N10E/T4	ON SEMICONDUCTOR	PHB27NQ10T
MTB40N10E/T4	ON SEMICONDUCTOR	PHB34NQ10T
MTB50N06V	ON SEMICONDUCTOR	PHB50N06T
MTB52N06V	ON SEMICONDUCTOR	PHB60N06T
MTB52N06VL	ON SEMICONDUCTOR	PHB50N06LT
MTB75N03HDL	ON SEMICONDUCTOR	PHB87N03LT
MTB75N05HD/T4	ON SEMICONDUCTOR	PSMN005-55B
MTD10N05E	ON SEMICONDUCTOR	BUK7277-55
MTD12N06EZL	ON SEMICONDUCTOR	BUK92150-55A
MTD1302	ON SEMICONDUCTOR	PHD45N03LT
MTD1312T4	ON SEMICONDUCTOR	PHD50N03LTA
MTD15N06V	ON SEMICONDUCTOR	BUK7277-55
MTD15N06VL	ON SEMICONDUCTOR	BUK9277-55
MTD20N06HD	ON SEMICONDUCTOR	BUK9237-55
MTD20N06HDL	ON SEMICONDUCTOR	BUK7237-55
MTD20N06V	ON SEMICONDUCTOR	BUK7277-55
MTD2955V	ON SEMICONDUCTOR	BUK72150-55
MTD3055E	ON SEMICONDUCTOR	BUK72150-55
MTD3055E	ON SEMICONDUCTOR	ONS133
MTD3055EL	ON SEMICONDUCTOR	BUK92150-55
MTD3055V	ON SEMICONDUCTOR	BUK72150-55
MTD3055VL	ON SEMICONDUCTOR	BUK92150-55
MTD3302	ON SEMICONDUCTOR	PHD55N03LT, PHD69N03LT2)
MTD6N15D	ON SEMICONDUCTOR	PHD12NQ15T
MTD6N20E/1/T4	ON SEMICONDUCTOR	PHD9NQ20T
MTD8N06E	ON SEMICONDUCTOR	BUK7277-55
MTP12N10E	ON SEMICONDUCTOR	IRF530N
MTP12N10L	ON SEMICONDUCTOR	BUK95180-100A
MTP1302	ON SEMICONDUCTOR	PHP45N03LT
MTP1306	ON SEMICONDUCTOR	PHP87N03LT
MTP15N05E	ON SEMICONDUCTOR	PHP21N06T
MTP15N05EL	ON SEMICONDUCTOR	BUK9575-55A
MTP15N05EL	ON SEMICONDUCTOR	PHP21N06LT
MTP15N06V	ON SEMICONDUCTOR	PHP21N06T
MTP15N06VL	ON SEMICONDUCTOR	PHP21N06LT
MTP20N06V	ON SEMICONDUCTOR	PHP21N06T
MTP20N20E	ON SEMICONDUCTOR	PHP18NQ20T
MTP27N10E	ON SEMICONDUCTOR	PHP23NQ10T
MTP29N15E	ON SEMICONDUCTOR	PHP30NQ15T
MTP3055E	ST MICROELECTRONICS	PHP11N06LT
MTP3055E	ST MICROELECTRONICS	PHP11N06LT
MTP3055V	ON SEMICONDUCTOR	PHP3055E
MTP33N10E	ON SEMICONDUCTOR	PHP27NQ10T
MTP40N10E	ON SEMICONDUCTOR	PHP34NQ10T
MTP50N06E	ON SEMICONDUCTOR	BUK7528-55A
MTP50N06EL	ON SEMICONDUCTOR	BUK9528-55A
MTP50N06V	ON SEMICONDUCTOR	BUK7528-55A
MTP50N06VL	ON SEMICONDUCTOR	BUK9528-55A
MTP52N06V	ON SEMICONDUCTOR	PHP54N06T
MTP60N06HD	ON SEMICONDUCTOR	PHP73N06T
MTP75N03HDL	ON SEMICONDUCTOR	PHP87N03LT
MTP75N05HD	ON SEMICONDUCTOR	BUK7510-55A

Type	Manufacturer	Philips Type
MTP75N06HD	ON SEMICONDUCTOR	PHP112N06T
MUR105	ON SEMICONDUCTOR	BYV27-50
MUR110	ON SEMICONDUCTOR	BYV27-100
MUR1100E	ON SEMICONDUCTOR	BYV26E
MUR115	ON SEMICONDUCTOR	BYV27-150
MUR120	ON SEMICONDUCTOR	BYD123, BYD127
MUR140	ON SEMICONDUCTOR	BYD143, BYD147
MUR1520	ON SEMICONDUCTOR	BYV79E-200
MUR160	ON SEMICONDUCTOR	BYD163, BYD167, BYV160
MUR1620CT	ON SEMICONDUCTOR	BYQ30E-200
MUR180E	ON SEMICONDUCTOR	BYV26D
MUR190E	ON SEMICONDUCTOR	BYV26E
MUR2100E	ON SEMICONDUCTOR	BYM26E
MUR220	ON SEMICONDUCTOR	BYV27-200
MUR240	ON SEMICONDUCTOR	BYV27-400
MUR260	ON SEMICONDUCTOR	BYV28-600
MUR3020PT	ON SEMICONDUCTOR	BYV72EW-200
MUR3020WT	ON SEMICONDUCTOR	BYV72EW-200
MUR405	ON SEMICONDUCTOR	BYV28-50
MUR410	ON SEMICONDUCTOR	BYV28-100
MUR415	ON SEMICONDUCTOR	BYV28-150
MUR420	ON SEMICONDUCTOR	BYV28-200
MUR430	ON SEMICONDUCTOR	BYV28-400
MUR440	ON SEMICONDUCTOR	BYV28-400
MUR450	ON SEMICONDUCTOR	BYV28-600
MUR460	ON SEMICONDUCTOR	BYV28-600
MUR820	ON SEMICONDUCTOR	BYW29E-200
MUR840	ON SEMICONDUCTOR	BYV29-400
MURF82	ON SEMICONDUCTOR	BYV29EX-200
MURS105	ON SEMICONDUCTOR	BYG80A
MURS105T3	ON SEMICONDUCTOR	BYG80D
MURS110	ON SEMICONDUCTOR	BYG80B
MURS110T3	ON SEMICONDUCTOR	BYG80D
MURS115	ON SEMICONDUCTOR	BYG80C
MURS115T3	ON SEMICONDUCTOR	BYG80D
MURS120	GENERAL SEMICONDUCTOR	US1D
MURS120	ON SEMICONDUCTOR	BYG80D
MURS120T3	ON SEMICONDUCTOR	BYG80D
MURS130T3	ON SEMICONDUCTOR	BYG80G
MURS140	GENERAL SEMICONDUCTOR	US1G
MURS140	ON SEMICONDUCTOR	BYG80G
MURS140T3	ON SEMICONDUCTOR	BYG80G
MURS150T3	ON SEMICONDUCTOR	BYG80J
MURS160	GENERAL SEMICONDUCTOR	US1J
MURS160	ON SEMICONDUCTOR	BYG80J
MURS160T3	ON SEMICONDUCTOR	BYG80J
MURS1620CT	ON SEMICONDUCTOR	BYQ30EB-200
MURS220	ON SEMICONDUCTOR	BYG80D
MURS240	ON SEMICONDUCTOR	BYG80G
MURS260	ON SEMICONDUCTOR	BYG80J
NDB6030L	FAIRCHILD	PHB50N03LT
NDP6030L	FAIRCHILD	PHP50N03LT

Type	Manufacturer	Philips Type
NDS5355AN	FAIRCHILD	BSH108
NDS8936	FAIRCHILD	PHN2031)
NDS9933A	FAIRCHILD	PHP222
NDT451AN	FAIRCHILD	BSP030
NTD20N03L27	ON SEMICONDUCTOR	PHD45N03LTA
NTD32N06/L	ON SEMICONDUCTOR	PSMN010-55D
NTD4302T4	ON SEMICONDUCTOR	PHD66N03LT
NTMD6N02R2	ON SEMICONDUCTOR	SI9925DY
NTP27N06	ON SEMICONDUCTOR	PHP54N06T
NTP60N06	ON SEMICONDUCTOR	PHP73N06T
NTP60N06L	ON SEMICONDUCTOR	PHP73N06T
P0111CA	ST MICROELECTRONICS	BT169G
P0111DA	ST MICROELECTRONICS	BT169G
P0115AA	ST MICROELECTRONICS	BT169G
P0115BA	ST MICROELECTRONICS	BT169G
P0115CA	ST MICROELECTRONICS	BT169G
P0115DA	ST MICROELECTRONICS	BT169G
P0201EA	ST MICROELECTRONICS	BT169-500R
P0201MA	ST MICROELECTRONICS	BT169-600R
P0201MN	ST MICROELECTRONICS	BT148W-600R
P0201NA	ST MICROELECTRONICS	BT169-600R
P0201NN	ST MICROELECTRONICS	BT148W-600R
P0201SA	ST MICROELECTRONICS	BT169-600R
P0201SN	ST MICROELECTRONICS	BT148W-600R
P0202EA	ST MICROELECTRONICS	BT169-500R
P0202MA	ST MICROELECTRONICS	BT169-600R
P0202MN	ST MICROELECTRONICS	BT148W-600R
P0202NA	ST MICROELECTRONICS	BT169-600R
P0202NN	ST MICROELECTRONICS	BT148W-600R
P0202SA	ST MICROELECTRONICS	BT169-600R
P0202SN	ST MICROELECTRONICS	BT148W-600R
P4KE10	GEN.SEMIC.	BZW03-C10
P4KE100	GEN.SEMIC.	BZW03-C100
P4KE100A	MICROSEMI	BZW03-C100
P4KE100A	RECTRON	BZW03-C100
P4KE10A	MICROSEMI	BZW03-C10
P4KE10A	RECTRON	BZW03-C10
P4KE11	GEN.SEMIC.	BZW03-C11
P4KE110	GEN.SEMIC.	BZW03-C110
P4KE110A	MICROSEMI	BZW03-C110
P4KE110A	RECTRON	BZW03-C110
P4KE11A	MICROSEMI	BZW03-C11
P4KE11A	RECTRON	BZW03-C11
P4KE12	GEN.SEMIC.	BZW03-C12
P4KE120	GEN.SEMIC.	BZW03-C120
P4KE120A	MICROSEMI	BZW03-C120
P4KE120A	RECTRON	BZW03-C120
P4KE12A	MICROSEMI	BZW03-C12
P4KE12A	RECTRON	BZW03-C12
P4KE13	GEN.SEMIC.	BZW03-C13
P4KE130	GEN.SEMIC.	BZW03-C130
P4KE130A	MICROSEMI	BZW03-C130
P4KE130A	RECTRON	BZW03-C130

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
P4KE13A	MICROSEMI	BZW03-C13
P4KE13A	RECTRON	BZW03-C13
P4KE15	GEN.SEMIC.	BZW03-C15
P4KE150	GEN.SEMIC.	BZW03-C150
P4KE150A	MICROSEMI	BZW03-C150
P4KE150A	RECTRON	BZW03-C150
P4KE15A	MICROSEMI	BZW03-C15
P4KE15A	RECTRON	BZW03-C15
P4KE16	GEN.SEMIC.	BZW03-C16
P4KE160	GEN.SEMIC.	BZW03-C160
P4KE160A	MICROSEMI	BZW03-C160
P4KE160A	RECTRON	BZW03-C160
P4KE16A	MICROSEMI	BZW03-C16
P4KE16A	RECTRON	BZW03-C16
P4KE170A	MICROSEMI	BZW03-C160
P4KE170A	RECTRON	BZW03-C160
P4KE18	GEN.SEMIC.	BZW03-C18
P4KE180	GEN.SEMIC.	BZW03-C180
P4KE180A	MICROSEMI	BZW03-C180
P4KE180A	RECTRON	BZW03-C180
P4KE18A	MICROSEMI	BZW03-C18
P4KE18A	RECTRON	BZW03-C18
P4KE20	GEN.SEMIC.	BZW03-C20
P4KE200	GEN.SEMIC.	BZW03-C200
P4KE200A	MICROSEMI	BZW03-C200
P4KE200A	RECTRON	BZW03-C200
P4KE20A	MICROSEMI	BZW03-C20
P4KE20A	RECTRON	BZW03-C20
P4KE22	GEN.SEMIC.	BZW03-C22
P4KE220	GEN.SEMIC.	BZW03-C220
P4KE220A	MICROSEMI	BZW03-C220
P4KE220A	RECTRON	BZW03-C220
P4KE22A	MICROSEMI	BZW03-C22
P4KE22A	RECTRON	BZW03-C22
P4KE24	GEN.SEMIC.	BZW03-C24
P4KE24A	MICROSEMI	BZW03-C24
P4KE24A	RECTRON	BZW03-C24
P4KE250	GEN.SEMIC.	BZW03-C240
P4KE250A	MICROSEMI	BZW03-C240
P4KE250A	RECTRON	BZW03-C240
P4KE27	GEN.SEMIC.	BZW03-C27
P4KE27A	MICROSEMI	BZW03-C27
P4KE27A	RECTRON	BZW03-C27
P4KE30	GEN.SEMIC.	BZW03-C30
P4KE300	GEN.SEMIC.	BZW03-C300
P4KE300A	MICROSEMI	BZW03-C300
P4KE300A	RECTRON	BZW03-C300
P4KE30A	MICROSEMI	BZW03-C30
P4KE30A	RECTRON	BZW03-C30
P4KE33	GEN.SEMIC.	BZW03-C33
P4KE33A	MICROSEMI	BZW03-C33
P4KE33A	RECTRON	BZW03-C33
P4KE350	GEN.SEMIC.	BZW03-C360

Type	Manufacturer	Philips Type
P4KE350A	MICROSEMI	BZW03-C360
P4KE350A	RECTRON	BZW03-C360
P4KE36	GEN.SEMIC.	BZW03-C36
P4KE36A	MICROSEMI	BZW03-C36
P4KE36A	RECTRON	BZW03-C36
P4KE39	GEN.SEMIC.	BZW03-C39
P4KE39A	MICROSEMI	BZW03-C39
P4KE39A	RECTRON	BZW03-C39
P4KE400	GEN.SEMIC.	BZW03-C390
P4KE400A	MICROSEMI	BZW03-C390
P4KE400A	RECTRON	BZW03-C390
P4KE43	GEN.SEMIC.	BZW03-C43
P4KE43A	MICROSEMI	BZW03-C43
P4KE43A	RECTRON	BZW03-C43
P4KE440	GEN.SEMIC.	BZW03-C430
P4KE47	GEN.SEMIC.	BZW03-C47
P4KE47A	MICROSEMI	BZW03-C47
P4KE47A	RECTRON	BZW03-C47
P4KE51	GEN.SEMIC.	BZW03-C51
P4KE51A	MICROSEMI	BZW03-C51
P4KE51A	RECTRON	BZW03-C51
P4KE530	GEN.SEMIC.	BZW03-C470
P4KE550	GEN.SEMIC.	BZW03-C510
P4KE56	GEN.SEMIC.	BZW03-C56
P4KE56A	MICROSEMI	BZW03-C56
P4KE56A	RECTRON	BZW03-C56
P4KE62	GEN.SEMIC.	BZW03-C62
P4KE62A	MICROSEMI	BZW03-C62
P4KE62A	RECTRON	BZW03-C62
P4KE68	GEN.SEMIC.	BZW03-C68
P4KE68A	MICROSEMI	BZW03-C68
P4KE68A	RECTRON	BZW03-C68
P4KE75	GEN.SEMIC.	BZW03-C75
P4KE75A	MICROSEMI	BZW03-C75
P4KE75A	RECTRON	BZW03-C75
P4KE7V5	GEN.SEMIC.	BZW03-C7V5
P4KE7V5A	MICROSEMI	BZW03-C7V5
P4KE7V5A	RECTRON	BZW03-C7V5
P4KE82	GEN.SEMIC.	BZW03-C82
P4KE82A	MICROSEMI	BZW03-C82
P4KE82A	RECTRON	BZW03-C82
P4KE8V2	GEN.SEMIC.	BZW03-C8V2
P4KE8V2A	MICROSEMI	BZW03-C8V2
P4KE8V2A	RECTRON	BZW03-C8V2
P4KE91	GEN.SEMIC.	BZW03-C91
P4KE91A	MICROSEMI	BZW03-C91
P4KE91A	RECTRON	BZW03-C91
P4KE9V1	GEN.SEMIC.	BZW03-C9V1
P4KE9V1A	MICROSEMI	BZW03-C9V1
P4KE9V1A	RECTRON	BZW03-C9V1
P4SMAxxx	FAGOR	BZG04-xxx
P5KE100A	MICROSEMI	BZW03-C100
P5KE10A	MICROSEMI	BZW03-C10

Type	Manufacturer	Philips Type
P5KE110A	MICROSEMI	BZW03-C110
P5KE11A	MICROSEMI	BZW03-C12
P5KE120A	MICROSEMI	BZW03-C120
P5KE12A	MICROSEMI	BZW03-C12
P5KE130A	MICROSEMI	BZW03-C130
P5KE13A	MICROSEMI	BZW03-C13
P5KE150A	MICROSEMI	BZW03-C150
P5KE15A	MICROSEMI	BZW03-C15
P5KE160A	MICROSEMI	BZW03-C160
P5KE16A	MICROSEMI	BZW03-C16
P5KE17A	MICROSEMI	BZW03-C18
P5KE18A	MICROSEMI	BZW03-C18
P5KE20A	MICROSEMI	BZW03-C20
P5KE22A	MICROSEMI	BZW03-C22
P5KE24A	MICROSEMI	BZW03-C24
P5KE26A	MICROSEMI	BZW03-C27
P5KE28A	MICROSEMI	BZW03-C30
P5KE30A	MICROSEMI	BZW03-C30
P5KE33A	MICROSEMI	BZW03-C33
P5KE36A	MICROSEMI	BZW03-C36
P5KE40A	MICROSEMI	BZW03-C39
P5KE43A	MICROSEMI	BZW03-C43
P5KE45A	MICROSEMI	BZW03-C43
P5KE48A	MICROSEMI	BZW03-C47
P5KE51A	MICROSEMI	BZW03-C51
P5KE54A	MICROSEMI	BZW03-C56
P5KE58A	MICROSEMI	BZW03-C56
P5KE6.5A	MICROSEMI	BZW03-C7V5
P5KE60A	MICROSEMI	BZW03-C62
P5KE64A	MICROSEMI	BZW03-C68
P5KE7.0A	MICROSEMI	BZW03-C7V5
P5KE7.5A	MICROSEMI	BZW03-C7V5
P5KE70A	MICROSEMI	BZW03-C68
P5KE75A	MICROSEMI	BZW03-C75
P5KE78A	MICROSEMI	BZW03-C82
P5KE8.0A	MICROSEMI	BZW03-C7V5
P5KE8.5A	MICROSEMI	BZW03-C8V2
P5KE85A	MICROSEMI	BZW03-C82
P5KE9.0A	MICROSEMI	BZW03-C9V1
P5KE90A	MICROSEMI	BZW03-C91
PF20	SEMTECH	BY505
PF75	SEMTECH	BYX90G
PFF0	SEMTECH	BYV26E
PFF2	SEMTECH	BYV26B
PFF4	SEMTECH	BYV26B
PFF6	SEMTECH	BYV26C
PFF8	SEMTECH	BYV26D
PFR850	ST MICROELECTRONICS	BYV28-50
PFR851	ST MICROELECTRONICS	BYV28-100
PFR852	ST MICROELECTRONICS	BYV28-200
PFR854	ST MICROELECTRONICS	BYV28-400
PFR856	ST MICROELECTRONICS	BYV28-600
PM6	SEMTECH	1N5061

Type	Manufacturer	Philips Type
PM8	SEMTECH	1N5062
PTZxxA	ROHM	BZG03-Cxx
Q2004F31	TECCOR	BT136-600E
Q2004F41	TECCOR	BT136-600F
Q2004L3	TECCOR	BT137X-600E
Q2004L4	TECCOR	BT137X-600F
Q2006F41	TECCOR	BT137-600F
Q2006L4	TECCOR	BT137X-600F
Q2006R4	TECCOR	BT137-600F
Q2008F41	TECCOR	BT138-600F
Q2008L4	TECCOR	BT138X-600F
Q2008R4	TECCOR	BT138-600F
Q2010F51	TECCOR	BT138-600F
Q2010L5	TECCOR	BT138X-600F
Q2010R5	TECCOR	BT138-600F
Q2015R6	TECCOR	BTA225-600B
Q201E3	TECCOR	BT132-600D
Q201E4	TECCOR	BT132-600D
Q2025R6	TECCOR	BTA225-600B
Q4004F31	TECCOR	BT136-600E
Q4004F41	TECCOR	BT136-600F
Q4004L3	TECCOR	BT137X-600E
Q4004L4	TECCOR	BT137X-600F
Q4006F41	TECCOR	BT137-600F
Q4006L4	TECCOR	BT137X-600F
Q4006R4	TECCOR	BT137-600F
Q4008F41	TECCOR	BT138-600F
Q4008L4	TECCOR	BT138X-600F
Q4008R4	TECCOR	BT138-600F
Q4010F51	TECCOR	BT138-600F
Q4010L5	TECCOR	BT138X-600F
Q4010R5	TECCOR	BT138-600F
Q4015R6	TECCOR	BTA225-600B
Q401E3	TECCOR	BT132-600D
Q401E4	TECCOR	BT132-600D
Q4025R6	TECCOR	BTA225-600B
Q5004F31	TECCOR	BT136-600E
Q5004F41	TECCOR	BT136-600F
Q5004L3	TECCOR	BT137X-600E
Q5004L4	TECCOR	BT137X-600F
Q5006F41	TECCOR	BT137-600F
Q5006L4	TECCOR	BT137X-600F
Q5006R4	TECCOR	BT137-600F
Q5008F41	TECCOR	BT138-600F
Q5008L4	TECCOR	BT138X-600F
Q5008R4	TECCOR	BT138-600F
Q5010F51	TECCOR	BT138-600F
Q5010L5	TECCOR	BT138X-600F
Q5010R5	TECCOR	BT138-600F
Q5015R6	TECCOR	BTA225-600B
Q501E3	TECCOR	BT132-600D
Q501E4	TECCOR	BT132-600D
Q5025R6	TECCOR	BTA225-600B

Type	Manufacturer	Philips Type
Q6004F31	TECCOR	BT136-600E
Q6004F41	TECCOR	BT136-600F
Q6004L3	TECCOR	BT137X-600E
Q6004L4	TECCOR	BT137X-600F
Q6006F51	TECCOR	BT137-600G
Q6006L5	TECCOR	BT137X-600G
Q6006R5	TECCOR	BT137-600G
Q6008F51	TECCOR	BT138-600G
Q6008R5	TECCOR	BT138-600G
Q6010F51	TECCOR	BT138-600G
Q6010R5	TECCOR	BT138-600G
Q6015R6	TECCOR	BTA225-600B
Q601E3	TECCOR	BT132-600D
Q601E4	TECCOR	BT132-600D
Q6025R6	TECCOR	BTA225-600B
Q7008R5	TECCOR	BT138-800G
Q7010R5	TECCOR	BT138-800G
Q7015R6	TECCOR	BTA225-600B
Q7025R6	TECCOR	BTA225-600B
Q8008R5	TECCOR	BT138-800G
Q8010R5	TECCOR	BT138-800G
Q8015R5	TECCOR	BT139-800
Q8015R6	TECCOR	BTA225-600B
Q8025R6	TECCOR	BTA225-600B
R1500F	RECTRON	BYV98
R1800F	RECTRON	BYV98
R2000F	RECTRON	BYV98
R2500	RECTRON	BYX120G
R2500F	RECTRON	BYX105G
R3000	RECTRON	BYX120G
R3000F	RECTRON	BYX105G
R30A	MICROSEMI/MICRO QUALITY	BYW95A
R30B	MICROSEMI/MICRO QUALITY	BYW95A
R30D	MICROSEMI/MICRO QUALITY	BYW95A
R30G	MICROSEMI/MICRO QUALITY	BYW95B
R30K	MICROSEMI/MICRO QUALITY	BYW96E
R30M	MICROSEMI/MICRO QUALITY	BYW96E
R4000F	RECTRON	BYX105G
RB100A	ROHM	1N5819
RB160L-40	ROHM	BYG90-40
RFD12N03LSM	INTERSIL	PHD50N03LT
RF1S45N03LSM	INTERSIL	PHB50N03LT
RF1S50N06SM	INTERSIL	BUK7620-55A
RF1S70N03SM	INTERSIL	PHB87N03T
RF2001	FAGOR	1N5059
RF2002	FAGOR	1N5059
RF2003	FAGOR	1N5059
RF2004	FAGOR	1N5060
RF2005	FAGOR	1N5061
RF2006	FAGOR	1N5062
RFD12N06RLE	INTERSIL	BUK9277-55A
RFD12N06RLE	INTERSIL	BUK92150-55A
RFD12N06RLESM	INTERSIL	BUK9277-55A

Type	Manufacturer	Philips Type
RFD12N06RLESM	INTERSIL	BUK92150-55A
RFD15N06LSM	INTERSIL	BUK9237-55A
RFD3055LESM	INTERSIL	BUK92150-55A
RFP30N06LE	INTERSIL	BUK9535-55A
RFP45N03L	INTERSIL	PHP50N03LT
RFP50N05L	INTERSIL	BUK9524-55A
RFP50N05L	INTERSIL	BUK9520-55A
RFP70N03	INTERSIL	PHP87N03T
RFP70N06	INTERSIL	BUK7514-55A
RG1C	SANKEN	BYV26E
RG1J	GENERAL SEMICONDUCTOR	BYV36C
RG1M	GENERAL SEMICONDUCTOR	BYV36E
RG2G	GENERAL SEMICONDUCTOR	BYV95B
RG2J	GENERAL SEMICONDUCTOR	BYM36C
RG2K	GENERAL SEMICONDUCTOR	BYM36D
RG2M	GENERAL SEMICONDUCTOR	BYM36E
RG2Z	SANKEN	BYV27-200
RG3A	GENERAL SEMICONDUCTOR	BYW95A
RG3B	GENERAL SEMICONDUCTOR	BYW95A
RG3D	GENERAL SEMICONDUCTOR	BYW95A
RG3G	GENERAL SEMICONDUCTOR	BYW95B
RG3K	GENERAL SEMICONDUCTOR	BYW96E
RG3M	GENERAL SEMICONDUCTOR	BYW96E
RG4	SANKEN	BYM36C
RG4A	GENERAL SEMICONDUCTOR	BYW95A
RG4A	SANKEN	BYM36C
RG4B	GENERAL SEMICONDUCTOR	BYW95A
RG4C	SANKEN	BYM26E
RG4D	GENERAL SEMICONDUCTOR	BYW95A
RG4G	GENERAL SEMICONDUCTOR	BYW95B
RG4Y	SANKEN	BYV28-100
RG4Z	SANKEN	BYV28-200
RGF1J	FAIRCHILD	RS1J
RGF1J	GENERAL SEMICONDUCTOR	RS1J
RGF1K	FAIRCHILD	RS1K
RGF1K	GENERAL SEMICONDUCTOR	RS1K
RGF1M	FAIRCHILD	RS1M
RGF1M	GENERAL SEMICONDUCTOR	RS1M
RGL34A	GENERAL SEMICONDUCTOR	BYD37D
RGL34B	GENERAL SEMICONDUCTOR	BYD37D
RGL34D	GENERAL SEMICONDUCTOR	BYD37D
RGL34G	GENERAL SEMICONDUCTOR	BYD37G
RGL34J	GENERAL SEMICONDUCTOR	BYD37J
RGL34K	GENERAL SEMICONDUCTOR	RS1K
RGL41A	GENERAL SEMICONDUCTOR	BYD37D
RGL41B	GENERAL SEMICONDUCTOR	BYD37D
RGL41D	GENERAL SEMICONDUCTOR	BYD37D
RGL41G	GENERAL SEMICONDUCTOR	BYD37G
RGL41J	GENERAL SEMICONDUCTOR	BYD37J
RGL41K	GENERAL SEMICONDUCTOR	BYD37M
RGL41M	GENERAL SEMICONDUCTOR	BYD37M
RGP02-12E	GENERAL SEMICONDUCTOR	BYV97F
RGP02-14E	GENERAL SEMICONDUCTOR	BYV97G

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
RGP02-16E	GENERAL SEMICONDUCTOR	BYV98
RGP02-18E	GENERAL SEMICONDUCTOR	BYV98
RGP02-20E	GENERAL SEMICONDUCTOR	BYV98
RGP10J	FAIRCHILD	BYV36C
RGP10J	GENERAL SEMICONDUCTOR	BYV36C
RGP10M	FAIRCHILD	BYV36E
RGP10M	GENERAL SEMICONDUCTOR	BYV36E
RGP15G	GENERAL SEMICONDUCTOR	BYV95B
RGP15J	GENERAL SEMICONDUCTOR	BYM36C
RGP15K	GENERAL SEMICONDUCTOR	BYM36D
RGP15M	GENERAL SEMICONDUCTOR	BYM36E
RGP20A	GENERAL SEMICONDUCTOR	BYW95A
RGP20B	GENERAL SEMICONDUCTOR	BYW95A
RGP20D	GENERAL SEMICONDUCTOR	BYW95A
RGP20G	GENERAL SEMICONDUCTOR	BYW95B
RGP20J	GENERAL SEMICONDUCTOR	BYM36C
RGP25A	GENERAL SEMICONDUCTOR	BYW95A
RGP25B	GENERAL SEMICONDUCTOR	BYW95A
RGP25D	GENERAL SEMICONDUCTOR	BYW95A
RGP25G	GENERAL SEMICONDUCTOR	BYW95B
RGP25K	GENERAL SEMICONDUCTOR	BYW96E
RGP25M	GENERAL SEMICONDUCTOR	BYW96E
RGP30A	GENERAL SEMICONDUCTOR	BYW95A
RGP30B	GENERAL SEMICONDUCTOR	BYW95A
RGP30D	GENERAL SEMICONDUCTOR	BYW95A
RGP30G	GENERAL SEMICONDUCTOR	BYW95B
RGP30K	GENERAL SEMICONDUCTOR	BYW96E
RGP30M	GENERAL SEMICONDUCTOR	BYW96E
RGP30MT	FAGOR	BYW96E
RH1	SANKEN	1N5060
RH1A	SANKEN	1N5061
RH1B	SANKEN	1N5062
RH1Z	SANKEN	1N5059
RH2F	SANKEN	BY228
RH4F	SANKEN	BY228
RL101	RECTRON	1N4001ID
RL104F	RECTRON	BYV95B
RL105	RECTRON	1N4005ID
RL106	RECTRON	1N4006ID
RL151	RECTRON	1N5059
RL152	RECTRON	1N5059
RL153	RECTRON	1N5059
RL154	RECTRON	1N5060
RL155	RECTRON	1N5061
RL156	RECTRON	1N5062
RL157	RECTRON	BYW56
RL201	RECTRON	1N5059
RL201GP	MICROSEMI/MICRO QUALITY	1N5059
RL202	RECTRON	1N5059
RL202GP	MICROSEMI/MICRO QUALITY	1N5059
RL203	RECTRON	1N5059
RL203GP	MICROSEMI/MICRO QUALITY	1N5059
RL204	RECTRON	1N5060

Type	Manufacturer	Philips Type
RL204GP	MICROSEMI/MICRO QUALITY	1N5060
RL205	RECTRON	1N5061
RL205GP	MICROSEMI/MICRO QUALITY	1N5061
RL206	RECTRON	1N5062
RL206GP	MICROSEMI/MICRO QUALITY	1N5062
RL251	RECTRON	BYM56A
RL252	RECTRON	BYM56A
RL253	RECTRON	BYM56A
RL254	RECTRON	BYM56B
RL255	RECTRON	BYM56C
RL256	RECTRON	BYM56D
RL257	RECTRON	BYM56E
RL2Z	SANKEN	BYV27-200
RL4Z	SANKEN	BYV28-200
RL500	RECTRON	BYM56A
RL501	RECTRON	BYM56A
RL502	RECTRON	BYM56A
RL504	RECTRON	BYM56B
RL506	RECTRON	BYM56C
RL508	RECTRON	BYM56D
RL510	RECTRON	BYM56E
RL850	RECTRON	BYW95A
RL851	RECTRON	BYW95A
RL852	RECTRON	BYW95A
RL854	RECTRON	BYW95B
RLR4001	ROHM	PRLL4001
RLR4003	ROHM	BYD17D
RLR4004	ROHM	BYD17G
RM1	SANKEN	1N5060
RM10	SANKEN	BYM56B
RM10A	SANKEN	BYM56C
RM10B	SANKEN	BYM56D
RM10Z	SANKEN	BYM56A
RM11A	SANKEN	BYM56C
RM11B	SANKEN	BYM56D
RM11C	SANKEN	BYM56E
RM1A	SANKEN	1N5061
RM1B	SANKEN	1N5062
RM1Z	SANKEN	1N5059
RM2	SANKEN	BYM56B
RM2A	SANKEN	BYM56C
RM2B	SANKEN	BYM56D
RM2C	SANKEN	BYM56E
RM2Z	SANKEN	BYM56A
RMPG06J	GENERAL SEMICONDUCTOR	BYV36C
RO2	SANKEN	BYM56B
RO2A	SANKEN	BYM56C
RO2B	SANKEN	BYM56D
RO2C	SANKEN	BYM56E
RO2Z	SANKEN	BYM56A
RP30A	MICROSEMI/MICRO QUALITY	BYW95A
RP30B	MICROSEMI/MICRO QUALITY	BYW95A
RP30D	MICROSEMI/MICRO QUALITY	BYW95A

Type	Manufacturer	Philips Type
RP30G	MICROSEMI/MICRO QUALITY	BYW95B
RP30K	MICROSEMI/MICRO QUALITY	BYW96E
RP30M	MICROSEMI/MICRO QUALITY	BYW96E
RS1A	GENERAL SEMICONDUCTOR	RS1A
RS1B	GENERAL SEMICONDUCTOR	RS1B
RS1D	GENERAL SEMICONDUCTOR	RS1D
RS1G	GENERAL SEMICONDUCTOR	RS1G
RS1J	GENERAL SEMICONDUCTOR	RS1J
RS1K	GENERAL SEMICONDUCTOR	RS1K
RS1M	FAIRCHILD	RS1M
RS3FS	SANKEN	BY228
RS4FS	SANKEN	BYW97G
RU1P	SANKEN	BYV26E
RU3M	SANKEN	BYW95B
RU3YX	SANKEN	BYW95A
RU4	SANKEN	BYW95B
RU4B	SANKEN	BYW96E
RU4C	SANKEN	BYW96E
RU4D	SANKEN	BYW97G
RU4DS	SANKEN	BYW97G
RU4M	SANKEN	BYW95B
RU4Y	SANKEN	BYW95A
RU4YX	SANKEN	BYV28-100
RU4Z	SANKEN	BYW95A
S0402BH	ST MICROELECTRONICS	BT258-500R, BT150500R
S0402DH	ST MICROELECTRONICS	BT258-500R, BT150500R
S0402MH	ST MICROELECTRONICS	BT258-500R, BT150500R
S0402NH	ST MICROELECTRONICS	BT258-500R, BT150500R
S0406DH	ST MICROELECTRONICS	BT300-500R
S0406MH	ST MICROELECTRONICS	BT300-600R
S0410BH	ST MICROELECTRONICS	BT300-500R
S0410DH	ST MICROELECTRONICS	BT300-500R
S0410MH	ST MICROELECTRONICS	BT300-600R
S0417BH	ST MICROELECTRONICS	BT300-500R
S0417DH	ST MICROELECTRONICS	BT300-500R
S0417MH	ST MICROELECTRONICS	BT300-600R
S0503LS1	TECCOR	BT258X-500R
S0504F1	TECCOR	BT300-500R
S0506F1	TECCOR	BT151-500R
S0506FS21	TECCOR	BT258-500R
S0506FS31	TECCOR	BT258-500R
S0506L	TECCOR	BT151X-500R
S0506LS2	TECCOR	BT258X-500R
S0506LS3	TECCOR	BT258X-500R
S0508F1	TECCOR	BT151-500R
S0508FS21	TECCOR	BT258-500R
S0508FS31	TECCOR	BT258-500R
S0508L	TECCOR	BT151X-500R
S0508LS2	TECCOR	BT258X-500R

Type	Manufacturer	Philips Type
S0508LS3	TECCOR	BT258X-500R
S0508R	TECCOR	BT151-500R
S0510F1	TECCOR	BT151-500R
S0510FS21	TECCOR	BT258-500R
S0510FS31	TECCOR	BT258-500R
S0510L	TECCOR	BT151X-500R
S0510LS2	TECCOR	BT258X-500R
S0510LS3	TECCOR	BT258X-500R
S0510R	TECCOR	BT151-500R
S0512R	TECCOR	BT151-500R
S0515L	TECCOR	BT152X-400R
S0515R	TECCOR	BT152X-400R
S0602BH	ST MICROELECTRONICS	BT258-500R
S0602DH	ST MICROELECTRONICS	BT258-500R
S0602MH	ST MICROELECTRONICS	BT258-600R
S0602NH	ST MICROELECTRONICS	BT258-800R
S0606BH	ST MICROELECTRONICS	BT300-500R
S0606DH	ST MICROELECTRONICS	BT300-500R
S0606MH	ST MICROELECTRONICS	BT300-600R
S0610MH	ST MICROELECTRONICS	BT300-600R
S0617MH	ST MICROELECTRONICS	BT300-600R
S0802BH	ST MICROELECTRONICS	BT258-500R
S0802DH	ST MICROELECTRONICS	BT258-500R
S0802MH	ST MICROELECTRONICS	BT258-600R
S0802NH	ST MICROELECTRONICS	BT258-800R
S0806BH	ST MICROELECTRONICS	BT151-500R
S0806DH	ST MICROELECTRONICS	BT151-500R
S0806MH	ST MICROELECTRONICS	BT151-650R
S0806NH	ST MICROELECTRONICS	BT151-800R
S0810BH	ST MICROELECTRONICS	BT151-500R
S0810DH	ST MICROELECTRONICS	BT151-500R
S0810MH	ST MICROELECTRONICS	BT151-650R
S0810NH	ST MICROELECTRONICS	BT151-800R
S0817BH	ST MICROELECTRONICS	BT151-500R
S0817DH	ST MICROELECTRONICS	BT151-500R
S0817MH	ST MICROELECTRONICS	BT151-650R
S0817NH	ST MICROELECTRONICS	BT151-800R
S1003LS1	TECCOR	BT258X-500R
S1006BH	ST MICROELECTRONICS	BT151-500R
S1006DH	ST MICROELECTRONICS	BT151-500R
S1006F1	TECCOR	BT151-500R
S1006FS21	TECCOR	BT258-500R
S1006FS31	TECCOR	BT258-500R
S1006L	TECCOR	BT151X-500R
S1006LS2	TECCOR	BT258X-500R
S1006LS3	TECCOR	BT258X-500R
S1006MH	ST MICROELECTRONICS	BT151-650R
S1006NH	ST MICROELECTRONICS	BT151-800R
S1008F1	TECCOR	BT151-500R
S1008FS21	TECCOR	BT258-500R
S1008FS31	TECCOR	BT258-500R
S1008L	TECCOR	BT151X-500R
S1008LS2	TECCOR	BT258X-500R

Type	Manufacturer	Philips Type
S1008LS3	TECCOR	BT258X-500R
S1008R	TECCOR	BT151-500R
S1010BH	ST MICROELECTRONICS	BT151-500R
S1010DH	ST MICROELECTRONICS	BT151-500R
S1010F1	TECCOR	BT151-500R
S1010FS21	TECCOR	BT258-500R
S1010FS31	TECCOR	BT258-500R
S1010L	TECCOR	BT151X-500R
S1010LS2	TECCOR	BT258X-500R
S1010LS3	TECCOR	BT258X-500R
S1010MH	ST MICROELECTRONICS	BT151-650R
S1010NH	ST MICROELECTRONICS	BT151-800R
S1010R	TECCOR	BT151-500R
S1012R	TECCOR	BT151-500R
S1015L	TECCOR	BT152X-400R
S1016R	TECCOR	BT152X-400R
S1017BH	ST MICROELECTRONICS	BT151-500R
S1017DH	ST MICROELECTRONICS	BT151-500R
S1017MH	ST MICROELECTRONICS	BT151-650R
S1017NH	ST MICROELECTRONICS	BT151-800R
S1025R	TECCOR	BT145-500R
S1206BH	ST MICROELECTRONICS	BT152-400R
S1206DH	ST MICROELECTRONICS	BT152-400R
S1206MH	ST MICROELECTRONICS	BT152-600R
S1206NH	ST MICROELECTRONICS	BT152-800R
S1210BH	ST MICROELECTRONICS	BT152-400R
S1210DH	ST MICROELECTRONICS	BT152-400R
S1210MH	ST MICROELECTRONICS	BT152-600R
S1210NH	ST MICROELECTRONICS	BT152-800R
S1217BH	ST MICROELECTRONICS	BT152-400R
S1217DH	ST MICROELECTRONICS	BT152-400R
S1217MH	ST MICROELECTRONICS	BT152-600R
S1217NH	ST MICROELECTRONICS	BT152-800R
S1610BH	ST MICROELECTRONICS	BT152-400R
S1610DH	ST MICROELECTRONICS	BT152-400R
S1610MH	ST MICROELECTRONICS	BT152-600R
S1610NH	ST MICROELECTRONICS	BT152-800R
S1616BH	ST MICROELECTRONICS	BT152-400R
S1616DH	ST MICROELECTRONICS	BT152-400R
S1616MH	ST MICROELECTRONICS	BT152-600R
S1616NH	ST MICROELECTRONICS	BT152-800R
S1A	GENERAL SEMICONDUCTOR	S1A
S1B	GENERAL SEMICONDUCTOR	S1B
S1D	GENERAL SEMICONDUCTOR	S1D
S1G	GENERAL SEMICONDUCTOR	S1G
S1J	GENERAL SEMICONDUCTOR	S1J
S1K	GENERAL SEMICONDUCTOR	S1K
S1M	GENERAL SEMICONDUCTOR	S1M
S2000	TOSHIBA	BU4508AX
S2000A	TOSHIBA	BU4508AX
S2000AF	TOSHIBA	BU4508AX
S2000AFI	ST MICROELECTRONICS	BU4508AX
S2000F	TOSHIBA	BU4508AX

Type	Manufacturer	Philips Type
S2003LS1	TECCOR	BT258X-500R
S2006F1	TECCOR	BT151-500R
S2006FS21	TECCOR	BT258-500R
S2006FS31	TECCOR	BT258-500R
S2006L	TECCOR	BT151X-500R
S2006LS2	TECCOR	BT258X-500R
S2006LS3	TECCOR	BT258X-500R
S2008F1	TECCOR	BT151-500R
S2008FS21	TECCOR	BT258-500R
S2008FS31	TECCOR	BT258-500R
S2008L	TECCOR	BT151X-500R
S2008LS2	TECCOR	BT258X-500R
S2008LS3	TECCOR	BT258X-500R
S2008R	TECCOR	BT151-500R
S2010F1	TECCOR	BT151-500R
S2010FS21	TECCOR	BT258-500R
S2010FS31	TECCOR	BT258-500R
S2010L	TECCOR	BT151X-500R
S2010LS2	TECCOR	BT258X-500R
S2010LS3	TECCOR	BT258X-500R
S2010R	TECCOR	BT151-500R
S2012R	TECCOR	BT151-500R
S2015L	TECCOR	BT152X-400R
S2016R	TECCOR	BT152X-400R
S2025R	TECCOR	BT145-500R
S2055AF	TOSHIBA	BU4508DX
S2055F	TOSHIBA	BU4508DX
S2514BH	ST MICROELECTRONICS	BT145-500R
S2514DH	ST MICROELECTRONICS	BT145-500R
S2514NH	ST MICROELECTRONICS	BT145-800R
S2516BH	ST MICROELECTRONICS	BT145-500R
S2516DH	ST MICROELECTRONICS	BT145-500R
S2516NH	ST MICROELECTRONICS	BT145-800R
S2800A	ON SEMICONDUCTOR	BT151-500R
S2800B	ON SEMICONDUCTOR	BT151-500R
S2800D	ON SEMICONDUCTOR	BT151-500R
S2800F	ON SEMICONDUCTOR	BT151-500R
S2800M	ON SEMICONDUCTOR	BT151-800R
S2A	FAIRCHILD	BYG50D
S2B	FAIRCHILD	BYG50D
S2D	FAIRCHILD	BYG50D
S2G	FAIRCHILD	BYG50G
S2J	FAIRCHILD	BYG50J
S2K	FAIRCHILD	BYG50K
S2L20U	SHINDENGEN	BYV27-200
S2M	FAIRCHILD	BYG50M
S2M	SEMTECH	1N5059
S2V20	SHINDENGEN	1N5059
S2V60	SHINDENGEN	1N5061
S3L20U	SHINDENGEN	BYV28-200
S3L40	SHINDENGEN	BYV28-400
S3L60	SHINDENGEN	BYV28-600
S3V20	SHINDENGEN	BYM56A

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
S3V60	SHINDENGEN	BYM56C
S3V60Z	SHINDENGEN	BYM56D
S4006F1	TECCOR	BT151-500R
S4006FS21	TECCOR	BT258-500R
S4006FS31	TECCOR	BT258-500R
S4006L	TECCOR	BT151X-500R
S4006LS1	TECCOR	BT258X-500R
S4006LS2	TECCOR	BT258X-500R
S4006LS3	TECCOR	BT258X-500R
S4008F1	TECCOR	BT151-500R
S4008FS21	TECCOR	BT258-500R
S4008FS31	TECCOR	BT258-500R
S4008L	TECCOR	BT151X-500R
S4008LS2	TECCOR	BT258X-500R
S4008LS3	TECCOR	BT258X-500R
S4008R	TECCOR	BT151-500R
S4010F1	TECCOR	BT151-500R
S4010FS21	TECCOR	BT258-500R
S4010FS31	TECCOR	BT258-500R
S4010L	TECCOR	BT151X-500R
S4010LS2	TECCOR	BT258X-500R
S4010LS3	TECCOR	BT258X-500R
S4010R	TECCOR	BT151-500R
S4012R	TECCOR	BT151-500R
S4015L	TECCOR	BT152X-400R
S4016R	TECCOR	BT152X-400R
S4F	SEMTECH	BYV95B
S4M	SEMTECH	1N5060
S5277B	TOSHIBA	1N5059
S5277G	TOSHIBA	1N5060
S5277J	TOSHIBA	BYW54
S5277N	TOSHIBA	BYW56
S5566B	TOSHIBA	1N5059
S5566G	TOSHIBA	1N5060
S5566J	TOSHIBA	BYW54
S5566N	TOSHIBA	BYW56
S5688B	TOSHIBA	1N5059
S5688G	TOSHIBA	1N5060
S5688J	TOSHIBA	BYW54
S5688N	TOSHIBA	BYW56
S6003LS1	TECCOR	BT258X-600R
S6004F1	TECCOR	BT300-600R
S6006F1	TECCOR	BT151-650R
S6006FS21	TECCOR	BT258-600R
S6006FS31	TECCOR	BT258-600R
S6006L	TECCOR	BT151X-650R
S6006LS2	TECCOR	BT258X-600R
S6006LS3	TECCOR	BT258X-600R
S6008F1	TECCOR	BT151-650R
S6008FS21	TECCOR	BT258-600R
S6008FS31	TECCOR	BT258-600R
S6008L	TECCOR	BT151X-650R
S6008LS2	TECCOR	BT258X-600R

Type	Manufacturer	Philips Type
S6008LS3	TECCOR	BT258X-600R
S6008R	TECCOR	BT151-650R
S6010F1	TECCOR	BT151-600R
S6010FS21	TECCOR	BT258-600R
S6010FS31	TECCOR	BT258-600R
S6010L	TECCOR	BT151X-650R
S6010LS2	TECCOR	BT258X-600R
S6010LS3	TECCOR	BT258X-600R
S6010R	TECCOR	BT151-650R
S6012R	TECCOR	BT151-650R
S6015L	TECCOR	BT152X-600R
S6016R	TECCOR	BT152X-600R
S6744	TOSHIBA	BT152-600R
S6M	SEMTECH	1N5061
S8006L	TECCOR	BT151X-800R
S8008L	TECCOR	BT151X-800R
S8008R	TECCOR	BT151-800R
S8010L	TECCOR	BT151X-800R
S8010R	TECCOR	BT151-800R
S8012R	TECCOR	BT151-800R
S8015L	TECCOR	BT152X-800R
S8016R	TECCOR	BT152X-800R
S8025R	TECCOR	BT145-800R
S8M	SEMTECH	1N5062
SA100A	FAIRCHILD	BZW03-C100
SA100A	GEN.SEMIC.	BZW03-C100
SA100A	MICROSEMI	BZW03-C100
SA100A	ON SEMICONDUCTOR	BZW03-C100
SA10A	FAIRCHILD	BZW03-C10
SA10A	GEN.SEMIC.	BZW03-C10
SA10A	MICROSEMI	BZW03-C10
SA10A	ON SEMICONDUCTOR	BZW03-C10
SA110A	FAIRCHILD	BZW03-C110
SA110A	GEN.SEMIC.	BZW03-C110
SA110A	MICROSEMI	BZW03-C110
SA110A	ON SEMICONDUCTOR	BZW03-C110
SA11A	FAIRCHILD	BZW03-C11
SA11A	GEN.SEMIC.	BZW03-C11
SA11A	MICROSEMI	BZW03-C12
SA11A	ON SEMICONDUCTOR	BZW03-C11
SA120A	FAIRCHILD	BZW03-C120
SA120A	GEN.SEMIC.	BZW03-C120
SA120A	MICROSEMI	BZW03-C120
SA120A	ON SEMICONDUCTOR	BZW03-C120
SA12A	FAIRCHILD	BZW03-C12
SA12A	GEN.SEMIC.	BZW03-C12
SA12A	MICROSEMI	BZW03-C12
SA12A	ON SEMICONDUCTOR	BZW03-C12
SA130A	FAIRCHILD	BZW03-C130
SA130A	GEN.SEMIC.	BZW03-C130
SA130A	MICROSEMI	BZW03-C130
SA130A	ON SEMICONDUCTOR	BZW03-C130
SA13A	FAIRCHILD	BZW03-C13

Type	Manufacturer	Philips Type
SA13A	GEN.SEMIC.	BZW03-C13
SA13A	MICROSEMI	BZW03-C13
SA13A	ON SEMICONDUCTOR	BZW03-C13
SA14A	FAIRCHILD	BZW03-C15
SA14A	GEN.SEMIC.	BZW03-C15
SA14A	ON SEMICONDUCTOR	BZW03-C15
SA150A	FAIRCHILD	BZW03-C150
SA150A	GEN.SEMIC.	BZW03-C150
SA150A	MICROSEMI	BZW03-C150
SA150A	ON SEMICONDUCTOR	BZW03-C150
SA154	DIOTEC	BYD37D
SA155	DIOTEC	BYD37D
SA156	DIOTEC	BYD37D
SA157	DIOTEC	BYD37G
SA158	DIOTEC	BYD37J
SA159	DIOTEC	BYD37M
SA15A	FAIRCHILD	BZW03-C15
SA15A	GEN.SEMIC.	BZW03-C15
SA15A	MICROSEMI	BZW03-C15
SA15A	ON SEMICONDUCTOR	BZW03-C15
SA160	DIOTEC	BYD37M
SA160A	FAIRCHILD	BZW03-C160
SA160A	GEN.SEMIC.	BZW03-C160
SA160A	MICROSEMI	BZW03-C160
SA160A	ON SEMICONDUCTOR	BZW03-C160
SA16A	FAIRCHILD	BZW03-C16
SA16A	GEN.SEMIC.	BZW03-C15
SA16A	MICROSEMI	BZW03-C16
SA16A	ON SEMICONDUCTOR	BZW03-C16
SA170A	FAIRCHILD	BZW03-C180
SA170A	GEN.SEMIC.	BZW03-C180
SA170A	ON SEMICONDUCTOR	BZW03-C180
SA17A	FAIRCHILD	BZW03-C18
SA17A	GEN.SEMIC.	BZW03-C16
SA17A	MICROSEMI	BZW03-C18
SA17A	ON SEMICONDUCTOR	BZW03-C18
SA18A	FAIRCHILD	BZW03-C18
SA18A	GEN.SEMIC.	BZW03-C18
SA18A	MICROSEMI	BZW03-C18
SA18A	ON SEMICONDUCTOR	BZW03-C18
SA20A	FAIRCHILD	BZW03-C20
SA20A	GEN.SEMIC.	BZW03-C20
SA20A	MICROSEMI	BZW03-C20
SA20A	ON SEMICONDUCTOR	BZW03-C20
SA22A	FAIRCHILD	BZW03-C22
SA22A	GEN.SEMIC.	BZW03-C22
SA22A	MICROSEMI	BZW03-C22
SA22A	ON SEMICONDUCTOR	BZW03-C22
SA24A	FAIRCHILD	BZW03-C24
SA24A	GEN.SEMIC.	BZW03-C24
SA24A	MICROSEMI	BZW03-C24
SA24A	ON SEMICONDUCTOR	BZW03-C24
SA26A	FAIRCHILD	BZW03-C27

Type	Manufacturer	Philips Type
SA26A	GEN.SEMIC.	BZW03-C27
SA26A	MICROSEMI	BZW03-C27
SA26A	ON SEMICONDUCTOR	BZW03-C27
SA28A	FAIRCHILD	BZW03-C27
SA28A	GEN.SEMIC.	BZW03-C27
SA28A	MICROSEMI	BZW03-C30
SA28A	ON SEMICONDUCTOR	BZW03-C27
SA30A	FAIRCHILD	BZW03-C30
SA30A	GEN.SEMIC.	BZW03-C30
SA30A	MICROSEMI	BZW03-C30
SA30A	ON SEMICONDUCTOR	BZW03-C30
SA33A	FAIRCHILD	BZW03-C33
SA33A	GEN.SEMIC.	BZW03-C33
SA33A	MICROSEMI	BZW03-C33
SA33A	ON SEMICONDUCTOR	BZW03-C33
SA36A	FAIRCHILD	BZW03-C36
SA36A	GEN.SEMIC.	BZW03-C36
SA36A	MICROSEMI	BZW03-C36
SA36A	ON SEMICONDUCTOR	BZW03-C36
SA40A	FAIRCHILD	BZW03-C39
SA40A	GEN.SEMIC.	BZW03-C39
SA40A	MICROSEMI	BZW03-C39
SA40A	ON SEMICONDUCTOR	BZW03-C39
SA43A	FAIRCHILD	BZW03-C43
SA43A	GEN.SEMIC.	BZW03-C43
SA43A	MICROSEMI	BZW03-C43
SA43A	ON SEMICONDUCTOR	BZW03-C43
SA45A	FAIRCHILD	BZW03-C47
SA45A	GEN.SEMIC.	BZW03-C43
SA45A	MICROSEMI	BZW03-C43
SA45A	ON SEMICONDUCTOR	BZW03-C47
SA48A	FAIRCHILD	BZW03-C47
SA48A	GEN.SEMIC.	BZW03-C47
SA48A	MICROSEMI	BZW03-C47
SA48A	ON SEMICONDUCTOR	BZW03-C47
SA51A	FAIRCHILD	BZW03-C51
SA51A	GEN.SEMIC.	BZW03-C51
SA51A	MICROSEMI	BZW03-C51
SA51A	ON SEMICONDUCTOR	BZW03-C51
SA54A	FAIRCHILD	BZW03-C56
SA54A	GEN.SEMIC.	BZW03-C56
SA54A	MICROSEMI	BZW03-C56
SA54A	ON SEMICONDUCTOR	BZW03-C51
SA58A	FAIRCHILD	BZW03-C56
SA58A	GEN.SEMIC.	BZW03-C56
SA58A	MICROSEMI	BZW03-C56
SA58A	ON SEMICONDUCTOR	BZW03-C56
SA6.5A	FAIRCHILD	BZW03-C7V5
SA6.5A	MICROSEMI	BZW03-C7V5
SA6.5A	ON SEMICONDUCTOR	BZW03-C7V5
SA60A	FAIRCHILD	BZW03-C62
SA60A	GEN.SEMIC.	BZW03-C62
SA60A	MICROSEMI	BZW03-C62

Type	Manufacturer	Philips Type
SA60A	ON SEMICONDUCTOR	BZW03-C62
SA64A	FAIRCHILD	BZW03-C62
SA64A	GEN.SEMIC.	BZW03-C62
SA64A	MICROSEMI	BZW03-C68
SA64A	ON SEMICONDUCTOR	BZW03-C62
SA7.0A	FAIRCHILD	BZW03-C7V5
SA7.0A	MICROSEMI	BZW03-C7V5
SA7.0A	ON SEMICONDUCTOR	BZW03-C7V5
SA7.5A	FAIRCHILD	BZW03-C7V5
SA7.5A	GEN.SEMIC.	BZW03-C7V5
SA7.5A	MICROSEMI	BZW03-C7V5
SA7.5A	ON SEMICONDUCTOR	BZW03-C7V5
SA70A	FAIRCHILD	BZW03-C68
SA70A	GEN.SEMIC.	BZW03-C68
SA70A	MICROSEMI	BZW03-C68
SA70A	ON SEMICONDUCTOR	BZW03-C68
SA75A	FAIRCHILD	BZW03-C75
SA75A	GEN.SEMIC.	BZW03-C75
SA75A	MICROSEMI	BZW03-C75
SA75A	ON SEMICONDUCTOR	BZW03-C75
SA78A	FAIRCHILD	BZW03-C75
SA78A	GEN.SEMIC.	BZW03-C75
SA78A	MICROSEMI	BZW03-C82
SA78A	ON SEMICONDUCTOR	BZW03-C75
SA8.0A	FAIRCHILD	BZW03-C8V2
SA8.0A	GEN.SEMIC.	BZW03-C8V2
SA8.0A	MICROSEMI	BZW03-C7V5
SA8.0A	ON SEMICONDUCTOR	BZW03-C8V2
SA8.5A	FAIRCHILD	BZW03-C8V2
SA8.5A	GEN.SEMIC.	BZW03-C8V2
SA8.5A	MICROSEMI	BZW03-C8V2
SA8.5A	ON SEMICONDUCTOR	BZW03-C8V2
SA85A	FAIRCHILD	BZW03-C82
SA85A	GEN.SEMIC.	BZW03-C82
SA85A	MICROSEMI	BZW03-C82
SA85A	ON SEMICONDUCTOR	BZW03-C82
SA9.0A	FAIRCHILD	BZW03-C9V1
SA9.0A	GEN.SEMIC.	BZW03-C9V1
SA9.0A	MICROSEMI	BZW03-C9V1
SA9.0A	ON SEMICONDUCTOR	BZW03-C9V1
SA90A	FAIRCHILD	BZW03-C91
SA90A	GEN.SEMIC.	BZW03-C91
SA90A	MICROSEMI	BZW03-C91
SA90A	ON SEMICONDUCTOR	BZW03-C91
SAC10	MICROSEMI	BZW03-C10
SAC12	MICROSEMI	BZW03-C12
SAC15	MICROSEMI	BZW03-C15
SAC18	MICROSEMI	BZW03-C18
SAC22	MICROSEMI	BZW03-C22
SAC26	MICROSEMI	BZW03-C27
SAC36	MICROSEMI	BZW03-C36
SAC45	MICROSEMI	BZW03-C43
SAC50	MICROSEMI	BZW03-C51

Type	Manufacturer	Philips Type
SAC6.0	MICROSEMI	BZW03-C7V5
SAC7.0	MICROSEMI	BZW03-C7V5
SAC8.0	MICROSEMI	BZW03-C7V5
SAC8.5	MICROSEMI	BZW03-C8V2
SB020	GENERAL SEMICONDUCTOR	1N5817
SB030	GENERAL SEMICONDUCTOR	1N5818
SB040	GENERAL SEMICONDUCTOR	1N5819
SB10-03A2	SANYO	1N5818
SB10-03A3	SANYO	1N5818
SB10-04A3	SANYO	1N5819
SB1035	AMERICAN MICROSEMICONDUCTOR	PBYR1040
SB1040	AMERICAN MICROSEMICONDUCTOR	PBYR1040
SB1045	AMERICAN MICROSEMICONDUCTOR	PBYR1045
SB11-04HP	SANYO	BYG90-40
SB120	GENERAL SEMICONDUCTOR	1N5817
SB130	GENERAL SEMICONDUCTOR	1N5818
SB140	GENERAL SEMICONDUCTOR	1N5819
SBYV26C	GENERAL SEMICONDUCTOR	BYV26C
SBYV27-100	GENERAL SEMICONDUCTOR	BYV27-100
SBYV27-150	GENERAL SEMICONDUCTOR	BYV27-150
SBYV27-200	GENERAL SEMICONDUCTOR	BYV27-200
SBYV27-50	GENERAL SEMICONDUCTOR	BYV27-50
SBYV28-100	GENERAL SEMICONDUCTOR	BYV28-100
SBYV28-150	GENERAL SEMICONDUCTOR	BYV28-150
SBYV28-200	GENERAL SEMICONDUCTOR	BYV28-200
SBYV28-50	GENERAL SEMICONDUCTOR	BYV28-50
SC10C-40	SANSHA DENKI	BT152-600R
SC10C-40(D)	SANSHA DENKI	BT152-600R
SC10C-60	SANSHA DENKI	BT152-800R
SC10C-60(D)	SANSHA DENKI	BT152-800R
SC16C-40	SANSHA DENKI	BT145-500R
SC16C-60	SANSHA DENKI	BT145-500R
SC201-2	FUJI	RS1D
SC201-4	FUJI	RS1G
SC201-6	FUJI	RS1J
SC201-8	FUJI	RS1K
SC211-2	FUJI	RS1G
SC211-4	FUJI	RS1J
SC311-4	FUJI	BYG70G
SC311-6	FUJI	BYG70J
SC321-2	FUJI	BYG80D
SC802-04	FUJI	BYG90-40
SC802-09	FUJI	BYG90-90
SC902-2	FUJI	BYG80D
SC902-2	FUJI	ES1D
SF10B13	TOSHIBA	BT152-400R
SF10B14	TOSHIBA	BT152-500R
SF10B41	TOSHIBA	BT152-400R
SF10D13	TOSHIBA	BT152-400R
SF10D14	TOSHIBA	BT152-500R
SF10D41	TOSHIBA	BT152-400R
SF10D41A	TOSHIBA	BT152-400R
SF10F13	TOSHIBA	BT152-400R

# Cross Reference Power discretetes

Type	Manufacturer	Philips Type
SF10G13	TOSHIBA	BT152-400R
SF10G14	TOSHIBA	BT152-500R
SF10G41	TOSHIBA	BT152-600R
SF10G41A	TOSHIBA	BT152-600R
SF10G48	TOSHIBA	BT152-600R
SF10GZ47	TOSHIBA	BT152X-600R
SF10J13	TOSHIBA	BT152-800R
SF10J41	TOSHIBA	BT152-800R
SF10J41A	TOSHIBA	BT152-800R
SF10J48	TOSHIBA	BT152-800R
SF10JZ47	TOSHIBA	BT152X-800R
SF16JZ51	TOSHIBA	BT145-800R
SF21	RECTRON	BYV27-50
SF22	RECTRON	BYV27-100
SF23	RECTRON	BYV27-150
SF24	RECTRON	BYV27-200
SF24	RECTRON	BYV27-200
SF26	RECTRON	BYV27-400
SF2B41	TOSHIBA	BT148-400R
SF2D41	TOSHIBA	BT148-400R
SF2G41	TOSHIBA	BT148-500R
SF2J41	TOSHIBA	BT148-500R
SF2R5B42	TOSHIBA	BT258-500R
SF2R5D42	TOSHIBA	BT258-500R
SF2R5G42	TOSHIBA	BT258-500R
SF31	RECTRON	BYV28-50
SF32	RECTRON	BYV28-100
SF33	RECTRON	BYV28-150
SF34	RECTRON	BYV28-200
SF35	RECTRON	BYV28-400
SF36	RECTRON	BYV28-400
SF37	MICROSEMI/MICRO QUALITY	BYV28-600
SF3B14	TOSHIBA	BT151-500R
SF3B41	TOSHIBA	BT300-500R
SF3B42	TOSHIBA	BT258-500R
SF3D14	TOSHIBA	BT151-500R
SF3D41	TOSHIBA	BT300-500R
SF3D42	TOSHIBA	BT258-500R
SF3D42C	TOSHIBA	BT258-500R
SF3G14	TOSHIBA	BT151-500R
SF3G41	TOSHIBA	BT300-500R
SF3G42	TOSHIBA	BT258-500R
SF3G42C	TOSHIBA	BT258-600R
SF3G48	TOSHIBA	BT300-500R
SF3J42	TOSHIBA	BT258-800R
SF4001	VISHAY	BYD73A
SF4002	VISHAY	BYD73B
SF4003	VISHAY/ SILICONIX	BYV27-200
SF4004	VISHAY	BYD73G
SF4005	VISHAY	BYD163
SF4006	VISHAY/ SILICONIX	BYV26D
SF4007	VISHAY/ SILICONIX	BYV26E
SF5B13	TOSHIBA	BT151-500R

Type	Manufacturer	Philips Type
SF5B14	TOSHIBA	BT151-500R
SF5B41	TOSHIBA	BT151-500R
SF5D13	TOSHIBA	BT151-500R
SF5D14	TOSHIBA	BT151-500R
SF5D41	TOSHIBA	BT151-500R
SF5D41A	TOSHIBA	BT151-500R
SF5F13	TOSHIBA	BT151-500R
SF5G13	TOSHIBA	BT151-500R
SF5G14	TOSHIBA	BT151-500R
SF5G41	TOSHIBA	BT151-500R
SF5G41A	TOSHIBA	BT151-500R
SF5G48	TOSHIBA	BT151-500R
SF5GZ47	TOSHIBA	BT151X-500R
SF5J13	TOSHIBA	BT151-800R
SF5J41	TOSHIBA	BT151-800R
SF5J41A	TOSHIBA	BT151-800R
SF5J48	TOSHIBA	BT151-800R
SF5JZ47	TOSHIBA	BT151X-800R
SF8B41	TOSHIBA	BT152-400R
SF8B41A	TOSHIBA	BT152-400R
SF8D41	TOSHIBA	BT152-400R
SF8G41	TOSHIBA	BT152-600R
SF8G41A	TOSHIBA	BT152-600R
SF8G48	TOSHIBA	BT152-600R
SF8GZ47	TOSHIBA	BT152X-600R
SF8J41	TOSHIBA	BT152-800R
SF8J41A	TOSHIBA	BT152-800R
SF8J48	TOSHIBA	BT152-800R
SF8JZ47	TOSHIBA	BT152X-800R
SFE1A	DIOTEC	BYD77A
SFE1B	DIOTEC	BYD77B
SFE1C	DIOTEC	BYD77C
SFE1D	DIOTEC	BYD77D
SFE1E	DIOTEC	BYD77G
SFE1F	DIOTEC	BYD77G
SFE1G	DIOTEC	BYD77G
SFE1H	DIOTEC	BYD77G
SFOR1A42	TOSHIBA	BT169G
SFOR1B42	TOSHIBA	BT169G
SFOR1D42	TOSHIBA	BT169G
SFOR3B42	TOSHIBA	BT169G
SFOR3D42	TOSHIBA	BT169G
SFOR3J42	TOSHIBA	BT169G
SFOR5B43	TOSHIBA	BT169G
SFOR5D43	TOSHIBA	BT169G
SFOR5G43	TOSHIBA	BT169G
SFOR5J43	TOSHIBA	BT169G
SFPB-54	SANKEN	BYG90-40
SFPB-59	SANKEN	BYG90-90
SFPL-52	SANKEN	BYG80D
SFPL-62	SANKEN	BYG80D
SGL41-20	GENERAL SEMICONDUCTOR	PRLL5817
SGL41-30	GENERAL SEMICONDUCTOR	PRLL5818

Type	Manufacturer	Philips Type
SGL41-40	GENERAL SEMICONDUCTOR	PRLL5819
SGSF323	ST MICROELECTRONICS	BUJ202A, BUJ303A
SGSF343	ST MICROELECTRONICS	BUJ204A, BUJ304A
Shindeng1103	SHINDENGEN	BUJ403B, BUJ403BX
SHV-02	SANKEN	BY505
SHV-06	SANKEN	BY8406
SHV-06K	SANKEN	BY8006
SHV-06UNK	SANKEN	BY8206
SHV-08	SANKEN	BY8408
SHV-08K	SANKEN	BY8008
SHV-08LUK	SANKEN	BY8108
SHV-08X	SANKEN	BY8108
SHV-08XN	SANKEN	BY8108
SHV-10UK	SANKEN	BY8110
SHV-12UK	SANKEN	BY8112
SHV-16UK	SANKEN	BY8116
SHV-20	SANKEN	BY8420
SHV-24	SANKEN	BY8424
SI4410DY	VISHAY / SILICONIX	SI4410DY
SI4416DY	VISHAY / SILICONIX	SI4416DY
SI4420DY	VISHAY / SILICONIX	SI4420DY
SI4431DY	VISHAY/ SILICONIX	PHP1035
SI4435DY	VISHAY/ SILICONIX	PHP1025
SI4466DY	VISHAY / SILICONIX	SI4466DY
SI4920DY	VISHAY/ SILICONIX	PHN203 1)
SI4936DY	VISHAY/ SILICONIX	PHN203 1)
SI850	MICROSEMI/MICRO QUALITY	BYW95A
SI851	MICROSEMI/MICRO QUALITY	BYW95A
SI852	MICROSEMI/MICRO QUALITY	BYW95A
SI854	MICROSEMI/MICRO QUALITY	BYW95B
SI910	MICROSEMI/MICRO QUALITY	BYW95A
SI911	MICROSEMI/MICRO QUALITY	BYW95A
SI912	MICROSEMI/MICRO QUALITY	BYW95A
SI914	MICROSEMI/MICRO QUALITY	BYW95B
SI917	MICROSEMI/MICRO QUALITY	BYW96E
SI918	MICROSEMI/MICRO QUALITY	BYW96E
SI9410DY	VISHAY / SILICONIX	SI9410DY
SI9925DY	VISHAY / SILICONIX	SI9925DY
SI9933DY	VISHAY/ SILICONIX	PHP222
SI9936DY	VISHAY / SILICONIX	SI9936DY
SI9956DY	VISHAY / SILICONIX	SI9956DY
SK1004	DIOTEC	PBYR1040
SK12	DIOTEC	BYG90-20
SK13	DIOTEC	BYG90-30
SK14	DIOTEC	BYG90-40
SK18	DIOTEC	BYG90-90
SK19	AMOS	BYG90-90
SLP2045P	GENERAL INSTRUMENTS	PBYR3045VWT
SM12D45	TOSHIBA	BT139-600
SM12D45A	TOSHIBA	BT139-600F
SM12G45	TOSHIBA	BT139-600
SM12G45A	TOSHIBA	BT139-600F
SM12G48	TOSHIBA	BT139-600

Type	Manufacturer	Philips Type
SM12G48A	TOSHIBA	BT139-600
SM12GZ47	TOSHIBA	BT139X-600G
SM12GZ47A	TOSHIBA	BT139X-600F
SM12J45	TOSHIBA	BT139-600
SM12J45A	TOSHIBA	BT139-600F
SM12J48	TOSHIBA	BT139-600
SM12J48A	TOSHIBA	BT139-600
SM12JZ47	TOSHIBA	BT139X-600G
SM16D16	TOSHIBA	BTA216-600B
SM16DZ41	TOSHIBA	BTA216-600B
SM16G16	TOSHIBA	BTA216-600B
SM16G45	TOSHIBA	BTA140-600
SM16G45A	TOSHIBA	BT139-600F
SM16G48	TOSHIBA	BTA140-600
SM16G48A	TOSHIBA	BTA140-600
SM16GZ41	TOSHIBA	BTA216-600B
SM16GZ42A	TOSHIBA	BTA216-600B
SM16GZ47	TOSHIBA	BT139X-600
SM16GZ47A	TOSHIBA	BT139X-600F
SM16J45	TOSHIBA	BTA140-600
SM16J45A	TOSHIBA	BT139-600F
SM16J48	TOSHIBA	BTA140-600
SM16J48A	TOSHIBA	BTA140-600
SM16JZ41	TOSHIBA	BTA216-600B
SM16JZ42A	TOSHIBA	BTA216-600B
SM16JZ47	TOSHIBA	BT139X-600
SM16JZ47A	TOSHIBA	BT139X-600F
SM1G43	TOSHIBA	BT132-600D
SM1J43	TOSHIBA	BT132-600D
SM20	SEMTECH	BYX120G
SM25	SEMTECH	BYX120G
SM2B41	TOSHIBA	BT134-600E
SM2D41	TOSHIBA	BT134-600E
SM2D44	TOSHIBA	BT134-600D
SM2G41	TOSHIBA	BT134-600E
SM2G44	TOSHIBA	BT134-600D
SM30	SEMTECH	BYX120G
SM3B41	TOSHIBA	BTA204-600F
SM3D41	TOSHIBA	BTA204-600F
SM3G41	TOSHIBA	BTA204-600F
SM3G44	TOSHIBA	BTA204-600F
SM3G45	TOSHIBA	BT137-600F
SM3G45A	TOSHIBA	BT137-600E
SM3G48	TOSHIBA	BT136-600
SM3GZ46A	TOSHIBA	BT136X-600E
SM3GZ47	TOSHIBA	BT136X-600F
SM3J41	TOSHIBA	BTA204-600F
SM3J44	TOSHIBA	BT134-800
SM3J45	TOSHIBA	BT137-600F
SM3J45A	TOSHIBA	BT137-600E
SM3J48	TOSHIBA	BT136-600
SM3JZ46A	TOSHIBA	BT136X-600E
SM3JZ47	TOSHIBA	BT136X-600F

Type	Manufacturer	Philips Type
SM4001	RECTRON	PRLL4001
SM4003	RECTRON	BYD17D
SM4004	RECTRON	BYD17G
SM4005	RECTRON	BYD17J
SM4007	RECTRON	BYD17M
SM4933	RECTRON	BYD37D
SM4934	RECTRON	BYD37D
SM4935	RECTRON	BYD37D
SM4936	RECTRON	BYD37G
SM4937	RECTRON	BYD37J
SM6D45	TOSHIBA	BT137-600
SM6D45A	TOSHIBA	BT137-600F
SM6G44	TOSHIBA	BT137-600
SM6G45	TOSHIBA	BT137-600
SM6G45A	TOSHIBA	BT137-600F
SM6G48	TOSHIBA	BT137-600
SM6G48A	TOSHIBA	BT137-600
SM6GZ47	TOSHIBA	BT137X-600
SM6GZ47A	TOSHIBA	BT137X-600F
SM6J44	TOSHIBA	BT137-800
SM6J45	TOSHIBA	BT137-600
SM6J45A	TOSHIBA	BT137-600F
SM6J48	TOSHIBA	BT137-600
SM6J48A	TOSHIBA	BT137-600
SM6JZ47	TOSHIBA	BT137X-600
SM6JZ47A	TOSHIBA	BT137X-600F
SM8D45	TOSHIBA	BT138-600
SM8D45A	TOSHIBA	BT138-600F
SM8G45	TOSHIBA	BT138-600
SM8G45A	TOSHIBA	BT138-600F
SM8G48	TOSHIBA	BT138-600
SM8G48A	TOSHIBA	BT138-600
SM8GZ47	TOSHIBA	BT138X-600
SM8GZ47A	TOSHIBA	BT137X-600F
SM8J45	TOSHIBA	BT138-600
SM8J45A	TOSHIBA	BT138-600F
SM8J48	TOSHIBA	BT138-600
SM8J48A	TOSHIBA	BT138-600
SM8JZ47	TOSHIBA	BT138X-600
SM8JZ47A	TOSHIBA	BT138X-600F
SMAJ26A	GEN.SEMIC.	PSMA26A
SMAJ4740	MICROSEMI	BZG03-C10
SMAJ4741	MICROSEMI	BZG03-C11
SMAJ4742	MICROSEMI	BZG03-C12
SMAJ4743	MICROSEMI	BZG03-C13
SMAJ4744	MICROSEMI	BZG03-C15
SMAJ4745	MICROSEMI	BZG03-C16
SMAJ4746	MICROSEMI	BZG03-C18
SMAJ4747	MICROSEMI	BZG03-C20
SMAJ4748	MICROSEMI	BZG03-C22
SMAJ4749	MICROSEMI	BZG03-C24
SMAJ4750	MICROSEMI	BZG03-C27
SMAJ4751	MICROSEMI	BZG03-C30

Type	Manufacturer	Philips Type
SMAJ4752	MICROSEMI	BZG03-C33
SMAJ4753	MICROSEMI	BZG03-C36
SMAJ4754	MICROSEMI	BZG03-C39
SMAJ4755	MICROSEMI	BZG03-C43
SMAJ4756	MICROSEMI	BZG03-C47
SMAJ4757	MICROSEMI	BZG03-C51
SMAJ4758	MICROSEMI	BZG03-C56
SMAJ4759	MICROSEMI	BZG03-C62
SMAJ4760	MICROSEMI	BZG03-C68
SMAJ4761	MICROSEMI	BZG03-C75
SMAJ4762	MICROSEMI	BZG03-C82
SMAJ4763	MICROSEMI	BZG03-C91
SMAJ4764	MICROSEMI	BZG03-C100
SMAJ5925	MICROSEMI	BZG03-C10
SMAJ5926	MICROSEMI	BZG03-C11
SMAJ5927	MICROSEMI	BZG03-C12
SMAJ5928	MICROSEMI	BZG03-C13
SMAJ5929	MICROSEMI	BZG03-C15
SMAJ5930	MICROSEMI	BZG03-C16
SMAJ5931	MICROSEMI	BZG03-C18
SMAJ5932	MICROSEMI	BZG03-C20
SMAJ5933	MICROSEMI	BZG03-C22
SMAJ5934	MICROSEMI	BZG03-C24
SMAJ5935	MICROSEMI	BZG03-C27
SMAJ5936	MICROSEMI	BZG03-C30
SMAJ5937	MICROSEMI	BZG03-C33
SMAJ5938	MICROSEMI	BZG03-C36
SMAJ5939	MICROSEMI	BZG03-C39
SMAJ5940	MICROSEMI	BZG03-C43
SMAJ5941	MICROSEMI	BZG03-C47
SMAJ5942	MICROSEMI	BZG03-C51
SMAJ5943	MICROSEMI	BZG03-C56
SMAJ5944	MICROSEMI	BZG03-C62
SMAJ5945	MICROSEMI	BZG03-C68
SMAJ5946	MICROSEMI	BZG03-C75
SMAJ5947	MICROSEMI	BZG03-C82
SMAJ5948	MICROSEMI	BZG03-C91
SMAJ5949	MICROSEMI	BZG03-C100
SMAJ5950	MICROSEMI	BZG03-C110
SMAJ5951	MICROSEMI	BZG03-C120
SMAJ5952	MICROSEMI	BZG03-C130
SMAJ5953	MICROSEMI	BZG03-C150
SMAJ5954	MICROSEMI	BZG03-C160
SMAJ5955	MICROSEMI	BZG03-C180
SMAJ5956	MICROSEMI	BZG03-C200
SMAJ85A	GEN.SEMIC.	BZG04-82
SMAJ90A	GEN.SEMIC.	BZG04-91
SMAJxxx	GENERAL SEMICONDUCTOR	BZG04-xxx
SMB5817	MICROSEMI/MICRO QUALITY	BYG90-20
SMB5818	MICROSEMI/MICRO QUALITY	BYG90-30
SMB5819	MICROSEMI/MICRO QUALITY	BYG90-40
SMB60N03-10L	VISHAY/ SILICONIX	PHB87N03LT
SMBJ4740(A)	MICROSEMI	BZG03-C10

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
SMBJ4741(A)	MICROSEMI	BZG03-C11
SMBJ4742(A)	MICROSEMI	BZG03-C12
SMBJ4743(A)	MICROSEMI	BZG03-C13
SMBJ4744(A)	MICROSEMI	BZG03-C15
SMBJ4745(A)	MICROSEMI	BZG03-C16
SMBJ4746(A)	MICROSEMI	BZG03-C18
SMBJ4747(A)	MICROSEMI	BZG03-C20
SMBJ4748(A)	MICROSEMI	BZG03-C22
SMBJ4749(A)	MICROSEMI	BZG03-C24
SMBJ4750(A)	MICROSEMI	BZG03-C27
SMBJ4751(A)	MICROSEMI	BZG03-C30
SMBJ4752(A)	MICROSEMI	BZG03-C33
SMBJ4753(A)	MICROSEMI	BZG03-C36
SMBJ4754(A)	MICROSEMI	BZG03-C39
SMBJ4755(A)	MICROSEMI	BZG03-C43
SMBJ4756(A)	MICROSEMI	BZG03-C47
SMBJ4757(A)	MICROSEMI	BZG03-C51
SMBJ4758(A)	MICROSEMI	BZG03-C56
SMBJ4759(A)	MICROSEMI	BZG03-C62
SMBJ4760(A)	MICROSEMI	BZG03-C68
SMBJ4761(A)	MICROSEMI	BZG03-C75
SMBJ4762(A)	MICROSEMI	BZG03-C82
SMBJ4763(A)	MICROSEMI	BZG03-C91
SMBJ4764(A)	MICROSEMI	BZG03-C100
SMBJ5925B	MICROSEMI	BZG03-C10
SMBJ5926B	MICROSEMI	BZG03-C11
SMBJ5927B	MICROSEMI	BZG03-C12
SMBJ5928B	MICROSEMI	BZG03-C13
SMBJ5929B	MICROSEMI	BZG03-C15
SMBJ5930B	MICROSEMI	BZG03-C16
SMBJ5931B	MICROSEMI	BZG03-C18
SMBJ5932B	MICROSEMI	BZG03-C20
SMBJ5933B	MICROSEMI	BZG03-C22
SMBJ5934B	MICROSEMI	BZG03-C24
SMBJ5935B	MICROSEMI	BZG03-C27
SMBJ5936B	MICROSEMI	BZG03-C30
SMBJ5937B	MICROSEMI	BZG03-C33
SMBJ5938B	MICROSEMI	BZG03-C36
SMBJ5939B	MICROSEMI	BZG03-C39
SMBJ5940B	MICROSEMI	BZG03-C43
SMBJ5941B	MICROSEMI	BZG03-C47
SMBJ5942B	MICROSEMI	BZG03-C51
SMBJ5943B	MICROSEMI	BZG03-C56
SMBJ5944B	MICROSEMI	BZG03-C62
SMBJ5945B	MICROSEMI	BZG03-C68
SMBJ5946B	MICROSEMI	BZG03-C75
SMBJ5947B	MICROSEMI	BZG03-C82
SMBJ5948B	MICROSEMI	BZG03-C91
SMBJ5949B	MICROSEMI	BZG03-C100
SMBJ5950B	MICROSEMI	BZG03-C110
SMBJ5951B	MICROSEMI	BZG03-C120
SMBJ5952B	MICROSEMI	BZG03-C130
SMBJ5953B	MICROSEMI	BZG03-C150

Type	Manufacturer	Philips Type
SMBJ5954B	MICROSEMI	BZG03-C160
SMBJ5955B	MICROSEMI	BZG03-C180
SMBJ5956B	MICROSEMI	BZG03-C200
SMBSF11	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF12	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF13	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF14	MICROSEMI/MICRO QUALITY	BYG80D
SMBSF15	MICROSEMI/MICRO QUALITY	BYG80G
SMBSF16	MICROSEMI/MICRO QUALITY	BYG80G
SMBSF17	MICROSEMI/MICRO QUALITY	BYG80J
SMBSF18	MICROSEMI/MICRO QUALITY	BYG80J
SMBSR108	MICROSEMI/MICRO QUALITY	BYG90-90
SMBYT01-200	ST MICROELECTRONICS	BYG80D
SMBYT01-300	ST MICROELECTRONICS	BYG80G
SMBYT01-400	ST MICROELECTRONICS	BYG80G
SMBYW02-100	ST MICROELECTRONICS	BYG80D
SMBYW02-150	ST MICROELECTRONICS	BYG80D
SMBYW02-200	ST MICROELECTRONICS	BYG80D
SMBYW02-50	ST MICROELECTRONICS	BYG80D
SML4740(A)	GEN.SEMIC.	BZG01-C10
SML4741(A)	GEN.SEMIC.	BZG01-C11
SML4742(A)	GEN.SEMIC.	BZG01-C12
SML4743(A)	GEN.SEMIC.	BZG01-C13
SML4744(A)	GEN.SEMIC.	BZG01-C15
SML4745(A)	GEN.SEMIC.	BZG01-C16
SML4746(A)	GEN.SEMIC.	BZG01-C18
SML4747(A)	GEN.SEMIC.	BZG01-C20
SML4748(A)	GEN.SEMIC.	BZG01-C22
SML4749(A)	GEN.SEMIC.	BZG01-C24
SML4750(A)	GEN.SEMIC.	BZG01-C27
SML4751(A)	GEN.SEMIC.	BZG01-C30
SML4752(A)	GEN.SEMIC.	BZG01-C33
SML4753(A)	GEN.SEMIC.	BZG01-C36
SML4754(A)	GEN.SEMIC.	BZG01-C39
SML4755(A)	GEN.SEMIC.	BZG01-C43
SML4756(A)	GEN.SEMIC.	BZG01-C47
SML4757(A)	GEN.SEMIC.	BZG01-C51
SML4758(A)	GEN.SEMIC.	BZG01-C56
SML4759(A)	GEN.SEMIC.	BZG01-C62
SML4760(A)	GEN.SEMIC.	BZG01-C68
SML4761(A)	GEN.SEMIC.	BZG01-C75
SML4762(A)	GEN.SEMIC.	BZG01-C82
SML4763(A)	GEN.SEMIC.	BZG01-C91
SML4764(A)	GEN.SEMIC.	BZG01-C100
SMP60N03-10L	VISHAY/ SILICONIX	PHP87N03LT
SMS120	DIOTEC	PRLL5817
SMS130	DIOTEC	PRLL5818
SMS140	DIOTEC	PRLL5819
SMZJ3789A,B	GEN.SEMIC.	BZG01-C10
SMZJ3790A,B	GEN.SEMIC.	BZG01-C11
SMZJ3791A,B	GEN.SEMIC.	BZG01-C12
SMZJ3792A,B	GEN.SEMIC.	BZG01-C13
SMZJ3793A,B	GEN.SEMIC.	BZG01-C15

Type	Manufacturer	Philips Type
SMZJ3794A,B	GEN.SEMIC.	BZG01-C16
SMZJ3795A,B	GEN.SEMIC.	BZG01-C18
SMZJ3796A,B	GEN.SEMIC.	BZG01-C20
SMZJ3797A,B	GEN.SEMIC.	BZG01-C22
SMZJ3798A,B	GEN.SEMIC.	BZG01-C24
SMZJ3799A,B	GEN.SEMIC.	BZG01-C27
SMZJ3800A,B	GEN.SEMIC.	BZG01-C30
SMZJ3801A,B	GEN.SEMIC.	BZG01-C33
SMZJ3802A,B	GEN.SEMIC.	BZG01-C36
SMZJ3803A,B	GEN.SEMIC.	BZG01-C39
SMZJ3804A,B	GEN.SEMIC.	BZG01-C43
SMZJ3805A,B	GEN.SEMIC.	BZG01-C47
SMZJ3806A,B	GEN.SEMIC.	BZG01-C51
SMZJ3807A,B	GEN.SEMIC.	BZG01-C56
SMZJ3808A,B	GEN.SEMIC.	BZG01-C62
SMZJ3809A,B	GEN.SEMIC.	BZG01-C68
SMZxxx	DIOTEC	BZD27-Cxxx
SP4J	NEC	BT258-500R
SR102	MASTER INSTRUMENT	1N5817
SR103	MASTER INSTRUMENT	1N5818
SR104	MASTER INSTRUMENT	1N5819
SR120	RECTRON	1N5817
SR130	RECTRON	1N5818
SR140	RECTRON	1N5819
SR802	AMERICAN MICROSEMICONDUCTOR	PBYR1040
SR803	AMERICAN MICROSEMICONDUCTOR	PBYR1040
SR804	AMERICAN MICROSEMICONDUCTOR	PBYR1040
SRP100J	GENERAL SEMICONDUCTOR	BYV36C
SRP30A	MICROSEMI/MICRO QUALITY	BYW95A
SRP30B	MICROSEMI/MICRO QUALITY	BYW95A
SRP30D	MICROSEMI/MICRO QUALITY	BYW95A
SRP30G	MICROSEMI/MICRO QUALITY	BYW95B
SRP30K	MICROSEMI/MICRO QUALITY	BYW96E
SS12	GENERAL SEMICONDUCTOR	BYG90-20
SS13	GENERAL SEMICONDUCTOR	BYG90-30
SS14	GENERAL SEMICONDUCTOR	BYG90-40
SS18	AMOS	BYG90-90
SS19	GENERAL SEMICONDUCTOR	BYG90-90
SSG16C20	SANSHA DENKI	BTA216-600B
SSG16C30	SANSHA DENKI	BTA216-600B
SSG16C40	SANSHA DENKI	BTA216-600B
SSG16C50	SANSHA DENKI	BTA216-600B
SSG16C60	SANSHA DENKI	BTA216-600B
SSG16C80	SANSHA DENKI	BTA216-800B
ST13003	ST MICROELECTRONICS	BUJ101
ST13005	ST MICROELECTRONICS	PHE13005, BUJ103A
ST13007	ST MICROELECTRONICS	PHE13007, BUJ105A
ST1802HI	ST MICROELECTRONICS	BU4507AX
ST1803DHI	ST MICROELECTRONICS	BU4507DX
ST2001HI	ST MICROELECTRONICS	BU4515AX
STB10NB20	ST MICROELECTRONICS	IRF630S
STB10NB20	ST MICROELECTRONICS	IRF630S
STB160NF03L	ST MICROELECTRONICS	PHB190N03LT

Type	Manufacturer	Philips Type
STB160NF03L	ST MICROELECTRONICS	PHB190N03LT
STB19NB20	ST MICROELECTRONICS	IRF640S
STB19NB20	ST MICROELECTRONICS	IRF640S
STB22NE10L	ST MICROELECTRONICS	PHB18NQ10T
STB22NE10L	ST MICROELECTRONICS	PHB18NQ10T
STB24NF10	ST MICROELECTRONICS	IRF540S
STB24NF10	ST MICROELECTRONICS	IRF540S
STB3015L	ST MICROELECTRONICS	PHB55N03LTA
STB3015L	ST MICROELECTRONICS	PHB55N03LTA
STB3020L	ST MICROELECTRONICS	PHB45N03LTA
STB3020L	ST MICROELECTRONICS	PHB45N03LTA
STB35NF10	ST MICROELECTRONICS	PHB34NQ10T
STB35NF10	ST MICROELECTRONICS	PHB27NQ10T
STB35NF10	ST MICROELECTRONICS	PHB34NQ10T
STB35NF10	ST MICROELECTRONICS	PHB27NQ10T
STB40NS15	ST MICROELECTRONICS	PSMN035-150B
STB40NS15	ST MICROELECTRONICS	PSMN035-150B
STB50NE10L	ST MICROELECTRONICS	PHB45NQ10T
STB50NE10L	ST MICROELECTRONICS	PHB45NQ10T
STB60NE03L-12	ST MICROELECTRONICS	PHB66N03LT
STB60NE03L-12	ST MICROELECTRONICS	PHB66N03LT
STB70NF03L	ST MICROELECTRONICS	PHB83N03LT
STB70NF03L	ST MICROELECTRONICS	PHB83N03LT
STB80NF03L-04	ST MICROELECTRONICS	PSMN004-36B
STB80NF03L-04	ST MICROELECTRONICS	PSMN004-36B
STB80NF03L-06	ST MICROELECTRONICS	PHB160N03LT
STB80NF03L-06	ST MICROELECTRONICS	PHB160N03LT
STB80NF10	ST MICROELECTRONICS	PSMN015-100B
STB80NF10	ST MICROELECTRONICS	PSMN015-100B
STB80NF55-06	ST MICROELECTRONICS	PSMN005-55B
STB80NF55-06	ST MICROELECTRONICS	PSMN005-55B
STB80NF75L	ST MICROELECTRONICS	PSMN008-75B
STB80NF75L	ST MICROELECTRONICS	PSMN008-75B
STB90NF03L	ST MICROELECTRONICS	PHB95N03LT
STB90NF03L	ST MICROELECTRONICS	PHB95N03LT
STD15NF10	ST MICROELECTRONICS	PHD23NQ10T
STD15NF10	ST MICROELECTRONICS	PHD23NQ10T
STD16NE10	ST MICROELECTRONICS	PHD18NQ10T
STD16NE10	ST MICROELECTRONICS	PHD18NQ10T
STD16NF03L	ST MICROELECTRONICS	PHD24N03LT
STD16NF03L	ST MICROELECTRONICS	PHD24N03LT
STD19NE06L	ST MICROELECTRONICS	PHD20N06T
STD19NE06L	ST MICROELECTRONICS	PHD20N06T
STD25NF10	ST MICROELECTRONICS	PHD27NQ10T
STD25NF10	ST MICROELECTRONICS	PHD27NQ10T
STD35NF3LL	ST MICROELECTRONICS	PHD45N03LTA
STD35NF3LL	ST MICROELECTRONICS	PHD45N03LTA
STD3NE06	ST MICROELECTRONICS	PHT8N06LT
STD3NE06	ST MICROELECTRONICS	PHT8N06LT
STD40NF03L	ST MICROELECTRONICS	PHD55N03LTA
STD40NF03L	ST MICROELECTRONICS	PHD55N03LTA
STD45NF03L	ST MICROELECTRONICS	PHD66NQ03LT
STD45NF03L	ST MICROELECTRONICS	PHD66NQ03LT

Type	Manufacturer	Philips Type
STD60NF3LL	ST MICROELECTRONICS	PHB83N03LT
STD60NF3LL	ST MICROELECTRONICS	PHD83N03LT
STD60NF3LL	ST MICROELECTRONICS	PHB83N03LT
STD60NF3LL	ST MICROELECTRONICS	PHD83N03LT
STD60NF55L	ST MICROELECTRONICS	PSMN005-55B
STD60NF55L	ST MICROELECTRONICS	PSMN005-55B
STD7NB20	ST MICROELECTRONICS	PHD9NQ20T
STD7NB20	ST MICROELECTRONICS	PHD9NQ20T
STN2NF06	ST MICROELECTRONICS	PHT6N06LT
STN2NF06	ST MICROELECTRONICS	PHT6N06LT
STN2NF10	ST MICROELECTRONICS	PHQ4NQ10T
STN2NF10	ST MICROELECTRONICS	PHQ4NQ10T
STN4NF03L	ST MICROELECTRONICS	BSP030
STN4NF03L	ST MICROELECTRONICS	BSP030
STP20NE06L	ST MICROELECTRONICS	PHP20N06T
STP20NE06L	ST MICROELECTRONICS	PHP20N06T
STP22NE10L	ST MICROELECTRONICS	PHP18NQ10T
STP22NE10L	ST MICROELECTRONICS	PHP18NQ10T
STP3015L	ST MICROELECTRONICS	PHP55N03LTA
STP3015L	ST MICROELECTRONICS	PHP55N03LTA
STP3020L	ST MICROELECTRONICS	PHP45N03LT
STP3020L	ST MICROELECTRONICS	PHP45N03LT
STP35NF10	ST MICROELECTRONICS	PHP34NQ10T
STP35NF10	ST MICROELECTRONICS	PHP27NQ10T
STP35NF10	ST MICROELECTRONICS	PHP34NQ10T
STP35NF10	ST MICROELECTRONICS	PHP27NQ10T
STP50NE10L	ST MICROELECTRONICS	PHP45NQ10T
STP50NE10L	ST MICROELECTRONICS	PHP45NQ10T
STP55NF03L	ST MICROELECTRONICS	PHP55N03LTA
STP55NF03L	ST MICROELECTRONICS	PHP55N03LTA
STP55NF06L	ST MICROELECTRONICS	PHP54N06T
STP55NF06L	ST MICROELECTRONICS	PHP54N06T
STP60NE03L-12	ST MICROELECTRONICS	PHP66NQ03LT
STP60NE03L-12	ST MICROELECTRONICS	PHP66NQ03LT
STP60NF06	ST MICROELECTRONICS	PHP73N06T
STP60NF06	ST MICROELECTRONICS	PHP73N06T
STP70NF03L	ST MICROELECTRONICS	PHP83N03LT
STP70NF03L	ST MICROELECTRONICS	PHP83N03LT
STP80NF03L	ST MICROELECTRONICS	PSMN004-36P
STP80NF03L	ST MICROELECTRONICS	PSMN004-36P
STP80NF10	ST MICROELECTRONICS	PSMN015-100P
STP80NF10	ST MICROELECTRONICS	PSMN015-100P
STP80NF55-06	ST MICROELECTRONICS	PSMN005-55P
STP80NF55-06	ST MICROELECTRONICS	PSMN005-55P
STP80NF55-08	ST MICROELECTRONICS	PHP112N06T
STP80NF55-08	ST MICROELECTRONICS	PHP112N06T
STP80NF75L	ST MICROELECTRONICS	PSMN008-75P
STP80NF75L	ST MICROELECTRONICS	PSMN008-75P
STPR1020CF	ST MICROELECTRONICS	BYQ28EX-200
STPR1020CT	ST MICROELECTRONICS	BYQ28E-200
STPR1220D	ST MICROELECTRONICS	BYV79E-200
STPR1520D	ST MICROELECTRONICS	BYV79E-200
STPR1620CB	ST MICROELECTRONICS	BYQ30EW-200

Type	Manufacturer	Philips Type
STPR1620CG	ST MICROELECTRONICS	BYQ30EB-200
STPR1620CT	ST MICROELECTRONICS	BYQ30E-200
STPR2520CVW	ST MICROELECTRONICS	BYV27EV-200
STPR320	ST MICROELECTRONICS	BYV27-200
STPR820D	ST MICROELECTRONICS	BYW29E-200
STPR820F	ST MICROELECTRONICS	BYW29EX-200
STPS4045CW	ST MICROELECTRONICS	PBYR4045VT
STPS6045CW	ST MICROELECTRONICS	PBYR6045VWT
STPS745F	ST MICROELECTRONICS	PBYR745X
STS10NF30L	ST MICROELECTRONICS	SI4410DY
STS10NF30L	ST MICROELECTRONICS	SI4410DY
STS12NF30L	ST MICROELECTRONICS	SI4466DY
STS12NF30L	ST MICROELECTRONICS	SI4420DY
STS12NF30L	ST MICROELECTRONICS	SI4466DY
STS12NF30L	ST MICROELECTRONICS	SI4420DY
STS2DNF30L	ST MICROELECTRONICS	SI9956DY
STS2DNF30L	ST MICROELECTRONICS	SI9956DY
STS5DNE30L	ST MICROELECTRONICS	SI9936DY
STS5DNE30L	ST MICROELECTRONICS	SI9936DY
STSSNS150	ST MICROELECTRONICS	PSMN085-150K
STSSNS150	ST MICROELECTRONICS	PSMN085-150K
STS7NF30L	ST MICROELECTRONICS	SI9410DY
STS7NF30L	ST MICROELECTRONICS	SI9410DY
STS9NF3LL	ST MICROELECTRONICS	SI4416DY
STS9NF3LL	ST MICROELECTRONICS	SI4416DY
STTA106U	ST MICROELECTRONICS	US1J
STTA206S	ST MICROELECTRONICS	BYG80J
STTA406	ST MICROELECTRONICS	BYV28-200
STW34NB20	ST MICROELECTRONICS	PHW35NQ20T
STW34NB20	ST MICROELECTRONICS	PHW35NQ20T
STW40NS15	ST MICROELECTRONICS	PHW50NQ15T
STW40NS15	ST MICROELECTRONICS	PHW50NQ15T
STW50NB20	ST MICROELECTRONICS	PSMN040-200W
STW50NB20	ST MICROELECTRONICS	PSMN040-200W
STW55NE10	ST MICROELECTRONICS	PHW45NQ10T
STW55NE10	ST MICROELECTRONICS	PHW45NQ10T
STW80NF55-06	ST MICROELECTRONICS	PSMN004-55W
STW80NF55-06	ST MICROELECTRONICS	PSMN004-55W
SUB75N03-07	VISHAY/ SILICONIX	PHB87N03LT
SUD50N03-07	VISHAY/ SILICONIX	PHD69N03LT
SUD50N03-10	VISHAY/ SILICONIX	PHD55N03LT
SUF15G	GENERAL SEMICONDUCTOR	BYV27-400
SUF15J	GENERAL SEMICONDUCTOR	BYV27-600
SUF30G	GENERAL SEMICONDUCTOR	BYV28-400
SUF30J	GENERAL SEMICONDUCTOR	BYV28-600
SUF5400	MICROSEMI/MICRO QUALITY	BYV28-50
SUF5401	MICROSEMI/MICRO QUALITY	BYV28-100
SUF5402	MICROSEMI/MICRO QUALITY	BYV28-200
SUF5403	MICROSEMI/MICRO QUALITY	BYV28-400
SUF5404	MICROSEMI/MICRO QUALITY	BYV28-400
SUP75N03-07	VISHAY/ SILICONIX	PHP87N03LT
T0509DH	ST MICROELECTRONICS	BT137-600D
T0509MH	ST MICROELECTRONICS	BT137-600D

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
T0509NH	ST MICROELECTRONICS	BT137-600D
T0509SH	ST MICROELECTRONICS	BT137-600D
T0510DH	ST MICROELECTRONICS	BT137-600E
T0510MH	ST MICROELECTRONICS	BT137-600E
T0510NH	ST MICROELECTRONICS	BT137-800E
T0510SH	ST MICROELECTRONICS	BT137-800E
T0512DH	ST MICROELECTRONICS	BT137-600
T0512MH	ST MICROELECTRONICS	BT137-600
T0512NH	ST MICROELECTRONICS	BT137-800
T0512SH	ST MICROELECTRONICS	BT137-800
T0609DH	ST MICROELECTRONICS	BT137-600D
T0609MH	ST MICROELECTRONICS	BT137-600D
T0609NH	ST MICROELECTRONICS	BT137-600D
T0609SH	ST MICROELECTRONICS	BT137-600D
T0610DH	ST MICROELECTRONICS	BT137-600E
T0610MH	ST MICROELECTRONICS	BT137-600E
T0610NH	ST MICROELECTRONICS	BT137-800E
T0610SH	ST MICROELECTRONICS	BT137-800E
T0612DH	ST MICROELECTRONICS	BT137-600
T0612MH	ST MICROELECTRONICS	BT137-600
T0612NH	ST MICROELECTRONICS	BT137-800
T0612SH	ST MICROELECTRONICS	BT137-800
T0809DH	ST MICROELECTRONICS	BT137-600D
T0809MH	ST MICROELECTRONICS	BT137-600D
T0809NH	ST MICROELECTRONICS	BT137-600D
T0809SH	ST MICROELECTRONICS	BT137-600D
T0810DH	ST MICROELECTRONICS	BT137-600E
T0810MH	ST MICROELECTRONICS	BT137-600E
T0810NH	ST MICROELECTRONICS	BT137-800E
T0810SH	ST MICROELECTRONICS	BT137-800E
T0812DH	ST MICROELECTRONICS	BT137-600
T0812MH	ST MICROELECTRONICS	BT137-600
T0812NH	ST MICROELECTRONICS	BT137-800
T0812SH	ST MICROELECTRONICS	BT137-800
T1010DH	ST MICROELECTRONICS	BT138-600E
T1010MH	ST MICROELECTRONICS	BT138-600E
T1010NH	ST MICROELECTRONICS	BT138-800E
T1010SH	ST MICROELECTRONICS	BT138-800E
T1012DH	ST MICROELECTRONICS	BT138-600
T1012MH	ST MICROELECTRONICS	BT138-600
T1012NH	ST MICROELECTRONICS	BT138-800
T1012SH	ST MICROELECTRONICS	BT138-800
T1013DH	ST MICROELECTRONICS	BT138-600G
T1013MH	ST MICROELECTRONICS	BT138-600G
T1013NH	ST MICROELECTRONICS	BT138-800G
T1013SH	ST MICROELECTRONICS	BT138-800G
T106A1	TECCOR	BT148-400R
T106B1	TECCOR	BT148-400R
T106C1	TECCOR	BT148-400R
T106D1	TECCOR	BT148-400R
T106E1	TECCOR	BT148-500R
T106F1	TECCOR	BT148-400R
T106M1	TECCOR	BT148-800R

Type	Manufacturer	Philips Type
T107A1	TECCOR	BT148-400R
T107B1	TECCOR	BT148-400R
T107C1	TECCOR	BT148-400R
T107D1	TECCOR	BT148-400R
T107E1	TECCOR	BT148-500R
T107F1	TECCOR	BT148-400R
T107M1	TECCOR	BT148-800R
T1210DH	ST MICROELECTRONICS	BT139-600E
T1210MH	ST MICROELECTRONICS	BT139-600E
T1210NH	ST MICROELECTRONICS	BT139-800E
T1210SH	ST MICROELECTRONICS	BT139-800E
T1212DH	ST MICROELECTRONICS	BT139-600
T1212MH	ST MICROELECTRONICS	BT139-600
T1212NH	ST MICROELECTRONICS	BT139-800
T1212SH	ST MICROELECTRONICS	BT139-800
T1213DH	ST MICROELECTRONICS	BT139-800G
T1213MH	ST MICROELECTRONICS	BT139-800G
T1213NH	ST MICROELECTRONICS	BT139-800G
T1213SH	ST MICROELECTRONICS	BT139-800G
T1612DH	ST MICROELECTRONICS	BT139-600
T1612MH	ST MICROELECTRONICS	BT139-600
T1612NH	ST MICROELECTRONICS	BT139-800
T1612SH	ST MICROELECTRONICS	BT139-800
T1613DH	ST MICROELECTRONICS	BT139-800G
T1613MH	ST MICROELECTRONICS	BT139-800G
T1613NH	ST MICROELECTRONICS	BT139-800G
T1613SH	ST MICROELECTRONICS	BT139-800G
T2322D	ON SEMICONDUCTOR	BT134-600D
T2322M	ON SEMICONDUCTOR	BT134-600D
T2500B	ON SEMICONDUCTOR	BT137-600F
T2500BFP	ON SEMICONDUCTOR	BT137X-600F
T2500D	ON SEMICONDUCTOR	BT137-600F
T2500DFP	ON SEMICONDUCTOR	BT137X-600F
T2500M	ON SEMICONDUCTOR	BT137-600F
T2500MFP	ON SEMICONDUCTOR	BT137X-600F
T2800B	ON SEMICONDUCTOR	BT138-600F
T2800D	ON SEMICONDUCTOR	BT138-600F
T2800M	ON SEMICONDUCTOR	BT138-600F
T3V40F3	SHINDENGEN	BUJ103A
T3V45FX	SHINDENGEN	BUJ202A
T405-400D	ST MICROELECTRONICS	BTA204-600D
T405-400K	ST MICROELECTRONICS	BTA204S-600D
T405-400T	ST MICROELECTRONICS	BTA204-600D
T405-400VV	ST MICROELECTRONICS	BTA204X-600D
T405-600D	ST MICROELECTRONICS	BTA204-600D
T405-600K	ST MICROELECTRONICS	BTA204S-600D
T405-600T	ST MICROELECTRONICS	BTA204-600D
T405-600VV	ST MICROELECTRONICS	BTA204X-600D
T410-400D	ST MICROELECTRONICS	BTA204-600E
T410-400K	ST MICROELECTRONICS	BTA204S-600E
T410-400T	ST MICROELECTRONICS	BTA204-600E
T410-400VV	ST MICROELECTRONICS	BTA204X-600E
T410-600D	ST MICROELECTRONICS	BTA204-600E

Type	Manufacturer	Philips Type
T410-600K	ST MICROELECTRONICS	BTA204S-600E
T410-600T	ST MICROELECTRONICS	BTA204-600E
T410-600VV	ST MICROELECTRONICS	BTA204X-600E
T410-700D	ST MICROELECTRONICS	BTA204-800E
T410-700T	ST MICROELECTRONICS	BTA204-800E
T410-800D	ST MICROELECTRONICS	BTA204-800E
T410-800T	ST MICROELECTRONICS	BTA204-800E
T435-400D	ST MICROELECTRONICS	BTA204-600C
T435-400K	ST MICROELECTRONICS	BTA204S-600C
T435-400T	ST MICROELECTRONICS	BTA204-600C
T435-400VV	ST MICROELECTRONICS	BTA204X-600C
T435-600D	ST MICROELECTRONICS	BTA204-600C
T435-600K	ST MICROELECTRONICS	BTA204S-600C
T435-600T	ST MICROELECTRONICS	BTA204-600C
T435-600VV	ST MICROELECTRONICS	BTA204X-600C
TSV45FX	SHINDENGEN	BUJ204A
T6V40F3	SHINDENGEN	BUJ105A
T810-400B	ST MICROELECTRONICS	BTA208S-600E
T810-600B	ST MICROELECTRONICS	BTA208S-600E
T820-400VV	ST MICROELECTRONICS	BTA208X-600E
T820-600VV	ST MICROELECTRONICS	BTA208X-600E
T820-700VV	ST MICROELECTRONICS	BTA208X-800E
T830-400VV	ST MICROELECTRONICS	BTA208X-600F
T830-600VV	ST MICROELECTRONICS	BTA208X-600F
T835-400B	ST MICROELECTRONICS	BTA208S-600E
T835-600B	ST MICROELECTRONICS	BTA208S-600E
T8V45FX	SHINDENGEN	BUJ205A
TBG	HUTSON	BT132-600D
TCR22-2	TECCOR	BT169G
TCR22-3	TECCOR	BT169G
TCR22-4	TECCOR	BT169G
TCR22-6	TECCOR	BT169G
TCR22-8	TECCOR	BT169G
TD13002	VISHAY/ SILICONIX	BUJ101
TD13003	VISHAY/ SILICONIX	BUJ101
TD13004	VISHAY/ SILICONIX	BUJ103
TD13005	VISHAY/ SILICONIX	BUJ103
TDG	HUTSON	BT132-600D
TE13004	VISHAY/ SILICONIX	PHE1300S, BUJ103A
TE13005	VISHAY/ SILICONIX	PHE1300S, BUJ103A
TE13008	VISHAY/ SILICONIX	BUJ106A
TE13009	VISHAY/ SILICONIX	BUJ106A
Temico202T	VISHAY/ SILICONIX	BSH202
TF320M-A	SANKEN	BT258-500R
TF321M	SANKEN	BT151X-500R
TF321M-A	SANKEN	BT258X-500R
TF340M-A	SANKEN	BT258-500R
TF341M	SANKEN	BT151X-500R
TF341M-A	SANKEN	BT258X-500R
TF361M	SANKEN	BT151X-800R
TF361M-A	SANKEN	BT151X-800R
TF521M	SANKEN	BT151X-500R
TF521S	SANKEN	BT151-500R

Type	Manufacturer	Philips Type
TF541M	SANKEN	BT151X-500R
TF541S	SANKEN	BT151-500R
TF561M	SANKEN	BT151X-800R
TF561S	SANKEN	BT151X-800R
TF620M	SANKEN	BT151-500R
TF640M	SANKEN	BT151-500R
TF821M	SANKEN	BT152X-400R
TF821S	SANKEN	BT152-400R
TF841M	SANKEN	BT152X-400R
TF841S	SANKEN	BT152-400R
TF861M	SANKEN	BT152X-400R
TF861S	SANKEN	BT152-400R
TFMAJ26A	RECTRON	PSMA26A
TG10	MICROSEMI/MICRO QUALITY	BYV26E
TG16C40	SANSHA DENKI	BTA216-600B
TG16C60	SANSHA DENKI	BTA216-600B
TG16D40	SANSHA DENKI	BTA216-600B
TG16D60	SANSHA DENKI	BTA216-600B
TG16E40	SANSHA DENKI	BTA216-600B
TG16E60	SANSHA DENKI	BTA216-600B
TG24	MICROSEMI/MICRO QUALITY	BYM36C
TG26	MICROSEMI/MICRO QUALITY	BYM36C
TG28	MICROSEMI/MICRO QUALITY	BYM36E
TGL41-xxx	GENERAL SEMICONDUCTOR	BZD27-Cxxx
THD200FI	ST MICROELECTRONICS	BU4525AX
THD215HI	ST MICROELECTRONICS	BU4522AX
THD218DHI	ST MICROELECTRONICS	BU4507DX
THD277HI	ST MICROELECTRONICS	BU4507AX
THD300	ST MICROELECTRONICS	BU4540AW
TL6006	ST MICROELECTRONICS	BTA151-650R
TL8006	ST MICROELECTRONICS	BT151-800R
TLC116A	ST MICROELECTRONICS	BT134-600E
TLC116D	ST MICROELECTRONICS	BT134-600D
TLC116S	ST MICROELECTRONICS	BT134-600D
TLC226A	ST MICROELECTRONICS	BT134-600E
TLC226D	ST MICROELECTRONICS	BT134-600D
TLC226S	ST MICROELECTRONICS	BT134-600D
TLC336A	ST MICROELECTRONICS	BT134-600E
TLC336D	ST MICROELECTRONICS	BT134-600D
TLC336S	ST MICROELECTRONICS	BT134-600D
TLC386A	ST MICROELECTRONICS	BT134-800E
TLC386D	ST MICROELECTRONICS	BT134-600D
TLC386S	ST MICROELECTRONICS	BT134-600D
TLS106-1	ST MICROELECTRONICS	BT148-400R
TLS106-2	ST MICROELECTRONICS	BT148-400R
TLS106-4	ST MICROELECTRONICS	BT148-400R
TLS106-6	ST MICROELECTRONICS	BT148-600R
TM1020M	SANKEN	BT138-600G
TM1040M	SANKEN	BT138-600G
TM320M	SANKEN	BT137-600G
TM340M	SANKEN	BT137-600G
TM620M	SANKEN	BT137-600G
TM640M	SANKEN	BT137-600G

Type	Manufacturer	Philips Type
TMBYV10-20	ST MICROELECTRONICS	PRLL5817
TMBYV10-20A	ST MICROELECTRONICS	PRLL5817
TMBYV10-30	ST MICROELECTRONICS	PRLL5818
TMBYV10-40	ST MICROELECTRONICS	PRLL5819
TMG	HUTSON	BT132-600D
TMG10AA40	SANSHA DENKI	BT138-600
TMG10AA60	SANSHA DENKI	BT138-600
TMG10AB40	SANSHA DENKI	BT138-600
TMG10AB60	SANSHA DENKI	BT138-600
TMG12AA40	SANSHA DENKI	BT138-600
TMG12AA60	SANSHA DENKI	BT138-600
TMG12AB40	SANSHA DENKI	BT138-600
TMG12AB60	SANSHA DENKI	BT138-600
TMG16AA40	SANSHA DENKI	BTA140-600
TMG16AA60	SANSHA DENKI	BTA140-600
TMG16AB40	SANSHA DENKI	BTA140-600
TMG16AB60	SANSHA DENKI	BTA140-600
TMG20AA40	SANSHA DENKI	BTA140-600
TMG20AA60	SANSHA DENKI	BTA140-600
TMG20AB40	SANSHA DENKI	BTA140-600
TMG20AB60	SANSHA DENKI	BTA140-600
TMG6AA40	SANSHA DENKI	BT137-600
TMG6AA60	SANSHA DENKI	BT137-600
TMG6AB40	SANSHA DENKI	BT137-600
TMG6AB60	SANSHA DENKI	BT137-600
TMG8AA40	SANSHA DENKI	BT138-600
TMG8AA60	SANSHA DENKI	BT138-600
TMG8AB40	SANSHA DENKI	BT138-600
TMG8AB60	SANSHA DENKI	BT138-600
TMPG06-xxx	GENERAL SEMICONDUCTOR	BZT03-Cxxx
TN0200T	VISHAY/ SILICONIX	BSH103
TP0101T	VISHAY/ SILICONIX	BSH203
TP3V45FX	SHINDENGEN	BUJ202AX
TP8V45FX	SHINDENGEN	BUJ205AX
TPCS8201	TOSHIBA	BSH301
TPSMAxxx	GENERAL SEMICONDUCTOR	BZG04-xxx
TVS310	MICROSEMI	BZD23-C10
TVS312	MICROSEMI	BZD23-C12
TVS315	MICROSEMI	BZD23-C15
TVS318	MICROSEMI	BZD23-C18
TVS324	MICROSEMI	BZD23-C24
TVS328	MICROSEMI	BZD23-C27
TVS348	MICROSEMI	BZD23-C47
TVS360	MICROSEMI	BZD23-C62
TVS410	MICROSEMI	BZD23-C100
TVS420	MICROSEMI	BZD23-C200
TVS430	MICROSEMI	BZD23-C300
TVS510	MICROSEMI	BZW03-C10
TVS512	MICROSEMI	BZW03-C12
TVS515	MICROSEMI	BZW03-C15
TVS518	MICROSEMI	BZW03-C18
TVS524	MICROSEMI	BZW03-C24
TVS528	MICROSEMI	BZW03-C27

Type	Manufacturer	Philips Type
TXN0512	ST MICROELECTRONICS	BT152X-400R
TXN112	ST MICROELECTRONICS	BT152X-400R
TXN212	ST MICROELECTRONICS	BT152X-400R
TXN412	ST MICROELECTRONICS	BT152X-400R
TXN612	ST MICROELECTRONICS	BT152X-600R
TXN812	ST MICROELECTRONICS	BT152X-800R
TYN0510	ST MICROELECTRONICS	BT151-500R
TYN0512	ST MICROELECTRONICS	BT152-400R, BT151 500R
TYN0516	ST MICROELECTRONICS	BT152-400R
TYN058	ST MICROELECTRONICS	BT151-500R
TYN058G	ST MICROELECTRONICS	BT151-500R
TYN108	ST MICROELECTRONICS	BT151-500R
TYN108G	ST MICROELECTRONICS	BT151-500R
TYN110	ST MICROELECTRONICS	BT151-500R
TYN112	ST MICROELECTRONICS	BT152-400R, BT151 500R
TYN116	ST MICROELECTRONICS	BT152-400R
TYN208	ST MICROELECTRONICS	BT151-500R
TYN208G	ST MICROELECTRONICS	BT151-500R
TYN210	ST MICROELECTRONICS	BT151-500R
TYN212	ST MICROELECTRONICS	BT152-400R, BT151 500R
TYN216	ST MICROELECTRONICS	BT152-400R
TYN225	ST MICROELECTRONICS	BT145-500R
TYN408	ST MICROELECTRONICS	BT151-500R
TYN408G	ST MICROELECTRONICS	BT151-500R
TYN410	ST MICROELECTRONICS	BT151-500R
TYN412	ST MICROELECTRONICS	BT152-400R, BT151 500R
TYN416	ST MICROELECTRONICS	BT152-400R
TYN425	ST MICROELECTRONICS	BT145-500R
TYN604	ST MICROELECTRONICS	BT300-600R
TYN606	ST MICROELECTRONICS	BT300-600R
TYN608	ST MICROELECTRONICS	BT151-650R, BT151 600R
TYN608G	ST MICROELECTRONICS	BT151-650R
TYN610	ST MICROELECTRONICS	BT151-650R
TYN612	ST MICROELECTRONICS	BT152-600R, BT151 650R
TYN616	ST MICROELECTRONICS	BT152-600R
TYN682	ST MICROELECTRONICS	BT145-500R
TYN683	ST MICROELECTRONICS	BT145-500R
TYN685	ST MICROELECTRONICS	BT145-500R
TYN688	ST MICROELECTRONICS	BT145-500R
TYN692	ST MICROELECTRONICS	BT145-800R
TYN808	ST MICROELECTRONICS	BT151-800R,
TYN808G	ST MICROELECTRONICS	BT151-800R
TYN810	ST MICROELECTRONICS	BT151-800R
TYN812	ST MICROELECTRONICS	BT152-800R, BT151 800R
TYN816	ST MICROELECTRONICS	BT152-800R
TYN825	ST MICROELECTRONICS	BT145-800R

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
TYP1012	ST MICROELECTRONICS	BT145-500R
TYP2012	ST MICROELECTRONICS	BT145-500R
TYP212	ST MICROELECTRONICS	BT145-500R
TYP512	ST MICROELECTRONICS	BT145-500R
U1BC44	TOSHIBA	S1B
U1DL44A	TOSHIBA	BYG80D
U1FWJ44N	TOSHIBA	BYG90-30
U1GC44	TOSHIBA	S1G
U1GU44	TOSHIBA	BYG80G
U1GWJ44	TOSHIBA	BYG90-40
U1JC44	TOSHIBA	S1J
U1JU44	TOSHIBA	BYG80J
U1ZBxx	TOSHIBA	BZG03-Cxx
UES1001	MICROSEMI	BYD73A
UES1002	MICROSEMI	BYD73B
UES1003	MICROSEMI	BYD73C
UES1101	MICROSEMI	BYV27-50
UES1101SM	MICROSEMI	BYG80A
UES1102	MICROSEMI	BYV27-100
UES1102SM	MICROSEMI	BYG80B
UES1103	MICROSEMI	BYV27-150
UES1103SM	MICROSEMI	BYG80G
UES1104	MICROSEMI	BYV27-200
UES1104HR2	MICROSEMI	BYV27-200
UES1104SM	MICROSEMI	BYD77D
UES1106	MICROSEMI	BYV27-400
UES1106HR2	MICROSEMI	BYV27-400
UES1301	MICROSEMI/MICRO QUALITY	BYV28-50
UES1302	MICROSEMI/MICRO QUALITY	BYV28-100
UES1303	MICROSEMI/MICRO QUALITY	BYV28-150
UES1304	MICROSEMI/MICRO QUALITY	BYV28-200
UES1305	MICROSEMI/MICRO QUALITY	BYV28-400
UES1306	MICROSEMI/MICRO QUALITY	BYV28-400
UF130	MICROSEMI	BYD73G
UF130SM	MICROSEMI	BYD77G
UF140	MICROSEMI	BYD73G
UF140SM	MICROSEMI	BYD77G
UF150	MICROSEMI	BYD163
UF160	MICROSEMI	BYD163
UF1A	AMOS	BYG80D
UF1B	AMOS	BYG80D
UF1D	AMOS	BYG80D
UF1G	AMOS	BYG80G
UF1J	AMOS	BYG80J
UF203	AMOS	BYV27-200
UF301	AMOS	BYV28-50
UF302	AMOS	BYV28-100
UF303	AMOS	BYV28-200
UF304	AMOS	BYV28-400
UF305	AMOS	BYV28-600
UF305	MICROSEMI/MICRO QUALITY	BYV28-50
UF310	MICROSEMI/MICRO QUALITY	BYV28-100
UF315	MICROSEMI/MICRO QUALITY	BYV28-150

Type	Manufacturer	Philips Type
UF320	MICROSEMI/MICRO QUALITY	BYV28-200
UF330	MICROSEMI/MICRO QUALITY	BYV28-400
UF340	MICROSEMI/MICRO QUALITY	BYV28-400
UF350	MICROSEMI/MICRO QUALITY	BYV28-600
UF360	MICROSEMI/MICRO QUALITY	BYV28-600
UF4001	FAIRCHILD	BYD73A
UF4001	GENERAL SEMICONDUCTOR	BYD73A
UF4002	FAIRCHILD	BYD73B
UF4002	GENERAL SEMICONDUCTOR	BYD73B
UF4003	FAIRCHILD	BYD73D
UF4003	GENERAL SEMICONDUCTOR	BYD73D
UF4004	FAIRCHILD	BYD143
UF4004	GENERAL SEMICONDUCTOR	BYD73G
UF4005	FAIRCHILD	BYD163
UF4005	GENERAL SEMICONDUCTOR	BYD163
UF4006	FAIRCHILD	BYV26D
UF4006	GENERAL SEMICONDUCTOR	BYV26D
UF4006GP	MICROSEMI/MICRO QUALITY	BYV26D
UF4007	FAIRCHILD	BYV26E
UF4007	GENERAL SEMICONDUCTOR	BYV26E
UF4007GP	MICROSEMI/MICRO QUALITY	BYV26E
UF5400	GENERAL SEMICONDUCTOR	BYV28-50
UF5400GP	MICROSEMI/MICRO QUALITY	BYV28-50
UF5401	GENERAL SEMICONDUCTOR	BYV28-100
UF5401GP	MICROSEMI/MICRO QUALITY	BYV28-100
UF5402	GENERAL SEMICONDUCTOR	BYV28-200
UF5402GP	MICROSEMI/MICRO QUALITY	BYV28-200
UF5403	GENERAL SEMICONDUCTOR	BYV28-400
UF5403	GENERAL SEMICONDUCTOR	BYV28-400
UF5404	GENERAL SEMICONDUCTOR	BYV28-400
UF5404GP	MICROSEMI/MICRO QUALITY	BYV28-400
UF5405	GENERAL SEMICONDUCTOR	BYV28-600
UF5406	GENERAL SEMICONDUCTOR	BYV28-600
UF5406GP	MICROSEMI/MICRO QUALITY	BYV28-600
UF5105J	MICROSEMI/MICRO QUALITY	BYG80D
UF5110J	MICROSEMI/MICRO QUALITY	BYG80D
UF5115J	MICROSEMI/MICRO QUALITY	BYG80D
UF5120J	MICROSEMI/MICRO QUALITY	BYG80D
UF5130J	MICROSEMI/MICRO QUALITY	BYG80G
UF5140J	MICROSEMI/MICRO QUALITY	BYG80G
UF5150J	MICROSEMI/MICRO QUALITY	BYG80J
UF5160J	MICROSEMI/MICRO QUALITY	BYG80J
UG2A	GENERAL SEMICONDUCTOR	BYV28-50
UG2B	GENERAL SEMICONDUCTOR	BYV28-100
UG2C	GENERAL SEMICONDUCTOR	BYV28-150
UG2D	GENERAL SEMICONDUCTOR	BYV27-200
UG4A	GENERAL SEMICONDUCTOR	BYV28-50
UG4B	GENERAL SEMICONDUCTOR	BYV28-100
UG4C	GENERAL SEMICONDUCTOR	BYV28-150
UG4D	GENERAL SEMICONDUCTOR	BYV28-200
UHVPA402	MICROSEMI/MICRO QUALITY	BYV27-200
UR105	MICROSEMI	BYD13D
UR110	MICROSEMI	BYD13D
UR115	MICROSEMI	BYD13D

Type	Manufacturer	Philips Type
UR120	MICROSEMI	BYD13G
UR125	MICROSEMI	BYD13J
URSF3J48	TOSHIBA	BT300B-800R
URSF5G48	TOSHIBA	BT151B-500R
URSF5J48	TOSHIBA	BT151B-800R
US1A	GENERAL SEMICONDUCTOR	US1A
US1B	GENERAL SEMICONDUCTOR	US1B
US1D	GENERAL SEMICONDUCTOR	US1D
US1G	GENERAL SEMICONDUCTOR	US1G
US1J	GENERAL SEMICONDUCTOR	US1J
USD645	MICROSEMI/MICRO QUALITY	PBYR745
USD645C	MICROSEMI/MICRO QUALITY	PBYR1545CT
USD745	UNITRODE/MICROSEMI	PBYR745
USD820	UNITRODE/MICROSEMI	PBYR1040
USD835	UNITRODE/MICROSEMI	PBYR1040
USD840	UNITRODE/MICROSEMI	PBYR1040
USD845	UNITRODE/MICROSEMI	PBYR1045
USD945	UNITRODE/MICROSEMI	PBYR1645
USF10G48	TOSHIBA	BT152B-600R
USF10J48	TOSHIBA	BT152B-800R
USF8G48	TOSHIBA	BT152B-600R
USF8J48	TOSHIBA	BT152B-800R
USM12G48	TOSHIBA	BT139B-600F
USM12G48A	TOSHIBA	BT139B-600F
USM12J48	TOSHIBA	BT139B-600F
USM12J48A	TOSHIBA	BT139B-600F
USM16G48	TOSHIBA	BTA140B-600
USM16G48A	TOSHIBA	BTA140B-600
USM16J48	TOSHIBA	BTA140B-600
USM16J48A	TOSHIBA	BTA140B-600
USM3G48	TOSHIBA	BT136B-600F
USM3J48	TOSHIBA	BT136-600/ BT136-600E
USM6G48	TOSHIBA	BT137B-600F
USM6G48A	TOSHIBA	BT137B-600F
USM6J48	TOSHIBA	BT137B-600F
USM6J48A	TOSHIBA	BT137B-600F
USM8G48	TOSHIBA	BT138B-600F
USM8G48A	TOSHIBA	BT138B-600F
USM8J48	TOSHIBA	BT138B-600F
USM8J48A	TOSHIBA	BT138B-600F
UT2005	MICROSEMI/MICRO QUALITY	1N5059
UT2010	MICROSEMI/MICRO QUALITY	1N5059
UT2020	MICROSEMI/MICRO QUALITY	1N5059
UT2040	MICROSEMI/MICRO QUALITY	1N5060
UT2060	MICROSEMI/MICRO QUALITY	1N5061
UT234	MICROSEMI	BYD13D
UT235	MICROSEMI	BYD13G
UT236	MICROSEMI	BYD13D
UT237	MICROSEMI	BYD13J
UT238	MICROSEMI	BYD13J
UT251	MICROSEMI/MICRO QUALITY	1N5059
UT252	MICROSEMI/MICRO QUALITY	1N5059

Type	Manufacturer	Philips Type
UT254	MICROSEMI/MICRO QUALITY	1N5060
UT255	MICROSEMI/MICRO QUALITY	1N5061
UT257	MICROSEMI/MICRO QUALITY	1N5061
UT258	MICROSEMI/MICRO QUALITY	1N5062
UT261	MICROSEMI/MICRO QUALITY	1N5059
UT262	MICROSEMI/MICRO QUALITY	1N5059
UT264	MICROSEMI/MICRO QUALITY	1N5060
UT265	MICROSEMI/MICRO QUALITY	1N5061
UT267	MICROSEMI/MICRO QUALITY	1N5061
UT268	MICROSEMI/MICRO QUALITY	1N5062
UT3005	MICROSEMI/MICRO QUALITY	BYM56A
UT3010	MICROSEMI/MICRO QUALITY	BYM56A
UT3020	MICROSEMI/MICRO QUALITY	BYM56A
UT3040	MICROSEMI/MICRO QUALITY	BYM56B
UT3060	MICROSEMI/MICRO QUALITY	BYM56C
UT3080	MICROSEMI	BYM56D
UT347	MICROSEMI	BYD13M
UT361	MICROSEMI	BYD13K
UT362	MICROSEMI	BYD13K
UT363	MICROSEMI	BYD13M
UT364	MICROSEMI	BYD13M
UTR01	MICROSEMI	BYD33D
UTR10	MICROSEMI	BYD33D
UTR11	MICROSEMI	BYD33D
UTR20	MICROSEMI	BYD33D
UTR21	MICROSEMI	BYD33D
UTR2305	MICROSEMI/MICRO QUALITY	BYW95A
UTR2310	MICROSEMI/MICRO QUALITY	BYW95A
UTR2320	MICROSEMI/MICRO QUALITY	BYW95A
UTR2340	MICROSEMI/MICRO QUALITY	BYW95B
UTR2350	MICROSEMI	BYW95C
UTR2360	MICROSEMI	BYW95C
UTR30	MICROSEMI	BYD33D
UTR31	MICROSEMI	BYD33G
UTR32	MICROSEMI/MICRO QUALITY	BYV95B
UTR3305	MICROSEMI/MICRO QUALITY	BYW95A
UTR3310	MICROSEMI/MICRO QUALITY	BYW95A
UTR3320	MICROSEMI/MICRO QUALITY	BYW95A
UTR3340	MICROSEMI/MICRO QUALITY	BYW95B
UTR3350	MICROSEMI	BYW95C
UTR3360	MICROSEMI	BYW95C
UTR40	MICROSEMI	BYD33G
UTR41	MICROSEMI	BYD33G
UTR42	MICROSEMI/MICRO QUALITY	BYV95B
UTR4305	MICROSEMI	BYV28-50
UTR4310	MICROSEMI	BYV28-100
UTR4320	MICROSEMI	BYV28-200
UTR4340	MICROSEMI	BYV28-400
UTR4350	MICROSEMI	BYV28-600
UTR4360	MICROSEMI	BYV28-600
UTR50	MICROSEMI	BYD33G
UTR51	MICROSEMI	BYD33J
UTR52	MICROSEMI	BYW95C

Type	Manufacturer	Philips Type
UTR60	MICROSEMI	BYD33J
UTR61	MICROSEMI	BYD33J
UTR62	MICROSEMI	BYW95C
UTX105	MICROSEMI	BYD73A
UTX110	MICROSEMI	BYD73B
UTX115	MICROSEMI	BYD73C
UTX120	MICROSEMI	BYD73D
UTX125	MICROSEMI	BYD73G
UTX205	MICROSEMI	BYD73A
UTX210	MICROSEMI	BYD73B
UTX215	MICROSEMI	BYD73C
UTX220	MICROSEMI	BYD73D
UTX225	MICROSEMI	BYD73G
UTX3120	MICROSEMI/MICRO QUALITY	BYV27-200
UTX4105	MICROSEMI/MICRO QUALITY	BYV28-50
UTX4110	MICROSEMI/MICRO QUALITY	BYV28-100
UTX4115	MICROSEMI/MICRO QUALITY	BYV28-150
UTX4120	MICROSEMI/MICRO QUALITY	BYV28-200
UTX4125	MICROSEMI	BYV28-300
UZ4110	MICROSEMI	BZW03-C100
UZ4111	MICROSEMI	BZW03-C110
UZ4112	MICROSEMI	BZW03-C120
UZ4113	MICROSEMI	BZW03-C130
UZ4115	MICROSEMI	BZW03-C150
UZ4116	MICROSEMI	BZW03-C160
UZ4118	MICROSEMI	BZW03-C180
UZ4120	MICROSEMI	BZW03-C200
UZ4210	MICROSEMI	BZW03-C100
UZ4211	MICROSEMI	BZW03-C110
UZ4212	MICROSEMI	BZW03-C120
UZ4213	MICROSEMI	BZW03-C130
UZ4215	MICROSEMI	BZW03-C150
UZ4216	MICROSEMI	BZW03-C160
UZ4218	MICROSEMI	BZW03-C180
UZ4220	MICROSEMI	BZW03-C200
UZ4707	MICROSEMI	BZW03-C7V5
UZ4708	MICROSEMI	BZW03-C8V2
UZ4709	MICROSEMI	BZW03-C9V1
UZ4710	MICROSEMI	BZW03-C10
UZ4712	MICROSEMI	BZW03-C12
UZ4713	MICROSEMI	BZW03-C13
UZ4715	MICROSEMI	BZW03-C15
UZ4716	MICROSEMI	BZW03-C16
UZ4718	MICROSEMI	BZW03-C18
UZ4720	MICROSEMI	BZW03-C20
UZ4722	MICROSEMI	BZW03-C22
UZ4724	MICROSEMI	BZW03-C24
UZ4727	MICROSEMI	BZW03-C27
UZ4730	MICROSEMI	BZW03-C30
UZ4733	MICROSEMI	BZW03-C33
UZ4736	MICROSEMI	BZW03-C36
UZ4739	MICROSEMI	BZW03-C39
UZ4743	MICROSEMI	BZW03-C43

Type	Manufacturer	Philips Type
UZ4747	MICROSEMI	BZW03-C47
UZ4751	MICROSEMI	BZW03-C51
UZ4756	MICROSEMI	BZW03-C56
UZ4762	MICROSEMI	BZW03-C62
UZ4768	MICROSEMI	BZW03-C68
UZ4775	MICROSEMI	BZW03-C75
UZ4782	MICROSEMI	BZW03-C82
UZ4791	MICROSEMI	BZW03-C91
UZ4807	MICROSEMI	BZW03-C7V5
UZ4808	MICROSEMI	BZW03-C8V2
UZ4809	MICROSEMI	BZW03-C9V1
UZ4810	MICROSEMI	BZW03-C10
UZ4812	MICROSEMI	BZW03-C12
UZ4813	MICROSEMI	BZW03-C13
UZ4815	MICROSEMI	BZW03-C15
UZ4816	MICROSEMI	BZW03-C16
UZ4818	MICROSEMI	BZW03-C18
UZ4820	MICROSEMI	BZW03-C20
UZ4822	MICROSEMI	BZW03-C22
UZ4824	MICROSEMI	BZW03-C24
UZ4827	MICROSEMI	BZW03-C27
UZ4830	MICROSEMI	BZW03-C30
UZ4833	MICROSEMI	BZW03-C33
UZ4836	MICROSEMI	BZW03-C36
UZ4839	MICROSEMI	BZW03-C39
UZ4843	MICROSEMI	BZW03-C43
UZ4847	MICROSEMI	BZW03-C47
UZ4851	MICROSEMI	BZW03-C51
UZ4856	MICROSEMI	BZW03-C56
UZ4862	MICROSEMI	BZW03-C62
UZ4868	MICROSEMI	BZW03-C68
UZ4875	MICROSEMI	BZW03-C75
UZ4882	MICROSEMI	BZW03-C82
UZ4891	MICROSEMI	BZW03-C91
UZ5110	MICROSEMI	BZW03-C100
UZ5111	MICROSEMI	BZW03-C110
UZ5112	MICROSEMI	BZW03-C120
UZ5113	MICROSEMI	BZW03-C130
UZ5115	MICROSEMI	BZW03-C150
UZ5116	MICROSEMI	BZW03-C160
UZ5118	MICROSEMI	BZW03-C180
UZ5120	MICROSEMI	BZW03-C200
UZ5122	MICROSEMI	BZW03-C220
UZ5124	MICROSEMI	BZW03-C240
UZ5130	MICROSEMI	BZW03-C300
UZ5136	MICROSEMI	BZW03-C360
UZ5210	MICROSEMI	BZW03-C100
UZ5211	MICROSEMI	BZW03-C110
UZ5212	MICROSEMI	BZW03-C120
UZ5213	MICROSEMI	BZW03-C130
UZ5215	MICROSEMI	BZW03-C150
UZ5216	MICROSEMI	BZW03-C160
UZ5218	MICROSEMI	BZW03-C180

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
UZ5220	MICROSEMI	BZW03-C200
UZ5222	MICROSEMI	BZW03-C220
UZ5224	MICROSEMI	BZW03-C240
UZ5230	MICROSEMI	BZW03-C300
UZ5236	MICROSEMI	BZW03-C360
UZ5707	MICROSEMI	BZW03-C7V5
UZ5708	MICROSEMI	BZW03-C8V2
UZ5709	MICROSEMI	BZW03-C9V1
UZ5710	MICROSEMI	BZW03-C10
UZ5712	MICROSEMI	BZW03-C12
UZ5713	MICROSEMI	BZW03-C13
UZ5715	MICROSEMI	BZW03-C15
UZ5716	MICROSEMI	BZW03-C16
UZ5718	MICROSEMI	BZW03-C18
UZ5720	MICROSEMI	BZW03-C20
UZ5722	MICROSEMI	BZW03-C22
UZ5724	MICROSEMI	BZW03-C24
UZ5727	MICROSEMI	BZW03-C27
UZ5730	MICROSEMI	BZW03-C30
UZ5733	MICROSEMI	BZW03-C33
UZ5736	MICROSEMI	BZW03-C36
UZ5740	MICROSEMI	BZW03-C39
UZ5745	MICROSEMI	BZW03-C43
UZ5750	MICROSEMI	BZW03-C51
UZ5756	MICROSEMI	BZW03-C56
UZ5760	MICROSEMI	BZW03-C62
UZ5770	MICROSEMI	BZW03-C68
UZ5775	MICROSEMI	BZW03-C75
UZ5780	MICROSEMI	BZW03-C82
UZ5790	MICROSEMI	BZW03-C91
UZ5807	MICROSEMI	BZW03-C7V5
UZ5808	MICROSEMI	BZW03-C8V2
UZ5809	MICROSEMI	BZW03-C9V1
UZ5810	MICROSEMI	BZW03-C10
UZ5812	MICROSEMI	BZW03-C12
UZ5813	MICROSEMI	BZW03-C13
UZ5815	MICROSEMI	BZW03-C15
UZ5816	MICROSEMI	BZW03-C16
UZ5818	MICROSEMI	BZW03-C18
UZ5820	MICROSEMI	BZW03-C20
UZ5822	MICROSEMI	BZW03-C22
UZ5824	MICROSEMI	BZW03-C24
UZ5827	MICROSEMI	BZW03-C27
UZ5830	MICROSEMI	BZW03-C30
UZ5833	MICROSEMI	BZW03-C33
UZ5836	MICROSEMI	BZW03-C36
UZ5840	MICROSEMI	BZW03-C39
UZ5845	MICROSEMI	BZW03-C43
UZ5850	MICROSEMI	BZW03-C51
UZ5856	MICROSEMI	BZW03-C56
UZ5860	MICROSEMI	BZW03-C62
UZ5870	MICROSEMI	BZW03-C68
UZ5875	MICROSEMI	BZW03-C75

Type	Manufacturer	Philips Type
UZ5880	MICROSEMI	BZW03-C82
UZ5890	MICROSEMI	BZW03-C91
UZ8110	MICROSEMI	BZD23-C100
UZ8111	MICROSEMI	BZD23-C110
UZ8112	MICROSEMI	BZD23-C120
UZ8113	MICROSEMI	BZD23-C130
UZ8114	MICROSEMI	BZD23-C150
UZ8115	MICROSEMI	BZD23-C150
UZ8116	MICROSEMI	BZD23-C160
UZ8117	MICROSEMI	BZD23-C160
UZ8118	MICROSEMI	BZD23-C180
UZ8119	MICROSEMI	BZD23-C180
UZ8120	MICROSEMI	BZD23-C200
UZ8210	MICROSEMI	BZD23-C100
UZ8211	MICROSEMI	BZD23-C110
UZ8212	MICROSEMI	BZD23-C120
UZ8213	MICROSEMI	BZD23-C130
UZ8214	MICROSEMI	BZD23-C150
UZ8215	MICROSEMI	BZD23-C150
UZ8216	MICROSEMI	BZD23-C160
UZ8217	MICROSEMI	BZD23-C160
UZ8218	MICROSEMI	BZD23-C180
UZ8219	MICROSEMI	BZD23-C180
UZ8220	MICROSEMI	BZD23-C200
UZ8706	MICROSEMI	BZD23-C6V8
UZ8707	MICROSEMI	BZD23-C7V5
UZ8708	MICROSEMI	BZD23-C8V2
UZ8709	MICROSEMI	BZD23-C9V1
UZ8710	MICROSEMI	BZD23-C10
UZ8712	MICROSEMI	BZD23-C12
UZ8713	MICROSEMI	BZD23-C13
UZ8714	MICROSEMI	BZD23-C15
UZ8715	MICROSEMI	BZD23-C15
UZ8716	MICROSEMI	BZD23-C16
UZ8718	MICROSEMI	BZD23-C18
UZ8720	MICROSEMI	BZD23-C20
UZ8722	MICROSEMI	BZD23-C22
UZ8724	MICROSEMI	BZD23-C24
UZ8727	MICROSEMI	BZD23-C27
UZ8730	MICROSEMI	BZD23-C30
UZ8733	MICROSEMI	BZD23-C33
UZ8736	MICROSEMI	BZD23-C36
UZ8740	MICROSEMI	BZD23-C39
UZ8745	MICROSEMI	BZD23-C47
UZ8750	MICROSEMI	BZD23-C51
UZ8756	MICROSEMI	BZD23-C56
UZ8760	MICROSEMI	BZD23-C62
UZ8770	MICROSEMI	BZD23-C68
UZ8775	MICROSEMI	BZD23-C75
UZ8780	MICROSEMI	BZD23-C82
UZ8790	MICROSEMI	BZD23-C91
UZ8806	MICROSEMI	BZD23-C6V8
UZ8807	MICROSEMI	BZD23-C7V5

Type	Manufacturer	Philips Type
UZ8808	MICROSEMI	BZD23-C8V2
UZ8809	MICROSEMI	BZD23-C9V1
UZ8810	MICROSEMI	BZD23-C10
UZ8812	MICROSEMI	BZD23-C12
UZ8813	MICROSEMI	BZD23-C13
UZ8814	MICROSEMI	BZD23-C15
UZ8815	MICROSEMI	BZD23-C15
UZ8816	MICROSEMI	BZD23-C16
UZ8818	MICROSEMI	BZD23-C18
UZ8820	MICROSEMI	BZD23-C20
UZ8822	MICROSEMI	BZD23-C22
UZ8824	MICROSEMI	BZD23-C24
UZ8827	MICROSEMI	BZD23-C27
UZ8830	MICROSEMI	BZD23-C30
UZ8833	MICROSEMI	BZD23-C33
UZ8836	MICROSEMI	BZD23-C36
UZ8840	MICROSEMI	BZD23-C39
UZ8845	MICROSEMI	BZD23-C47
UZ8850	MICROSEMI	BZD23-C51
UZ8856	MICROSEMI	BZD23-C56
UZ8860	MICROSEMI	BZD23-C62
UZ8870	MICROSEMI	BZD23-C68
UZ8875	MICROSEMI	BZD23-C75
UZ8880	MICROSEMI	BZD23-C82
UZ8890	MICROSEMI	BZD23-C91
V140X	MICROSEMI/MICRO QUALITY	BYV95B
V322	MICROSEMI/MICRO QUALITY	BYM56A
V324	MICROSEMI/MICRO QUALITY	BYM56B
V326	MICROSEMI/MICRO QUALITY	BYM56C
V328	MICROSEMI/MICRO QUALITY	BYM56D
V330	MICROSEMI/MICRO QUALITY	BYM56A
V330X	MICROSEMI/MICRO QUALITY	BYW95A
V331	MICROSEMI/MICRO QUALITY	BYM56A
V3310	MICROSEMI/MICRO QUALITY	BYM56E
V331X	MICROSEMI/MICRO QUALITY	BYW95A
V332	MICROSEMI/MICRO QUALITY	BYM56A
V332X	MICROSEMI/MICRO QUALITY	BYW95A
V334	MICROSEMI/MICRO QUALITY	BYM56B
V334X	MICROSEMI/MICRO QUALITY	BYW95B
V336	MICROSEMI/MICRO QUALITY	BYM56C
V338	MICROSEMI/MICRO QUALITY	BYM56D
VHE220	MICROSEMI/MICRO QUALITY	BYV27-200
VN820	ST MICROELECTRONICS	BUK202-50Y
VSK1045	MICROSEMI/MICRO QUALITY	PBYR1645
VSK120	MICROSEMI/MICRO QUALITY	1N5817
VSK130	MICROSEMI/MICRO QUALITY	1N5818
VSK140	MICROSEMI/MICRO QUALITY	1N5819
VSK945	MICROSEMI/MICRO QUALITY	PBYR1645
X0402BE	ST MICROELECTRONICS	BT148-400R
X0402BF	ST MICROELECTRONICS	BT148-400R
X0402DE	ST MICROELECTRONICS	BT148-400R
X0402DF	ST MICROELECTRONICS	BT148-400R
X0402ME	ST MICROELECTRONICS	BT148-600R

Type	Manufacturer	Philips Type
X0402MF	ST MICROELECTRONICS	BT148-600R
X0402NE	ST MICROELECTRONICS	BT148-600R
X0403BE	ST MICROELECTRONICS	BT148-400R
X0403BF	ST MICROELECTRONICS	BT148-400R
X0403DE	ST MICROELECTRONICS	BT148-400R
X0403DF	ST MICROELECTRONICS	BT148-400R
X0403ME	ST MICROELECTRONICS	BT148-600R
X0403MF	ST MICROELECTRONICS	BT148-600R
X0403NE	ST MICROELECTRONICS	BT148-600R
X0403NF	ST MICROELECTRONICS	BT148-600R
X0405BE	ST MICROELECTRONICS	BT148-400R
X0405BF	ST MICROELECTRONICS	BT148-400R
X0405DE	ST MICROELECTRONICS	BT148-400R
X0405DF	ST MICROELECTRONICS	BT148-400R
X0405ME	ST MICROELECTRONICS	BT148-600R
X0405MF	ST MICROELECTRONICS	BT148-600R
X0405NE	ST MICROELECTRONICS	BT148-600R
X0405NF	ST MICROELECTRONICS	BT148-600R
XHP30L	PHILIPS SEMICONDUCTORS	BSH203
XHP60	PHILIPS SEMICONDUCTORS	BSH201
Z0109DA	ST MICROELECTRONICS	BT132-600D
Z0109DN	ST MICROELECTRONICS	BT134W-600D
Z0109MA	ST MICROELECTRONICS	BT132-600D
Z0109MN	ST MICROELECTRONICS	BT134W-600D
Z0109NN	ST MICROELECTRONICS	BT134W-600D
Z0109SN	ST MICROELECTRONICS	BT134W-600D
Z0110DA	ST MICROELECTRONICS	BT132-600D
Z0110DN	ST MICROELECTRONICS	BT134W-600E
Z0110MA	ST MICROELECTRONICS	BT132-600D
Z0110MN	ST MICROELECTRONICS	BT134W-600E
Z0110NA	ST MICROELECTRONICS	BT132-600D
Z0110NN	ST MICROELECTRONICS	BT134W-600E
Z0110SA	ST MICROELECTRONICS	BT132-600D
Z0110SN	ST MICROELECTRONICS	BT134W-600E
Z0409DE	ST MICROELECTRONICS	BT136-600D
Z0409DF	ST MICROELECTRONICS	BT136-600D
Z0409ME	ST MICROELECTRONICS	BT136-600D
Z0409MF	ST MICROELECTRONICS	BT136-600D
Z0409NE	ST MICROELECTRONICS	BT136-600D
Z0409NF	ST MICROELECTRONICS	BT136-600D
Z0409SE	ST MICROELECTRONICS	BT136-600D
Z0409SF	ST MICROELECTRONICS	BT136-600D
Z0410DE	ST MICROELECTRONICS	BT136-600E
Z0410DF	ST MICROELECTRONICS	BT136-600E
Z0410ME	ST MICROELECTRONICS	BT136-600E
Z0410MF	ST MICROELECTRONICS	BT136-600E
Z0410NE	ST MICROELECTRONICS	BT136-800E
Z0410NF	ST MICROELECTRONICS	BT136-800E
Z0410SE	ST MICROELECTRONICS	BT136-800E
Z0410SF	ST MICROELECTRONICS	BT136-800E
Z100	RECTRON	BZD23-C100
Z105	RECTRON	BZD23-C100
Z110	RECTRON	BZD23-C110

Type	Manufacturer	Philips Type
Z115	RECTRON	BZD23-C110
Z120	RECTRON	BZD23-C120
Z130	RECTRON	BZD23-C130
Z135	RECTRON	BZD23-C130
Z140	RECTRON	BZD23-C130
Z150	RECTRON	BZD23-C150
Z160	RECTRON	BZD23-C160
Z170	RECTRON	BZD23-C160
Z180	RECTRON	BZD23-C180
Z190	RECTRON	BZD23-C180
Z1SMAxxx	FAGOR	BZG03-Cxxx
Z200	RECTRON	BZD23-C200
Z220	RECTRON	BZD23-C220
Z240	RECTRON	BZD23-C240
Z270	RECTRON	BZD23-C270
Z4KE100(A)	GEN.SEMIC.	BZD23-C100
Z4KE110(A)	GEN.SEMIC.	BZD23-C110
Z4KE120(A)	GEN.SEMIC.	BZD23-C120
Z4KE130(A)	GEN.SEMIC.	BZD23-C130
Z4KE140(A)	GEN.SEMIC.	BZD23-C150
Z4KE150(A)	GEN.SEMIC.	BZD23-C150
Z4KE160(A)	GEN.SEMIC.	BZD23-C160
Z4KE170(A)	GEN.SEMIC.	BZD23-C160
Z4KE180(A)	GEN.SEMIC.	BZD23-C180
Z4KE190(A)	GEN.SEMIC.	BZD23-C180
Z4KE200(A)	GEN.SEMIC.	BZD23-C200
Z90	RECTRON	BZD23-C91
ZGL41-xxx	GENERAL SEMICONDUCTOR	BZD27-Cxxx
ZM4729(A)	GEN.SEMIC.	BZD27-C3V6
ZM4737(A)	GEN.SEMIC.	BZD27-C7V5
ZM4738(A)	GEN.SEMIC.	BZD27-C8V2
ZM4739(A)	GEN.SEMIC.	BZD27-C9V1
ZM4740(A)	GEN.SEMIC.	BZD27-C10
ZM4741(A)	GEN.SEMIC.	BZD27-C11
ZM4742(A)	GEN.SEMIC.	BZD27-C12
ZM4743(A)	GEN.SEMIC.	BZD27-C13
ZM4744(A)	GEN.SEMIC.	BZD27-C15
ZM4745(A)	GEN.SEMIC.	BZD27-C16
ZM4746(A)	GEN.SEMIC.	BZD27-C18
ZM4747(A)	GEN.SEMIC.	BZD27-C20
ZM4748(A)	GEN.SEMIC.	BZD27-C22
ZM4749(A)	GEN.SEMIC.	BZD27-C24
ZM4750(A)	GEN.SEMIC.	BZD27-C27
ZM4751(A)	GEN.SEMIC.	BZD27-C30
ZM4752(A)	GEN.SEMIC.	BZD27-C33
ZM4753(A)	GEN.SEMIC.	BZD27-C36
ZM4754(A)	GEN.SEMIC.	BZD27-C39
ZM4755(A)	GEN.SEMIC.	BZD27-C43
ZM4756(A)	GEN.SEMIC.	BZD27-C47
ZM4757(A)	GEN.SEMIC.	BZD27-C51
ZM4758(A)	GEN.SEMIC.	BZD27-C56
ZM4759(A)	GEN.SEMIC.	BZD27-C62
ZM4760(A)	GEN.SEMIC.	BZD27-C68

Type	Manufacturer	Philips Type
ZM4761(A)	GEN.SEMIC.	BZD27-C75
ZM4762(A)	GEN.SEMIC.	BZD27-C82
ZM4763(A)	GEN.SEMIC.	BZD27-C91
ZM4764(A)	GEN.SEMIC.	BZD27-C100
ZMU100	GEN.SEMIC.	BZD27-C100
ZMU120	GEN.SEMIC.	BZD27-C120
ZMU150	GEN.SEMIC.	BZD27-C150
ZMU180	GEN.SEMIC.	BZD27-C180
ZMUxxx	ITT	BZD27-Cxxx
ZMY10	GEN.SEMIC.	BZD27-C10
ZMY100	GEN.SEMIC.	BZD27-C100
ZMY11	GEN.SEMIC.	BZD27-C11
ZMY12	GEN.SEMIC.	BZD27-C12
ZMY13	GEN.SEMIC.	BZD27-C13
ZMY15	GEN.SEMIC.	BZD27-C15
ZMY16	GEN.SEMIC.	BZD27-C16
ZMY18	GEN.SEMIC.	BZD27-C18
ZMY20	GEN.SEMIC.	BZD27-C20
ZMY22	GEN.SEMIC.	BZD27-C22
ZMY24	GEN.SEMIC.	BZD27-C24
ZMY27	GEN.SEMIC.	BZD27-C27
ZMY30	GEN.SEMIC.	BZD27-C30
ZMY33	GEN.SEMIC.	BZD27-C33
ZMY36	GEN.SEMIC.	BZD27-C36
ZMY39	GEN.SEMIC.	BZD27-C39
ZMY43	GEN.SEMIC.	BZD27-C43
ZMY47	GEN.SEMIC.	BZD27-C47
ZMY51	GEN.SEMIC.	BZD27-C51
ZMY56	GEN.SEMIC.	BZD27-C56
ZMY62	GEN.SEMIC.	BZD27-C62
ZMY68	GEN.SEMIC.	BZD27-C68
ZMY7.5	GEN.SEMIC.	BZD27-C7V5
ZMY75	GEN.SEMIC.	BZD27-C75
ZMY8.2	GEN.SEMIC.	BZD27-C8V2
ZMY82	GEN.SEMIC.	BZD27-C82
ZMY9.1	GEN.SEMIC.	BZD27-C9V1
ZMY91	GEN.SEMIC.	BZD27-C91
ZMYxxx	ITT	BZD27-Cxxx
ZPU100	GEN.SEMIC.	BZD23-C100
ZPU120	GEN.SEMIC.	BZD23-C120
ZPU150	GEN.SEMIC.	BZD23-C150
ZPU180	GEN.SEMIC.	BZD23-C180
ZPUxxx	ITT	BZD23-Cxxx
ZPY10	GEN.SEMIC.	BZD23-C10
ZPY100	GEN.SEMIC.	BZD23-C100
ZPY11	GEN.SEMIC.	BZD23-C11
ZPY12	GEN.SEMIC.	BZD23-C12
ZPY13	GEN.SEMIC.	BZD23-C13
ZPY15	GEN.SEMIC.	BZD23-C15
ZPY16	GEN.SEMIC.	BZD23-C16
ZPY18	GEN.SEMIC.	BZD23-C18
ZPY20	GEN.SEMIC.	BZD23-C20
ZPY22	GEN.SEMIC.	BZD23-C22

# Cross Reference Power discretes

Type	Manufacturer	Philips Type
ZPY24	GEN.SEMIC.	BZD23-C24
ZPY27	GEN.SEMIC.	BZD23-C27
ZPY30	GEN.SEMIC.	BZD23-C30
ZPY33	GEN.SEMIC.	BZD23-C33
ZPY36	GEN.SEMIC.	BZD23-C36
ZPY39	GEN.SEMIC.	BZD23-C39
ZPY43	GEN.SEMIC.	BZD23-C43
ZPY47	GEN.SEMIC.	BZD23-C47
ZPY51	GEN.SEMIC.	BZD23-C51
ZPY56	GEN.SEMIC.	BZD23-C56
ZPY62	GEN.SEMIC.	BZD23-C62
ZPY68	GEN.SEMIC.	BZD23-C68
ZPY7.5	GEN.SEMIC.	BZD23-C7V5
ZPY75	GEN.SEMIC.	BZD23-C75
ZPY8.2	GEN.SEMIC.	BZD23-C8V2
ZPY82	GEN.SEMIC.	BZD23-C82
ZPY9.1	GEN.SEMIC.	BZD23-C9V1
ZPY91	GEN.SEMIC.	BZD23-C91
ZPYxxx	ITT	BZD23-Cxxx
Zxxx	RECTRON	BZD23-Cxxx
ZY10	GEN.SEMIC.	BZD23-C10
ZY100	GEN.SEMIC.	BZD23-C100
ZY11	GEN.SEMIC.	BZD23-C11
ZY110	GEN.SEMIC.	BZD23-C110
ZY12	GEN.SEMIC.	BZD23-C12
ZY120	GEN.SEMIC.	BZD23-C120
ZY13	GEN.SEMIC.	BZD23-C13
ZY130	GEN.SEMIC.	BZD23-C130
ZY15	GEN.SEMIC.	BZD23-C15
ZY150	GEN.SEMIC.	BZD23-C150
ZY16	GEN.SEMIC.	BZD23-C16
ZY160	GEN.SEMIC.	BZD23-C160
ZY18	GEN.SEMIC.	BZD23-C18
ZY180	GEN.SEMIC.	BZD23-C180
ZY20	GEN.SEMIC.	BZD23-C20
ZY200	GEN.SEMIC.	BZD23-C200
ZY22	GEN.SEMIC.	BZD23-C22
ZY24	GEN.SEMIC.	BZD23-C24
ZY27	GEN.SEMIC.	BZD23-C27
ZY30	GEN.SEMIC.	BZD23-C30
ZY33	GEN.SEMIC.	BZD23-C33
ZY36	GEN.SEMIC.	BZD23-C36
ZY39	GEN.SEMIC.	BZD23-C39
ZY43	GEN.SEMIC.	BZD23-C43
ZY47	GEN.SEMIC.	BZD23-C47
ZY51	GEN.SEMIC.	BZD23-C51
ZY56	GEN.SEMIC.	BZD23-C56
ZY62	GEN.SEMIC.	BZD23-C62
ZY68	GEN.SEMIC.	BZD23-C68
ZY7.5	GEN.SEMIC.	BZD23-C7V5
ZY75	GEN.SEMIC.	BZD23-C75
ZY8.2	GEN.SEMIC.	BZD23-C8V2
ZY82	GEN.SEMIC.	BZD23-C82

Type	Manufacturer	Philips Type
ZY9.1	GEN.SEMIC.	BZD23-C9V1
ZY91	GEN.SEMIC.	BZD23-C91
ZYxxx	ITT	BZD23-Cxxx



# Cross Reference RF discretetes

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
1SS314	TOSHIBA	Band swith diode	BA591
1SS314	TOSHIBA	Pin diode	BA591
1SS356	ROHM	Pin diode	BA591
1SS381	TOSHIBA	Pin diode	BA277
1SS390	ROHM	Pin diode	BA891
1SV172	TOSHIBA	Pin diode	BAP50-04
1SV214	TOSHIBA	Varicap	BB149
1SV214	TOSHIBA	Varicap	BB149A
1SV215	TOSHIBA	Varicap	BB153
1SV217	TOSHIBA	Varicap	BB133
1SV228	TOSHIBA	Varicap	BB201
1SV229	TOSHIBA	Varicap	BB190
1SV231	TOSHIBA	Varicap	BB132
1SV231	TOSHIBA	Varicap	BB152
1SV232	TOSHIBA	Varicap	BB148
1SV233	SANYO	Pin diode	BAP70-03
1SV234	SANYO	Pin diode	BAP64-04
1SV239	TOSHIBA	Varicap	BB145B
1SV241	SANYO	Pin diode	BAP64-02
1SV242	TOSHIBA	Varicap	BB164
1SV246	SANYO	Pin diode	BAP64-04W
1SV247	SANYO	Pin diode	BAP70-02
1SV248	SANYO	Pin diode	BAP50-02
1SV249	SANYO	Pin diode	BAP50-04W
1SV250	SANYO	Pin diode	BAP50-03
1SV251	SANYO	Pin diode	BAP50-04
1SV252	TOSHIBA	Pin diode	BAP50-04W
1SV254	TOSHIBA	Varicap	BB179
1SV262	TOSHIBA	Varicap	BB133
1SV263	SANYO	Pin diode	BAP50-02
1SV264	SANYO	Pin diode	BAP50-04W
1SV266	SANYO	Pin diode	BAP50-03
1SV267	SANYO	Pin diode	BAP50-04
1SV269	TOSHIBA	Varicap	BB148
1SV270	TOSHIBA	Varicap	BB156
1SV271	TOSHIBA	Pin diode	BAP50-03
1SV276	TOSHIBA	Varicap	BB151
1SV277	TOSHIBA	Varicap	BB142
1SV278	TOSHIBA	Varicap	BB179
1SV279	TOSHIBA	Varicap	BB190
1SV280	TOSHIBA	Varicap	BB145
1SV281	TOSHIBA	Varicap	BB151
1SV282	TOSHIBA	Varicap	BB178
1SV282	TOSHIBA	Varicap	BB187
1SV283	TOSHIBA	Varicap	BB178
1SV283	TOSHIBA	Varicap	BB187
1SV283	TOSHIBA	Varicap	BB187
1SV284	TOSHIBA	Varicap	BB156
1SV285	TOSHIBA	Varicap	BB142
1SV288	TOSHIBA	Varicap	BB152
1SV290	TOSHIBA	Varicap	BB182
1SV290	TOSHIBA	Varicap	BB182 B

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
1SV293	TOSHIBA	Varicap	BB151
1SV293	TOSHIBA	Varicap	BB190
1SV294	SANYO	Pin diode	BAP70-03
1SV307	TOSHIBA	Pin diode	BAP51-03
1SV308	TOSHIBA	Pin diode	BAP51-02
1SV329	TOSHIBA	Varicap	BB143
1T362	SONY	Varicap	BB149
1T362 A	SONY	Varicap	BB149A
1T363 A	SONY	Varicap	BB153
1T368	SONY	Varicap	BB133
1T368 A	SONY	Varicap	BB148
1T369	SONY	Varicap	BB132
1T369	SONY	Varicap	BB152
1T369	SONY	Varicap	BB164
1T379	SONY	Varicap	BB131
1T397	SONY	Varicap	BB152
1T399	SONY	Varicap	BB148
1T402	SONY	Varicap	BB179 B
1T403	SONY	Varicap	BB178
1T404A	SONY	Varicap	BB187
1T405 A	SONY	Varicap	BB187
1T406	SONY	Varicap	BB182
1T407	SONY	Varicap	BB182B
1T408	SONY	Varicap	BB187
1T412	SONY	Varicap	BB412
1T417	SONY	Varicap	BB417
2N3330	INDUSTRY STANDARD	J-Fet	J176
2N3331	INDUSTRY STANDARD	J-Fet	J176
2N4091	INDUSTRY STANDARD	J-Fet	PN4391
2N4092	INDUSTRY STANDARD	J-Fet	PN4392
2N4093	INDUSTRY STANDARD	J-Fet	PN4393
2N4220	INDUSTRY STANDARD	J-Fet	BF245A
2N4391	INDUSTRY STANDARD	J-Fet	PN4391
2N4392	INDUSTRY STANDARD	J-Fet	PN4392
2N4393	INDUSTRY STANDARD	J-Fet	PN4393
2N4416	INDUSTRY STANDARD	J-Fet	PMBF4416
2N4856	INDUSTRY STANDARD	J-Fet	BSR56
2N4857	INDUSTRY STANDARD	J-Fet	BSR57
2N4858	INDUSTRY STANDARD	J-Fet	BSR58
2N5114	INDUSTRY STANDARD	J-Fet	J174
2N5115	INDUSTRY STANDARD	J-Fet	J175
2N5116	INDUSTRY STANDARD	J-Fet	J175
2N5432	INDUSTRY STANDARD	J-Fet	J108
2N5433	INDUSTRY STANDARD	J-Fet	J108
2N5434	INDUSTRY STANDARD	J-Fet	J109
2N5457	INDUSTRY STANDARD	J-Fet	BF245A
2N5458	INDUSTRY STANDARD	J-Fet	BF245A
2N5459	INDUSTRY STANDARD	J-Fet	BF245B
2N5484	INDUSTRY STANDARD	J-Fet	PMBF5484
2N5485	INDUSTRY STANDARD	J-Fet	PMBF5485
2N5486	INDUSTRY STANDARD	J-Fet	PMBF5486
2N5638	INDUSTRY STANDARD	J-Fet	PN4391

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
2N5639	INDUSTRY STANDARD	J-Fet	PN4392
2N5640	INDUSTRY STANDARD	J-Fet	PN4393
2N5653	INDUSTRY STANDARD	J-Fet	J112
2N5654	INDUSTRY STANDARD	J-Fet	J111
2SC4092	NEC	Wide band transistor	BFG67/XR
2SC4093	NEC	Wide band transistor	BFG67/XR
2SC4094	NEC	Wide band transistor	BFG520/XR
2SC4095	NEC	Wide band transistor	BFG520/XR
2SC4182	NEC	Wide band transistor	BFS17W
2SC4184	NEC	Wide band transistor	BFS17W
2SC4185	NEC	Wide band transistor	BFS17W
2SC4186	NEC	Wide band transistor	BFR92AW
2SC4226	NEC	Wide band transistor	PRF957
2SC4227	NEC	Wide band transistor	BFQ67W
2SC4228	NEC	Wide band transistor	BFS505
2SC4247	TOSHIBA	Wide band transistor	BFR92AW
2SC4248	TOSHIBA	Wide band transistor	BFR92AW
2SC4315	TOSHIBA	Wide band transistor	BFG520/XR
2SC4320	TOSHIBA	Wide band transistor	BFG520/XR
2SC4321	TOSHIBA	Wide band transistor	BFQ67W
2SC4325	TOSHIBA	Wide band transistor	BFS505
2SC4394	TOSHIBA	Wide band transistor	PRF957
2SC4463	HITACHI	Wide band transistor	BF547W
2SC4536	NEC	Wide band transistor	BFQ19
2SC4537	HITACHI	Wide band transistor	BFR93AW
2SC4592	HITACHI	Wide band transistor	BFG520/XR
2SC4593	HITACHI	Wide band transistor	BFS520
2SC4703	NEC	Wide band transistor	BFQ19
2SC4784	HITACHI	Wide band transistor	BFS505
2SC4807	HITACHI	Wide band transistor	BFQ18A
2SC4842	TOSHIBA	Wide band transistor	BFG540W/XR
2SC4899	HITACHI	Wide band transistor	BFS505
2SC4900	HITACHI	Wide band transistor	BFG520/XR
2SC4901	HITACHI	Wide band transistor	BFS520
2SC4988	HITACHI	Wide band transistor	BFQ540
2SC5011	NEC	Wide band transistor	BFG540W/XR
2SC5012	NEC	Wide band transistor	BFG540W/XR
2SC5065	TOSHIBA	Wide band transistor	PRF957
2SC5085	TOSHIBA	Wide band transistor	PRF957
2SC5087	TOSHIBA	Wide band transistor	BFG520/XR
2SC5088	TOSHIBA	Wide band transistor	BFG540W/XR
2SC5090	TOSHIBA	Wide band transistor	BFS520
2SC5092	TOSHIBA	Wide band transistor	BFG520/XR
2SC5095	TOSHIBA	Wide band transistor	BFS505
2SC5107	TOSHIBA	Wide band transistor	BFS505
2SC5463	TOSHIBA	Wide band transistor	BFQ67W
2SC5593	HITACHI	Wide band transistor	BFG410W
2SC5594	HITACHI	Wide band transistor	BFG425W
2SC5623	HITACHI	Wide band transistor	BFG410W
2SC5624	HITACHI	Wide band transistor	BFG425W
2SC5631	HITACHI	Wide band transistor	BFQ540
2SJ105GR	INDUSTRY STANDARD	J-Fet	J177

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
2SK108	INDUSTRY STANDARD	J-Fet	PN4392
2SK147BL	INDUSTRY STANDARD	J-Fet	PN4393
2SK162-K	INDUSTRY STANDARD	J-Fet	PN4393
2SK162-L	INDUSTRY STANDARD	J-Fet	PN4393
2SK162-M	INDUSTRY STANDARD	J-Fet	PN4393
2SK162-N	INDUSTRY STANDARD	J-Fet	PN4393
2SK163-K	INDUSTRY STANDARD	J-Fet	J113
2SK163-L	INDUSTRY STANDARD	J-Fet	J113
2SK163-M	INDUSTRY STANDARD	J-Fet	J113
2SK163-N	INDUSTRY STANDARD	J-Fet	J113
2SK170BL	INDUSTRY STANDARD	J-Fet	PN4393
2SK170GR	INDUSTRY STANDARD	J-Fet	PN4393
2SK170V	INDUSTRY STANDARD	J-Fet	PN4393
2SK170Y	INDUSTRY STANDARD	J-Fet	PN4393
2SK197D	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK197E	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK2090	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK209BL	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK209GR	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK209Y	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK210BL	INDUSTRY STANDARD	J-Fet	PMBF309
2SK210GR	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK2110	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK211GR	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK211Y	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK212	INDUSTRY STANDARD	J-Fet	PN4393
2SK217D	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK217E	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK223	INDUSTRY STANDARD	J-Fet	PN4393
2SK242E	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK242F	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK370BL	INDUSTRY STANDARD	J-Fet	J109
2SK370GR	INDUSTRY STANDARD	J-Fet	J109
2SK370V	INDUSTRY STANDARD	J-Fet	J109
2SK381	INDUSTRY STANDARD	J-Fet	J113
2SK425	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK426	INDUSTRY STANDARD	J-Fet	PMBF4416
2SK43	INDUSTRY STANDARD	J-Fet	J113
2SK435	INDUSTRY STANDARD	J-Fet	J113
2SK508	INDUSTRY STANDARD	J-Fet	PMBF308
3SK290	HITACHI	Mos-Fet	BF998VVR
3SK322	HITACHI	Mos-Fet	BF990A
40894	INDUSTRY STANDARD	J-Fet	BFR30
40895	INDUSTRY STANDARD	J-Fet	BFR30
40896	INDUSTRY STANDARD	J-Fet	BFR30
40897	INDUSTRY STANDARD	J-Fet	BFR30
BA592	SIEMENS	Band switch diode	BA591
BA592	INFINEON	Pin diode	BA591
BA595	INFINEON	Pin diode	BAP70-03
BA597	INFINEON	Pin diode	BAP70-03
BA885	INFINEON	Pin diode	BAP70-03
BA892	SIEMENS	Band switch diode	BA891

# Cross Reference RF discretetes

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
BA892	INFINEON	Pin diode	BA891
BA895	INFINEON	Pin diode	BAP70-02
BAR14-1	INFINEON	Pin diode	BAP70-03
BAR15-1	INFINEON	Pin diode	BAP70-03
BAR16-1	INFINEON	Pin diode	BAP70-03
BAR17	INFINEON	Pin diode	BAP50-03
BAR60	INFINEON	Pin diode	BAP50-03
BAR61	INFINEON	Pin diode	BAP50-03
BAR63	INFINEON	Pin diode	BAP63-03
BAR63-02L	INFINEON	Pin diode	BAP63-02
BAR63-02V	INFINEON	Pin diode	BAP63-02
BAR63-02W	INFINEON	Pin diode	BAP63-02
BAR63-03W	INFINEON	Pin diode	BAP63-03
BAR63-05	INFINEON	Pin diode	BAP63-05W
BAR63-05W	INFINEON	Pin diode	BAP63-05W
BAR64-02V	INFINEON	Pin diode	BAP64-02
BAR64-02W	INFINEON	Pin diode	BAP64-02
BAR64-03W	INFINEON	Pin diode	BAP64-03
BAR64-04	INFINEON	Pin diode	BAP64-04
BAR64-04W	INFINEON	Pin diode	BAP64-04W
BAR64-05	INFINEON	Pin diode	BAP64-05
BAR64-05W	INFINEON	Pin diode	BAP64-05W
BAR64-06	INFINEON	Pin diode	BAP64-06
BAR64-06W	INFINEON	Pin diode	BAP64-06W
BAR65-02V	INFINEON	Pin diode	BAP65-02
BAR65-02W	INFINEON	Pin diode	BAP65-02
BAR65-03W	INFINEON	Pin diode	BAP65-03
BAR66	INFINEON	Pin diode	BAP1321-04
BAR67-02L	INFINEON	Pin diode	BAP1321-01
BAR67-02W	INFINEON	Pin diode	BAP1321-02
BAR67-03W	INFINEON	Pin diode	BAP1321-03
BAT18	INFINEON	Pin diode	BAT18
BB304C	HITACHI	Mos-Fet	BF1201WR
BB304M	HITACHI	Mos-Fet	BF1201R
BB305C	HITACHI	Mos-Fet	BF1201WR
BB305M	HITACHI	Mos-Fet	BF1201R
BB403M	HITACHI	Mos-Fet	BF909R
BB501C	HITACHI	Mos-Fet	BF1202VWR
BB501M	HITACHI	Mos-Fet	BF1202R
BB502C	HITACHI	Mos-Fet	BF1202VWR
BB502M	HITACHI	Mos-Fet	BF1202R
BB503C	HITACHI	Mos-Fet	BF1202VWR
BB503M	HITACHI	Mos-Fet	BF1202R
BB535	INFINEON	Varicap	BB134
BB535	INFINEON	Varicap	BB149
BB545	INFINEON	Varicap	BB149A
BB555	INFINEON	Varicap	BB179B
BB565	INFINEON	Varicap	BB179
BB601M	HITACHI	Mos-Fet	BF1202
BB639	INFINEON	Varicap	BB133
BB639	INFINEON	Varicap	BB148
BB639	INFINEON	Varicap	BB153

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
BB640	INFINEON	Varicap	BB132
BB640	INFINEON	Varicap	BB152
BB640	INFINEON	Varicap	BB164
BB641	INFINEON	Varicap	BB132
BB641	INFINEON	Varicap	BB152
BB641	INFINEON	Varicap	BB164
BB659	INFINEON	Varicap	BB155
BB659	INFINEON	Varicap	BB178
BB664	INFINEON	Varicap	BB178
BB664	INFINEON	Varicap	BB187
BB814	INFINEON	Varicap	BB201
BB831	INFINEON	Varicap	BB131
BB833	INFINEON	Varicap	BB131
BB835	INFINEON	Varicap	BB131
BBY51	INFINEON	Varicap	BB141
BBY51-03W	INFINEON	Varicap	BB142
BBY53	INFINEON	Varicap	BB143
BBY53-03W	INFINEON	Varicap	BB143
BBY55-03W	INFINEON	Varicap	BB190
BBY66-05	INFINEON	Varicap	BB200
BF1005S	INFINEON	Mos-Fet	BF1105
BF1009S	INFINEON	Mos-Fet	BF1109
BF1009SW	INFINEON	Mos-Fet	BF1109WR
BF2030	INFINEON	Mos-Fet	BF1101
BF2030R	INFINEON	Mos-Fet	BF1101R
BF2030W	INFINEON	Mos-Fet	BF1101WR
BF2040	INFINEON	Mos-Fet	BF909(A)
BF2040W	INFINEON	Mos-Fet	BF909(A)WR
BF244A	INDUSTRY STANDARD	J-Fet	BF245A
BF244B	INDUSTRY STANDARD	J-Fet	BF245B
BF244C	INDUSTRY STANDARD	J-Fet	BF245C
BF247A	INDUSTRY STANDARD	J-Fet	J108
BF247B	INDUSTRY STANDARD	J-Fet	J108
BF247C	INDUSTRY STANDARD	J-Fet	J108
BF256A	INDUSTRY STANDARD	J-Fet	BF245A
BF256B	INDUSTRY STANDARD	J-Fet	BF245B
BF256C	INDUSTRY STANDARD	J-Fet	BF245C
BF770A	INFINEON	Wide band transistor	BFR93A
BF771	INFINEON	Wide band transistor	PBR951
BF771W	INFINEON	Wide band transistor	BF5540
BF772	INFINEON	Wide band transistor	BFG540
BF775	INFINEON	Wide band transistor	BFR92A
BF775A	INFINEON	Wide band transistor	BFR92A
BF775W	INFINEON	Wide band transistor	BFR92AW
BF799	INFINEON	Wide band transistor	BF747
BF799	INFINEON	Wide band transistor	BF747
BF799W	INFINEON	Wide band transistor	BF547W
BF851A	INDUSTRY STANDARD	J-Fet	BF861A
BF851B	INDUSTRY STANDARD	J-Fet	BF861B
BF851C	INDUSTRY STANDARD	J-Fet	BF861C
BF994S	VISHAY	Mos-Fet	BF994S
BF996S	VISHAY	Mos-Fet	BF996S

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
BF998	INFINEON	Mos-Fet	BF998
BF998	VISHAY	Mos-Fet	BF998
BF998R	VISHAY	Mos-Fet	BF998R
BF998RW	VISHAY	Mos-Fet	BF998VWR
BF998WV	INFINEON	Mos-Fet	BF998VWR
BFG135A	INFINEON	Wide band transistor	BFG135
BFG193	INFINEON	Wide band transistor	BFG198
BFG194	INFINEON	Wide band transistor	BFG31
BFG196	INFINEON	Wide band transistor	BFG541
BFG19S	INFINEON	Wide band transistor	BFG97
BFG235	INFINEON	Wide band transistor	BFG135
BFP180	INFINEON	Wide band transistor	BFG505/X
BFP181	INFINEON	Wide band transistor	BFG67/X
BFP182	INFINEON	Wide band transistor	BFG67/X
BFP182R	INFINEON	Wide band transistor	BFG67/XR
BFP183	INFINEON	Wide band transistor	BFG520/X
BFP183R	INFINEON	Wide band transistor	BFG520/XR
BFP193	INFINEON	Wide band transistor	BFG540/X
BFP193W	INFINEON	Wide band transistor	BFG540W/XR
BFP196W	INFINEON	Wide band transistor	BFG540W/XR
BFP280	INFINEON	Wide band transistor	BFG505/X
BFP405	INFINEON	Wide band transistor	BFG410W
BFP420	INFINEON	Wide band transistor	BFG425W
BFP450	INFINEON	Wide band transistor	BFG480W
BFP520	INFINEON	Wide band transistor	BFU540
BFP81	INFINEON	Wide band transistor	BFG92A/X
BFP93A	INFINEON	Wide band transistor	BFG93A/X
BFQ193	INFINEON	Wide band transistor	BFQ540
BFQ19S	INFINEON	Wide band transistor	BFQ19
BFR106	INFINEON	Wide band transistor	BFR106
BFR180	INFINEON	Wide band transistor	BFR505
BFR180W	INFINEON	Wide band transistor	BFS505
BFR181	INFINEON	Wide band transistor	BFR520
BFR181W	INFINEON	Wide band transistor	BFS520
BFR182	INFINEON	Wide band transistor	PBR941
BFR182W	INFINEON	Wide band transistor	PRF947
BFR183	INFINEON	Wide band transistor	PBR951
BFR183W	INFINEON	Wide band transistor	PRF957
BFR193	INFINEON	Wide band transistor	PBR951
BFR193W	INFINEON	Wide band transistor	PRF957
BFR35AP	INFINEON	Wide band transistor	BFR92A
BFR92AL	MOTOROLA	Wide band transistor	BFR92A
BFR92P	INFINEON	Wide band transistor	BFR92A
BFR92W	INFINEON	Wide band transistor	BFR92AW
BFR93A	INFINEON	Wide band transistor	BFR93A
BFR93AL	MOTOROLA	Wide band transistor	BFR93A
BFR93AW	INFINEON	Wide band transistor	BFR93AW
BFS17L	MOTOROLA	Wide band transistor	BFS17
BFS17L	MOTOROLA	Wide band transistor	BFS17
BFS17P	INFINEON	Wide band transistor	BFS17A
BFS17W	INFINEON	Wide band transistor	BFS17W
BFS481	INFINEON	Wide band transistor	BFM505

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
BFS483	INFINEON	Wide band transistor	BFM520
BFT92	INFINEON	Wide band transistor	BFT92
BFT93	INFINEON	Wide band transistor	BFT93
BIC701C	HITACHI	Mos-Fet	BF1105WVR
BIC701M	HITACHI	Mos-Fet	BF1105R
BIC702C	HITACHI	Mos-Fet	BF1105WVR
BIC702M	HITACHI	Mos-Fet	BF1105R
BIC801M	HITACHI	Mos-Fet	BF1105
BSR111	INDUSTRY STANDARD	J-Fet	PMBFJ111
BSR112	INDUSTRY STANDARD	J-Fet	PMBFJ112
BSR113	INDUSTRY STANDARD	J-Fet	PMBFJ113
BSR174	INDUSTRY STANDARD	J-Fet	PMBFJ174
BSR175	INDUSTRY STANDARD	J-Fet	PMBFJ175
BSR176	INDUSTRY STANDARD	J-Fet	PMBFJ176
BSR177	INDUSTRY STANDARD	J-Fet	PMBFJ177
HBFP0405	AGILENT	Wide band transistor	BFG410W
HBFP0420	AGILENT	Wide band transistor	BFG425W
HBFP0450	AGILENT	Wide band transistor	BFG480W
HSC277	HITACHI	Band swith diode	BA277
HSC277	HITACHI	Pin diode	BA277
HSMP3800	AGILENT	Pin diode	BAP70-03
HSMP3802	AGILENT	Pin diode	BAP50-04
HSMP3804	AGILENT	Pin diode	BAP50-05
HSMP3810	AGILENT	Pin diode	BAP50-03
HSMP3814	AGILENT	Pin diode	BAP50-05
HSMP381B	AGILENT	Pin diode	BAP50-03
HSMP381C	AGILENT	Pin diode	BAP50-05
HSMP381F	AGILENT	Pin diode	BAP64-05W
HSMP3820	AGILENT	Pin diode	BAP1321-03
HSMP3822	AGILENT	Pin diode	BAP1321-04
HSMP3830	AGILENT	Pin diode	BAP64-03
HSMP3832	AGILENT	Pin diode	BAP64-04
HSMP3833	AGILENT	Pin diode	BAP64-06
HSMP3834	AGILENT	Pin diode	BAP64-05
HSMP3860	AGILENT	Pin diode	BAP50-03
HSMP3862	AGILENT	Pin diode	BAP50-04
HSMP3864	AGILENT	Pin diode	BAP50-05
HSMP386B	AGILENT	Pin diode	BAP50-02
HSMP386E	AGILENT	Pin diode	BAP50-04W
HSMP386L	AGILENT	Pin diode	BAP50-05W
HSMP3880	AGILENT	Pin diode	BAP51-03
HSMP3890	AGILENT	Pin diode	BAP51-03
HSMP3892	AGILENT	Pin diode	BAP64-04
HSMP3894	AGILENT	Pin diode	BAP64-05
HSMP3895	AGILENT	Pin diode	BAP51-02
HSMP389B	AGILENT	Pin diode	BAP51-02
HSMP389C	AGILENT	Pin diode	BAP64-04
HSMP389F	AGILENT	Pin diode	BAP51-05W
HSU277	HITACHI	Band swith diode	BA951
HVB14S	HITACHI	Pin diode	BAP50-04W
HVC131	HITACHI	Pin diode	BAP65-02
HVC132	HITACHI	Pin diode	BAP51-02

# Cross Reference RF discretetes

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
HVC200A	HITACHI	Varicap	BB178
HVC200A	HITACHI	Varicap	BB187
HVC202A	HITACHI	Varicap	BB179
HVC202B	HITACHI	Varicap	BB179B
HVC300A	HITACHI	Varicap	BB182
HVC300A	HITACHI	Varicap	BB182
HVC300B	HITACHI	Varicap	BB182
HVC300B	HITACHI	Varicap	BB182B
HVC306A	HITACHI	Varicap	BB187
HVC306B	HITACHI	Varicap	BB187
HVC355	HITACHI	Varicap	BB145
HVC355B	HITACHI	Varicap	BB145B
HVC363A	HITACHI	Varicap	BB178
HVC369B	HITACHI	Varicap	BB143
HVC372B	HITACHI	Varicap	BB151
HVD131	HITACHI	Pin diode	BAP65-01
HVD132	HITACHI	Pin diode	BAP51-02
HVD139	HITACHI	Pin diode	BAP63-01
HVD142	HITACHI	Pin diode	BAP63-01
HVU131	HITACHI	Pin diode	BAP65-03
HVU132	HITACHI	Pin diode	BAP51-03
HVU200A	HITACHI	Varicap	BB133
HVU202(A)	HITACHI	Varicap	BB149
HVU202(A)	HITACHI	Varicap	BB149A
HVU202A	HITACHI	Varicap	BB134
HVU300A	HITACHI	Varicap	BB132
HVU300A	HITACHI	Varicap	BB152
HVU300A	HITACHI	Varicap	BB164
HVU306A	HITACHI	Varicap	BB133
HVU315	HITACHI	Varicap	BB148
HVU316	HITACHI	Varicap	BB131
HVU356	HITACHI	Varicap	BB155
HVU363A	HITACHI	Varicap	BB133
HVU363A	HITACHI	Varicap	BB148
HVU363A	HITACHI	Varicap	BB153
HVU363B	HITACHI	Varicap	BB148
J201	INDUSTRY STANDARD	J-Fet	BF410A
J202	INDUSTRY STANDARD	J-Fet	BF410B
J203	INDUSTRY STANDARD	J-Fet	BF410C
J204	INDUSTRY STANDARD	J-Fet	BF410D
J270	INDUSTRY STANDARD	J-Fet	J177
J308	INDUSTRY STANDARD	J-Fet	J108
J309	INDUSTRY STANDARD	J-Fet	J109
J310	INDUSTRY STANDARD	J-Fet	J110
JDP2S01E	TOSHIBA	Pin diode	BAP65-02
JDP2S01U	TOSHIBA	Pin diode	BAP65-03
JDP2S02S	TOSHIBA	Pin diode	BAP63-01
JDP2S02T	TOSHIBA	Pin diode	BAP63-02
JDP2S04E	TOSHIBA	Pin diode	BAP50-02
KV1470	TOKO	Varicap	BB200
MA2S077	INDUSTRY STANDARD	Band swith diode	BA277
MA2S357	MATSUSHITA	Varicap	BB178

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
MA2S357	MATSUSHITA	Varicap	BB187
MA2S372	MATSUSHITA	Varicap	BB179
MA2S374	MATSUSHITA	Varicap	BB182
MA357	MATSUSHITA	Varicap	BB153
MA366	MATSUSHITA	Varicap	BB133
MA366	MATSUSHITA	Varicap	BB148
MA368	MATSUSHITA	Varicap	BB131
MA372	MATSUSHITA	Varicap	BB149
MA372	MATSUSHITA	Varicap	BB149A
MA374	MATSUSHITA	Varicap	BB164
MA377	MATSUSHITA	Varicap	BB141
MA4CP101A	MATSUSHITA	Pin diode	BAP65-03
MA4P274-1141	MATSUSHITA	Pin diode	BAP51-03
MA4P275-1141	MATSUSHITA	Pin diode	BAP65-03
MA4P275CK-287	MATSUSHITA	Pin diode	BAP65-05
MA4P277-1141	MATSUSHITA	Pin diode	BAP70-03
MA4P278-287	MATSUSHITA	Pin diode	BAP70-03
MA4P789-1141	MATSUSHITA	Pin diode	BAP1321-03
MA4P789ST-287	MATSUSHITA	Pin diode	BAP1321-04
MMBF4391	INDUSTRY STANDARD	J-Fet	PMBF4391
MMBF4392	INDUSTRY STANDARD	J-Fet	PMBF4392
MMBF4393	INDUSTRY STANDARD	J-Fet	PMBF4393
MMBF4416	INDUSTRY STANDARD	J-Fet	PMBF4416
MMBF4860	INDUSTRY STANDARD	J-Fet	PMBFJ112
MMBF5484	INDUSTRY STANDARD	J-Fet	BFR31
MMBFJ113	INDUSTRY STANDARD	J-Fet	PMBFJ113
MMBFJ174	INDUSTRY STANDARD	J-Fet	PMBFJ174
MMBFJ175	INDUSTRY STANDARD	J-Fet	PMBFJ175
MMBFJ176	INDUSTRY STANDARD	J-Fet	PMBFJ176
MMBFJ177	INDUSTRY STANDARD	J-Fet	PMBFJ177
MMBFJ308	INDUSTRY STANDARD	J-Fet	PMBFJ308
MMBFJ309	INDUSTRY STANDARD	J-Fet	PMBFJ309
MMBFJ310	INDUSTRY STANDARD	J-Fet	PMBFJ310
MMBFU310	INDUSTRY STANDARD	J-Fet	PMBFJ310
MMBR5031L	MOTOROLA	Wide band transistor	BFS17
MMBR5179L	MOTOROLA	Wide band transistor	BFS17A
MMBR571L	MOTOROLA	Wide band transistor	PBR951
MMBR901L	MOTOROLA	Wide band transistor	BFR92A
MMBR911L	MOTOROLA	Wide band transistor	BFR93A
MMBR920L	MOTOROLA	Wide band transistor	BFR93A
MMBR931L	MOTOROLA	Wide band transistor	BFT25A
MMBR941BL	MOTOROLA	Wide band transistor	PBR941
MMBR941L	MOTOROLA	Wide band transistor	PBR941
MMBR951AL	MOTOROLA	Wide band transistor	PBR951
MMBR951L	MOTOROLA	Wide band transistor	PBR951
MPF102	INDUSTRY STANDARD	J-Fet	BF245A
MPF4391	INDUSTRY STANDARD	J-Fet	PN4391
MPF4392	INDUSTRY STANDARD	J-Fet	PN4392
MPF4393	INDUSTRY STANDARD	J-Fet	PN4393
MPF4416	INDUSTRY STANDARD	J-Fet	PN4416
MPF970	INDUSTRY STANDARD	J-Fet	J174
MPF971	INDUSTRY STANDARD	J-Fet	J176

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
MRF577	MOTOROLA	Wide band transistor	PRF957
MRF5811L	MOTOROLA	Wide band transistor	BFG93A/X
MRF917	MOTOROLA	Wide band transistor	BFG67W
MRF927	MOTOROLA	Wide band transistor	BFS25A
MRF9411L	MOTOROLA	Wide band transistor	BFG520/X
MRF947	MOTOROLA	Wide band transistor	BFS520
MRF947A	MOTOROLA	Wide band transistor	PRF947
MRF9511L	MOTOROLA	Wide band transistor	BFG540/X
MRF957	MOTOROLA	Wide band transistor	PRF957
MT4S34U	TOSHIBA	Wide band transistor	BFG410W
PRF947B	MOTOROLA	Wide band transistor	PRF947
PZFJ108	INDUSTRY STANDARD	J-Fet	J108
PZFJ109	INDUSTRY STANDARD	J-Fet	J109
PZFJ110	INDUSTRY STANDARD	J-Fet	J110
RN731V	ROHM	Pin diode	BAP50-03
RN739D	ROHM	Pin diode	BAP50-04
RN739F	ROHM	Pin diode	BAP50-04W
S503T	VISHAY	Mos-Fet	BF909(A)
S503TR	VISHAY	Mos-Fet	BF909(A)R
S503TRW	VISHAY	Mos-Fet	BF909(A)WR
S504T	VISHAY	Mos-Fet	BF904(A)
S504TR	VISHAY	Mos-Fet	BF904(A)R
S504TRW	VISHAY	Mos-Fet	BF904(A)WR
S505T	VISHAY	Mos-Fet	BF1101
S505TR	VISHAY	Mos-Fet	BF1101R
S505TRW	VISHAY	Mos-Fet	BF1101WR
S595T	VISHAY	Mos-Fet	BF1105
S595TR	VISHAY	Mos-Fet	BF1105R
S595TRW	VISHAY	Mos-Fet	BF1105WR
S949T	VISHAY	Mos-Fet	BF1109
S949TR	VISHAY	Mos-Fet	BF1109R
S949TRW	VISHAY	Mos-Fet	BF1109WR
S974T	VISHAY	Mos-Fet	BF1109
S974TR	VISHAY	Mos-Fet	BF1109R
S974TRW	VISHAY	Mos-Fet	BF1109WR
SMP1302-004	ALPHA	Pin diode	BAP50-05
SMP1302-005	ALPHA	Pin diode	BAP50-04
SMP1302-011	ALPHA	Pin diode	BAP50-03
SMP1302-074	ALPHA	Pin diode	BAP50-05W
SMP1302-075	ALPHA	Pin diode	BAP50-04W
SMP1302-079	ALPHA	Pin diode	BAP50-02
SMP1304-001	ALPHA	Pin diode	BAP70-03
SMP1304-011	ALPHA	Pin diode	BAP70-03
SMP1307-001	ALPHA	Pin diode	BAP70-03
SMP1307-011	ALPHA	Pin diode	BAP70-03
SMP1320-004	ALPHA	Pin diode	BAP65-05
SMP1320-011	ALPHA	Pin diode	BAP65-03
SMP1320-074	ALPHA	Pin diode	BAP65-05W
SMP1321-001	ALPHA	Pin diode	BAP1321-03
SMP1321-005	ALPHA	Pin diode	BAP1321-04
SMP1321-011	ALPHA	Pin diode	BAP1321-03
SMP1321-075	ALPHA	Pin diode	BAP1321-04

Manufacturer Type	Manufacturer	Product Type	Closest Philips Type
SMP1321-079	ALPHA	Pin diode	BAP1321-02
SMP1322-004	ALPHA	Pin diode	BAP65-05
SMP1322-011	ALPHA	Pin diode	BAP65-03
SMP1322-074	ALPHA	Pin diode	BAP65-05W
SMP1322-079	ALPHA	Pin diode	BAP65-02
SMP1340-011	ALPHA	Pin diode	BAP63-03
SMP1340-079	ALPHA	Pin diode	BAP63-02
SMP1352-011	ALPHA	Pin diode	BAP64-03
SMP1352-079	ALPHA	Pin diode	BAP64-02
SMV1263-079	ALPHA	Varicap	BB143
SST111	INDUSTRY STANDARD	J-Fet	PMBFJ111
SST112	INDUSTRY STANDARD	J-Fet	PMBFJ112
SST113	INDUSTRY STANDARD	J-Fet	PMBFJ113
SST174	INDUSTRY STANDARD	J-Fet	PMBFJ174
SST175	INDUSTRY STANDARD	J-Fet	PMBFJ175
SST176	INDUSTRY STANDARD	J-Fet	PMBFJ176
SST177	INDUSTRY STANDARD	J-Fet	PMBFJ177
SST201	INDUSTRY STANDARD	J-Fet	BFT46
SST202	INDUSTRY STANDARD	J-Fet	BFR31
SST203	INDUSTRY STANDARD	J-Fet	BFR30
SST308	INDUSTRY STANDARD	J-Fet	PMBFJ308
SST309	INDUSTRY STANDARD	J-Fet	PMBFJ309
SST310	INDUSTRY STANDARD	J-Fet	PMBFJ310
SST4391	INDUSTRY STANDARD	J-Fet	PMBF4391
SST4392	INDUSTRY STANDARD	J-Fet	PMBF4392
SST4393	INDUSTRY STANDARD	J-Fet	PMBF4393
SST4416	INDUSTRY STANDARD	J-Fet	PMBF4416
SST4856	INDUSTRY STANDARD	J-Fet	BSR56
SST4857	INDUSTRY STANDARD	J-Fet	BSR57
SST4858	INDUSTRY STANDARD	J-Fet	BSR58
SST4859	INDUSTRY STANDARD	J-Fet	BSR56
SST4860	INDUSTRY STANDARD	J-Fet	BSR57
SST4861	INDUSTRY STANDARD	J-Fet	BSR58
TBB1004	HITACHI	Mos-Fet	BF1203
TMPF4091	INDUSTRY STANDARD	J-Fet	PMBF4391
TMPF4092	INDUSTRY STANDARD	J-Fet	PMBF4392
TMPF4093	INDUSTRY STANDARD	J-Fet	PMBF4393
TMPF4391	INDUSTRY STANDARD	J-Fet	PMBF4391
TMPF4392	INDUSTRY STANDARD	J-Fet	PMBF4392
TMPF4393	INDUSTRY STANDARD	J-Fet	PMBF4393
TMPFB246A	INDUSTRY STANDARD	J-Fet	BSR56
TMPFB246B	INDUSTRY STANDARD	J-Fet	BSR57
TMPFB246C	INDUSTRY STANDARD	J-Fet	BSR58
TMPFJ111	INDUSTRY STANDARD	J-Fet	PMBFJ111
TMPFJ112	INDUSTRY STANDARD	J-Fet	PMBFJ112
TMPFJ113	INDUSTRY STANDARD	J-Fet	PMBFJ113
TMPFJ174	INDUSTRY STANDARD	J-Fet	PMBFJ174
TMPFJ175	INDUSTRY STANDARD	J-Fet	PMBFJ175
TMPFJ176	INDUSTRY STANDARD	J-Fet	PMBFJ176
TMPFJ177	INDUSTRY STANDARD	J-Fet	PMBFJ177
TSDF54040	VISHAY	Mos-Fet	BF1102