

HIGH ISOLATION VOLTAGE 6 PIN OPTOCOUPLER

PS2621
PS2621L
PS2622
PS2622L

FEATURES

- **HIGH ISOLATION VOLTAGE**
BV: 5 k Vr.m.s. MIN
- **LARGE FORWARD INPUT** (current)
IF: 150 mA MAX
- **HIGH COLLECTOR TO EMITTER VOLTAGE**
VCEO: 80 V MIN
- **HIGH SPEED SWITCHING**
tr = 3 μ s, tf = 5 μ s TYP

DESCRIPTION

PS2621, PS2622, PS2621L and PS2622L are optically coupled isolators containing a GaAs light emitting diode and a NPN silicon phototransistor. PS2621 and PS2622 are in a plastic DIP (Dual In-line Package). PS2621L and PS2622L are lead bending type (Gull-wing) for surface mount. PS2621 and PS2621L have a base pin. PS2622 and PS2622L have no base pin.

APPLICATIONS

Interface circuit for various instrumentations and control equipments.

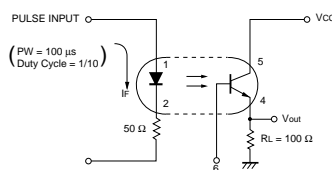
- AC LINE / DIGITAL LOGIC
- DIGITAL LOGIC / DIGITAL LOGIC
- TWISTED PAIR LINE RECEIVER
- TELEPHONE / TELEGRAPH LINE RECEIVER
- HIGH FREQUENCY POWER SUPPLY
FEEDBACK CONTROL

ELECTRICAL CHARACTERISTICS (TA = 25°C)

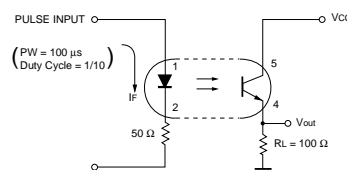
		PART NUMBER	PS2621, PS2621L, PS2622, PS2622L			
	SYMBOLS	PARAMETERS	UNITS	MIN	TYP	MAX
Diode	VF	Forward Voltage, IF = 100 mA	V		1.3	1.7
	IR	Reverse Current, VR = 5 V	μ A			5
	C	Junction Capacitance, V = 0, f = 1.0 MHz	pF		70	
Transistor	ICEO	Collector to Emitter Dark Current, VCE = 80 V, IF = 0	nA			100
	BVCEO	Collector to Emitter Breakdown Voltage, IC = 1 mA, IB = 0	V	80		
	BVECO	Emitter to Collector Breakdown Voltage, IE = 100 μ A, IB = 0	V	7		
Coupled	CTR	Current Transfer Ratio, IF = 100 mA, VCE = 3V	%	20		50
	VCE(sat)	Collector Saturation Voltage, IF = 100 mA, IC = 4 mA	V			0.3
	R1-2	Isolation Resistance, VIN-OUT = 1.0 kV	Ω	10 ¹¹		
	C1-2	Isolation Capacitance, V = 0, f = 1.0 MHz	pF		0.6	
	tr	Rise Time ¹ , VCC = 5 V, IC = 2 mA	μ s		3	
	tf	Fall Time ¹ , VCC = 5 V, IC = 2 mA	μ s		5	

Note:

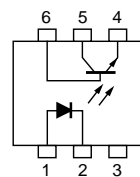
1. Test Circuit for Switching Time



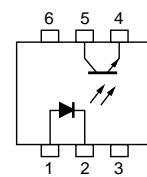
PS2621



PS2622



PS2621



PS2622

ABSOLUTE MAXIMUM RATINGS¹ (T_A = 25°C)

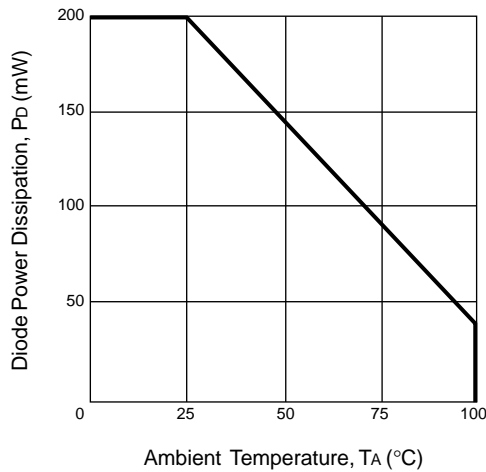
SYMBOLS	PARAMETERS	UNITS	RATINGS
Diode			
V _R	Reverse Voltage	V	6
I _F	Forward Current (DC)	mA	150
P _D	Power Dissipation	mW	200
I _F (PEAK)	Peak Forward Current (PW = 100 μs, Duty Cycle 1%)	A	1
Transistor			
V _{CEO}	Collector to Emitter Voltage	V	80
V _{ECO}	Emitter to Collector Voltage	V	7
I _C	Collector Current	mA	50
P _C	Power Dissipation	mW	150
Coupled			
BV	Isolation Voltage ²	V _{r.m.s.}	5000
T _{STG}	Storage Temperature	°C	-55 to +150
T _{OP}	Operating Temperature	°C	-55 to +100

Notes:

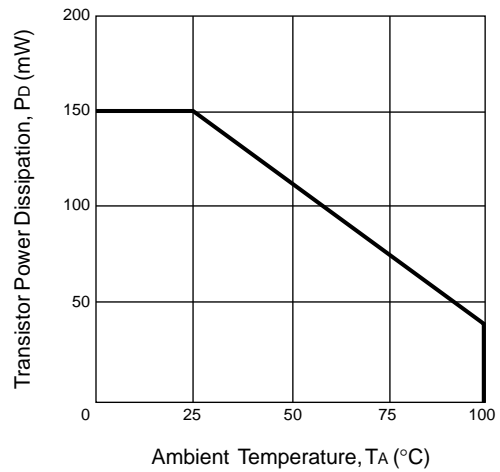
1. Operation in excess of any one of these parameters may result in permanent damage.
2. AC voltage for 1 minute at T_A = 25° C, RH = 60% between input (Pin No. 1, 2, 3 Common) and output (Pin No. 4, 5, 6 Common).

TYPICAL PERFORMANCE CURVES (T_A = 25°C)

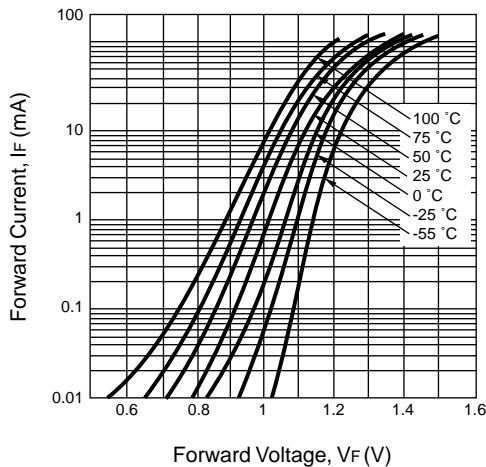
DIODE POWER DISSIPATION vs. AMBIENT TEMPERATURE



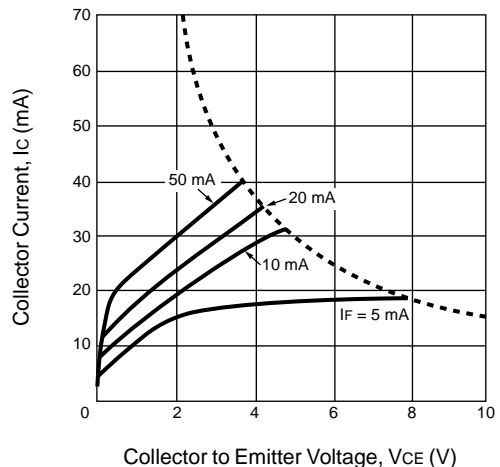
TRANSISTOR POWER DISSIPATION vs. AMBIENT TEMPERATURE



FORWARD CURRENT vs. FORWARD VOLTAGE

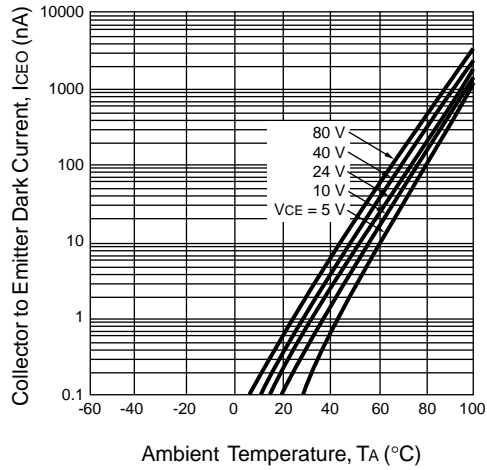


COLLECTOR CURRENT vs. COLLECTOR TO EMITTER VOLTAGE

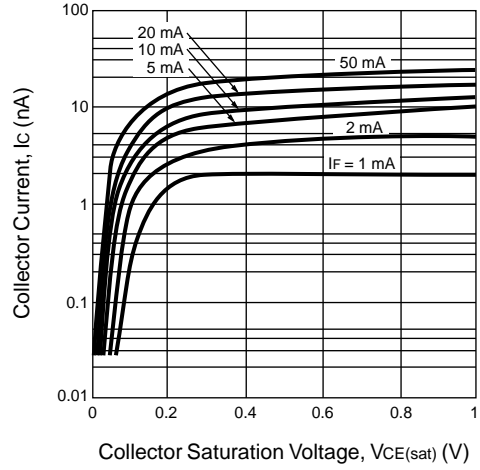


TYPICAL PERFORMANCE CURVES ($T_A = 25^\circ\text{C}$)

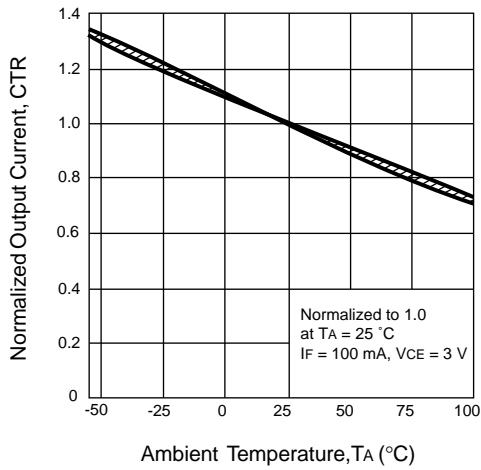
COLLECTOR TO EMITTER DARK CURRENT vs. AMBIENT TEMPERATURE



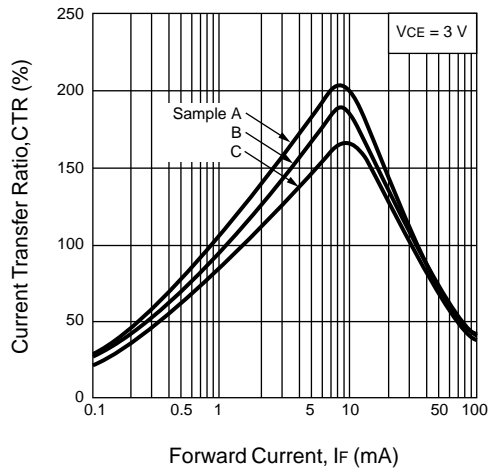
COLLECTOR CURRENT vs. COLLECTOR SATURATION VOLTAGE



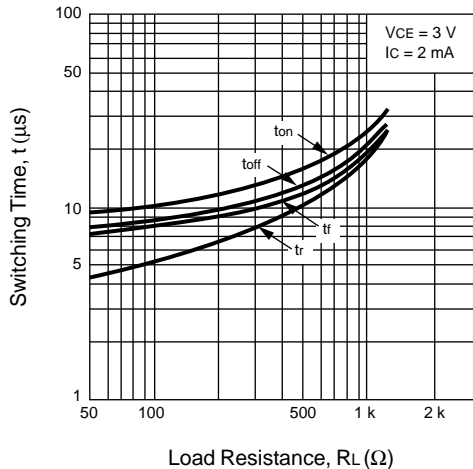
NORMALIZED OUTPUT CURRENT vs. AMBIENT TEMPERATURE



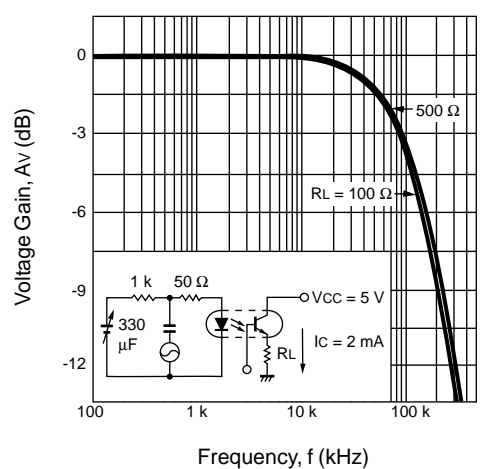
CURRENT TRANSFER RATIO (CTR) vs. FORWARD CURRENT



SWITCHING TIME vs. LOAD RESISTANCE

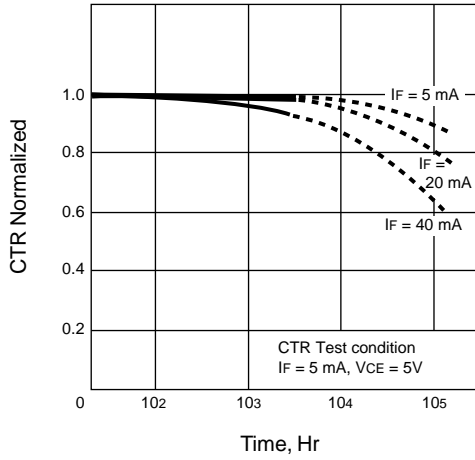


FREQUENCY RESPONSE



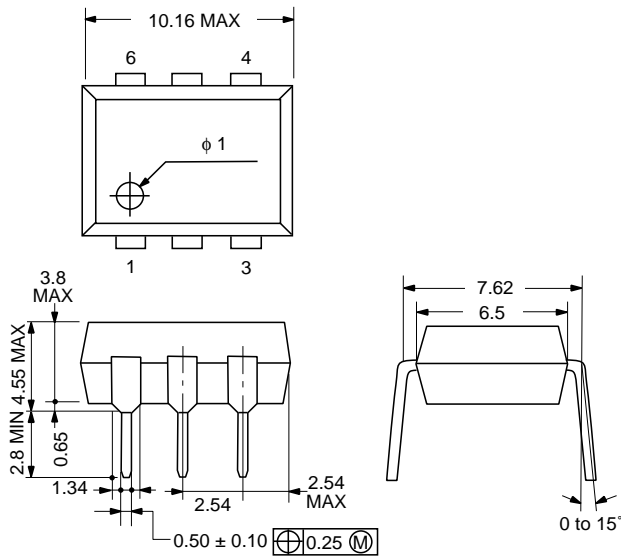
TYPICAL PERFORMANCE CURVES (T_A = 25°C)

CTR DEGRADATION

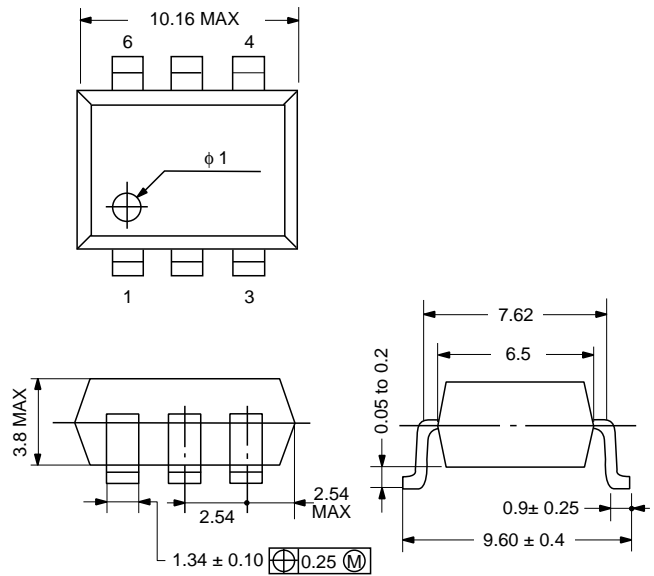


OUTLINE DIMENSIONS (Units in mm)

PS2621, PS2622

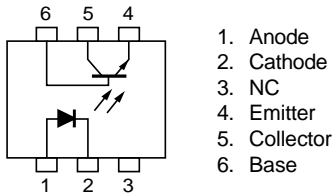


PS2621L, PS2622L



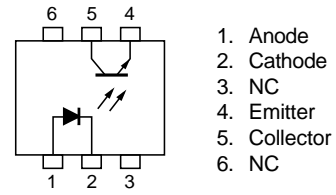
PIN CONNECTIONS (Units in mm)

PS2621, PS2621L



- 1. Anode
- 2. Cathode
- 3. NC
- 4. Emitter
- 5. Collector
- 6. Base

PS2622, PS2622L



- 1. Anode
- 2. Cathode
- 3. NC
- 4. Emitter
- 5. Collector
- 6. NC

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