

TOSHIBA DIODE SILICON EPITAXIAL PLANAR TYPE

# 02DZ2.0~02DZ24

CONSTANT VOLTAGE REGULATION APPLICATIONS.

REFERENCE VOLTAGE APPLICATIONS.

- Small Package
- Nominal voltage tolerance about  $\pm 2.5\%$   
(2.0V~24V)

MAXIMUM RATINGS (Ta = 25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P*	200	mW
Junction Temperature	T <sub>j</sub>	125	°C
Storage Temperature Range	T <sub>stg</sub>	-55~125	°C

\* Mounted on a glass epoxy circuit board of 20×20mm, pad dimension of 4×4mm.

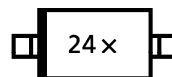
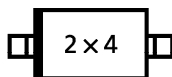
ELECTRICAL CHARACTERISTICS

(See Page 2~3)

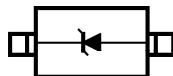
Marking

Example 1 : 02DZ2.4-x

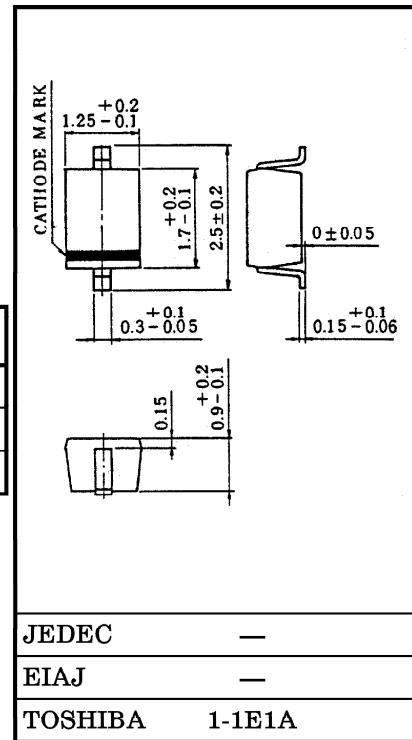
Example 2 : 02DZ24-x



PIN ASSIGNMENT (TOP VIEW)



Unit in mm



Weight : 4.5mg

961001EAA2

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## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE No.		ZENER VOLTAGE			DYNAMIC IMPEDANCE		KNEE DYNAMIC IMPEDANCE		REVERSE CURRENT	
		*V <sub>Z</sub> (V)		I <sub>Z</sub> (mA)	Z <sub>Z</sub> (Ω)	I <sub>Z</sub> (mA)	Z <sub>Zk</sub> (Ω)	I <sub>Z</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)
		MIN.	MAX.		MAX.		MAX.			
02DZ2.0**	X	1.85	2.05	5	100	5	1000	0.5	120	0.5
	Z	1.95	2.15							
02DZ2.2**	X	2.05	2.26	5	100	5	1000	0.5	120	1.0
	Z	2.16	2.38							
02DZ2.4	X	2.28	2.50	5	100	5	1000	0.5	120	1.0
	Z	2.40	2.60							
02DZ2.7	X	2.50	2.75	5	110	5	1000	0.5	120	1.0
	Z	2.65	2.90							
02DZ3.0	X	2.80	3.05	5	120	5	1000	0.5	50	1.0
	Z	2.95	3.20							
02DZ3.3	X	3.10	3.35	5	130	5	1000	0.5	20	1.0
	Z	3.25	3.50							
02DZ3.6	X	3.40	3.65	5	130	5	1000	0.5	10	1.0
	Z	3.55	3.80							
02DZ3.9	X	3.70	3.97	5	130	5	1000	0.5	10	1.0
	Z	3.87	4.10							
02DZ4.3	X	4.00	4.23	5	130	5	1000	0.5	5	1.0
	Y	4.13	4.35							
	Z	4.25	4.50							
02DZ4.7	X	4.40	4.63	5	120	5	1000	0.5	5	1.0
	Y	4.53	4.76							
	Z	4.66	4.90							
02DZ5.1	X	4.80	5.07	5	70	5	1000	0.5	1	1.5
	Y	4.97	5.24							
	Z	5.14	5.40							
02DZ5.6	X	5.30	5.63	5	40	5	900	0.5	1	2.5
	Y	5.43	5.81							
	Z	5.61	6.00							
02DZ6.2	X	5.80	6.20	5	30	5	500	0.5	1	3.0
	Y	6.00	6.39							
	Z	6.19	6.60							

\* : Test time : t=30ms

\*\* : Product by order.

## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE No.		ZENER VOLTAGE			DYNAMIC IMPEDANCE		KNEE DYNAMIC IMPEDANCE		REVERSE CURRENT	
		*V <sub>Z</sub> (V)		I <sub>Z</sub> (mA)	Z <sub>Z</sub> (Ω)	I <sub>Z</sub> (mA)	Z <sub>Zk</sub> (Ω)	I <sub>Z</sub> (mA)	I <sub>R</sub> (μA)	V <sub>R</sub> (V)
		MIN.	MAX.		MAX.		MAX.		MAX.	
02DZ6.8	X	6.40	6.80	5	25	5	150	0.5	0.5	5.0
	Y	6.60	7.02							
	Z	6.82	7.20							
02DZ7.5	X	7.00	7.43	5	23	5	120	0.5	0.5	6.0
	Y	7.23	7.66							
	Z	7.46	7.90							
02DZ8.2	X	7.70	8.16	5	20	5	120	0.5	0.5	6.5
	Y	7.96	8.43							
	Z	8.23	8.70							
02DZ9.1	X	8.50	9.00	5	18	5	120	0.5	0.5	7.0
	Y	8.80	9.30							
	Z	9.10	9.60							
02DZ10	X	9.40	9.93	5	15	5	120	0.5	0.5	8.0
	Y	9.73	10.26							
	Z	10.06	10.60							
02DZ11	X	10.40	10.98	5	15	5	120	0.5	0.5	8.5
	Y	10.73	11.26							
	Z	11.06	11.60							
02DZ12	X	11.40	11.93	5	15	5	110	0.5	0.5	9.0
	Y	11.73	12.26							
	Z	12.06	12.60							
02DZ13	X	12.40	13.08	5	15	5	110	0.5	0.5	10
	Y	12.88	13.57							
	Z	13.37	14.10							
02DZ15	X	13.80	14.63	5	15	5	110	0.5	0.5	11
	Y	14.33	15.11							
	Z	14.81	15.60							
02DZ16	X	15.30	16.10	5	18	5	150	0.5	0.5	12
	Y	15.80	16.60							
	Z	16.30	17.10							
02DZ18	X	16.80	17.76	5	20	5	150	0.5	0.5	14
	Y	17.46	18.43							
	Z	18.13	19.10							

\* : Test time : t=30ms

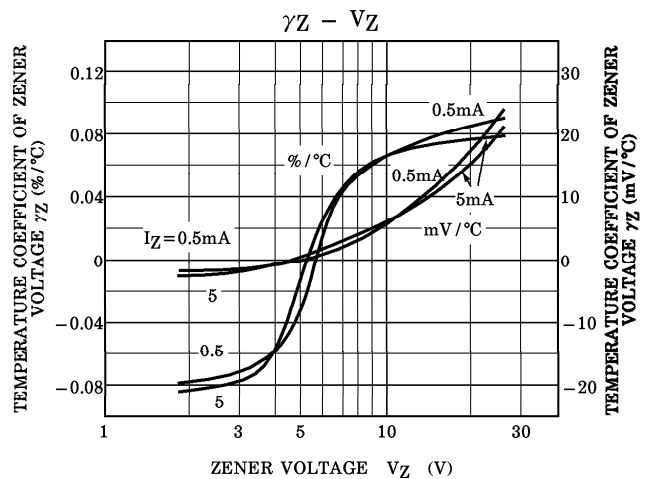
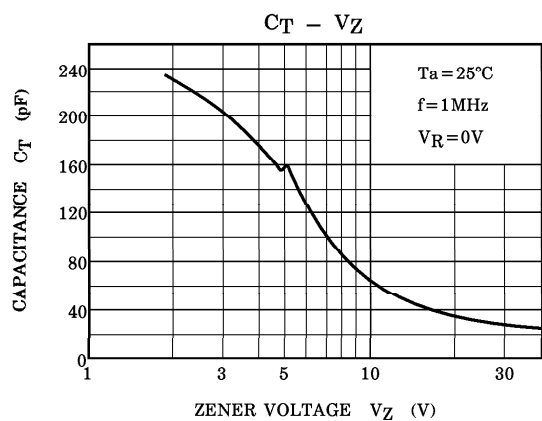
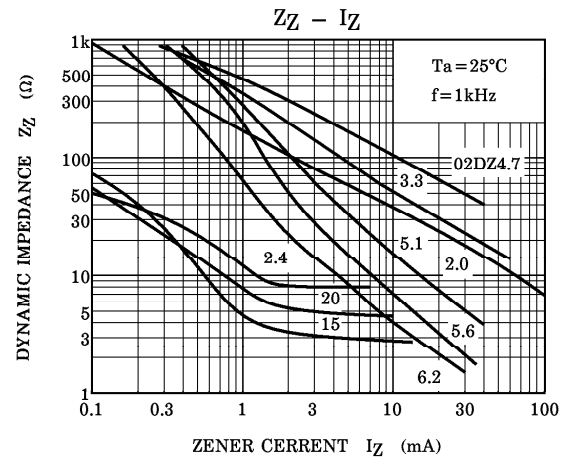
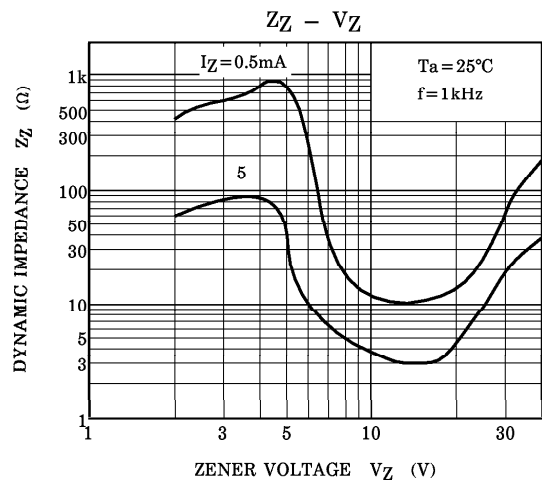
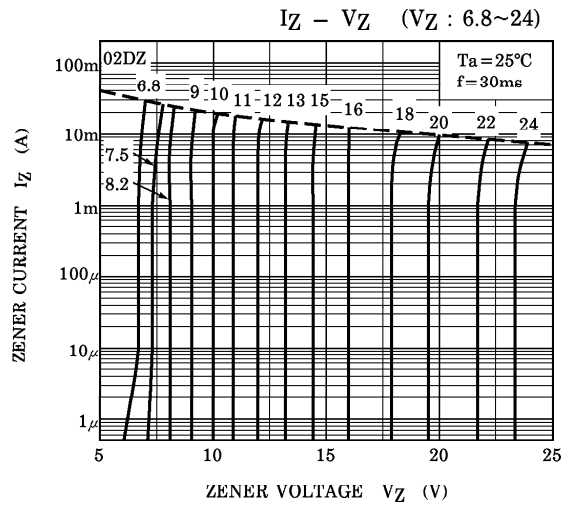
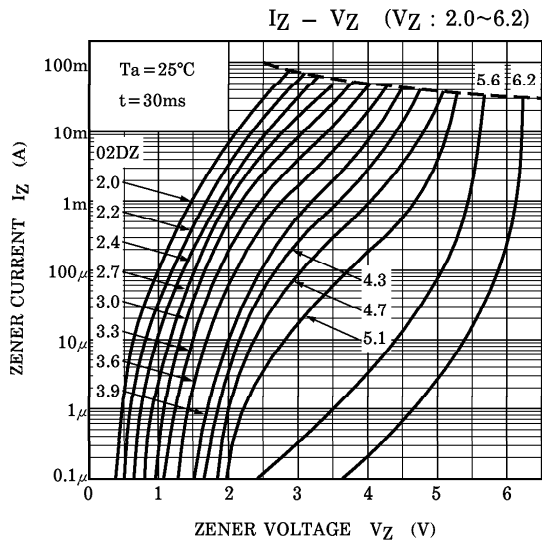
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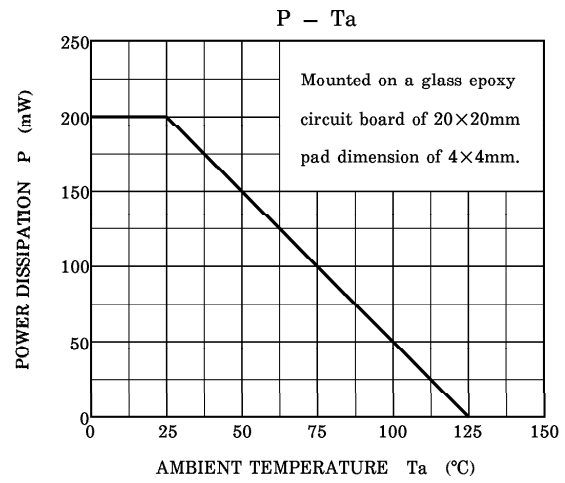
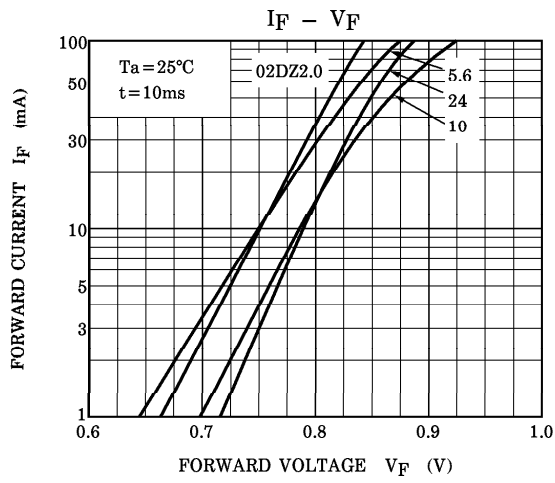
## ELECTRICAL CHARACTERISTICS (Ta = 25°C)

TYPE No.		ZENER VOLTAGE		I <sub>Z</sub> (mA)	DYNAMIC IMPEDANCE		KNEE DYNAMIC IMPEDANCE		REVERSE CURRENT	
		*V <sub>Z</sub> (V)			Z <sub>Z</sub> (Ω)	I <sub>Z</sub>	Z <sub>Zk</sub> (Ω)	I <sub>Z</sub>	I <sub>R</sub> (μA)	V <sub>R</sub>
		MIN.	MAX.		MAX.	(mA)	MAX.	(mA)	MAX.	(V)
02DZ20	X	18.80	19.78	5	25	5	200	0.5	0.5	15
	Y	19.48	20.46							
	Z	20.16	21.20							
02DZ22	X	20.80	21.88	5	30	5	200	0.5	0.5	17
	Y	21.48	22.56							
	Z	22.16	23.30							
02DZ24	X	22.80	24.11	5	40	5	200	0.5	0.5	19
	Y	23.61	24.92							
	Z	24.42	25.60							

\* : Test time : t=30ms

\*\* : Product by order.





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