

1W Zener Diode

PTZ Series

●Applications

- 1) Voltage regulation and voltage limiting
- 2) Voltage surge absorption

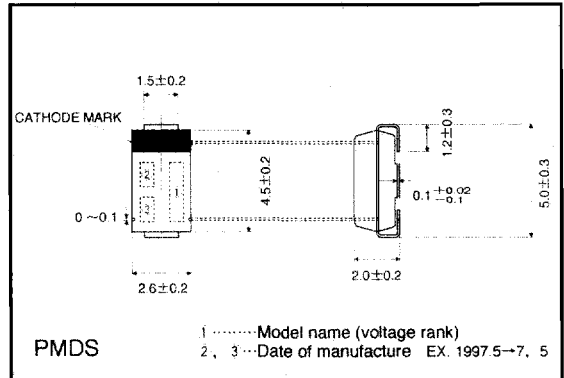
●Features

- 1) Designed for mounting on small surface areas (PMDS)
- 2) 1W of power can be obtained despite compact size
- 3) High surge withstand level

●Construction

Silicon epitaxial planar

●External dimensions (Units: mm)



●Absolute maximum ratings (Ta=25°C)

Parameter	Symbol	Limits	Unit
Power dissipation *	P	1	W
Junction temperature	T _j	150	°C
Storage temperature	T _{stg}	-55~150	°C

* Mounting density of other power components should be taken into consideration when using these products.

●Electrical characteristics (Ta=25°C)

Type	Zener voltage subdivision				Operating resistance		Reverse current	
	Rank	V _Z (V)		I _Z (mA)	Z _Z (Ω)		I _R (μA)	
		Min.	Max.		Max.	I _Z (mA)	Max.	V _R (V)
PTZ 3.6	A	3.400	3.800	40	15	40	60	1.0
	B	3.600	4000					
PTZ 3.9	A	3.700	4.100	40	15	40	40	1.0
	B	3.900	4.400					
PTZ 4.3	A	4.000	4.500	40	15	40	20	1.0
	B	4.300	4.800					
PTZ 4.7	A	4.400	4.900	40	10	40	20	1.0
	B	4.700	5.200					
PTZ 5.1	A	4.800	5.400	40	8	40	20	1.5
	B	5.100	5.700					
PTZ 5.6	A	5.300	6.000	40	8	40	20	1.5
	B	5.600	6.300					
PTZ 6.2	A	5.800	6.600	40	6	40	20	3.0
	B	6.200	7.000					
PTZ 6.8	A	6.400	7.200	40	6	40	20	3.5
	B	6.800	7.700					
PTZ 7.5	A	7.000	7.900	40	4	40	20	4.0
	B	7.500	8.400					
PTZ 8.2	A	7.700	8.700	40	4	40	20	5.0
	B	8.200	9.300					
PTZ 9.1	A	8.500	9.600	40	6	40	20	6.0
	B	9.100	10.200					
PTZ 10	A	9.400	10.600	40	6	40	10	7.0
	B	10.000	11.200					
PTZ 11	A	10.400	11.600	20	8	20	10	8.0
	B	11.000	12.300					
PTZ 12	A	11.400	12.600	20	8	20	10	9.0
	B	12.000	13.500					
PTZ 13	A	12.400	14.100	20	10	20	10	10.0
	B	13.300	15.000					
PTZ 15	A	13.800	15.600	20	10	20	10	11.0
	B	14.700	16.500					
PTZ 16	A	15.300	17.100	20	12	20	10	12.0
	B	16.200	18.300					
PTZ 18	A	16.800	19.100	20	12	20	10	13.0
	B	18.000	20.300					
PTZ 20	A	18.800	21.200	20	14	20	10	15.0
	B	20.000	22.400					
PTZ 22	A	20.800	23.300	10	14	10	10	17.0
	B	22.000	24.500					

(Continued on next page)

Type	Zener voltage subdivision			Operating resistance		Reverse current		
	Rank	Vz (V)		Zz (Ω)		I _R (μ A)		
		Min.	Max.	I _z (mA)	Max.	I _z (mA)	Max.	V _R (V)
PTZ 24	A	22.800	25.600	10	16	10	10	19.0
	B	24.000	27.600					
PTZ 27	A	25.100	28.900	10	16	10	10	21.0
	B	27.000	30.800					
PTZ 30	A	28.000	32.000	10	18	10	10	23.0
	B	30.000	34.000					
PTZ 33	A	31.000	35.000	10	18	10	10	25.0
	B	33.000	37.000					
PTZ 36	A	34.000	38.000	10	20	10	10	27.0
	B	36.000	40.000					
PTZ 39	A	37.000	41.000	10	50	10	10	30.0
PTZ 43	A	40.000	46.000	10	50	10	5	33.0

- Notes) 1. The Zener voltage is measured 40 ms after power is supplied.
 2. The operating resistances (Zz, Zzk) are measured by superimposing a minute alternating current on the regulated current (Iz).
 3. For the Zener voltage subdivisions, the free ranks (A, B, or C) or recommended when ordering.

●Electrical characteristic curves (Ta=25°C)

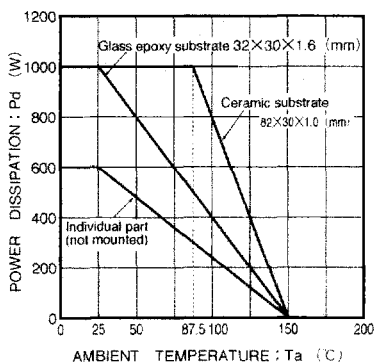


Fig. 1 Derating curve

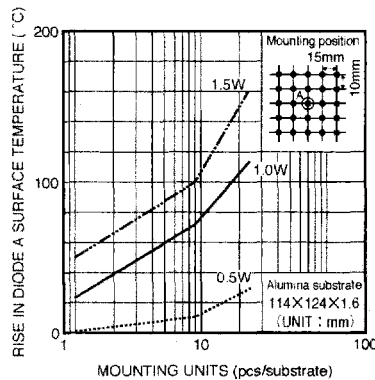


Fig. 2 Rise in surface temperature

If this product is being mounted on a substrate, the density with other power components should be taken into consideration.

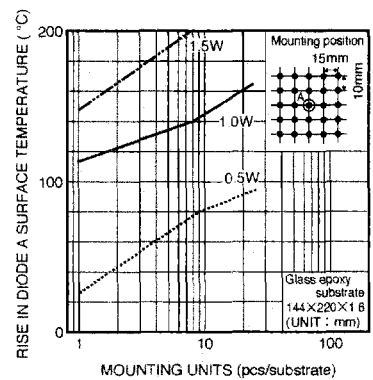


Fig. 3 Rise in surface temperature

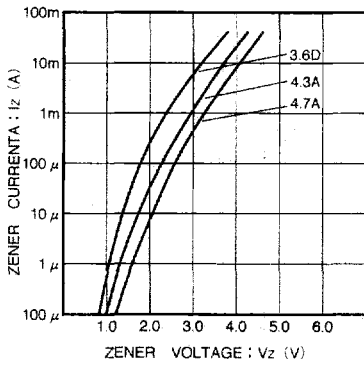


Fig. 4 PTZ2.0~PTZ4.7
Zener characteristics

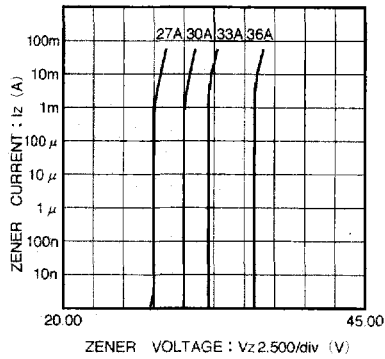


Fig. 5 PTZ27~PTZ36
Zener characteristics

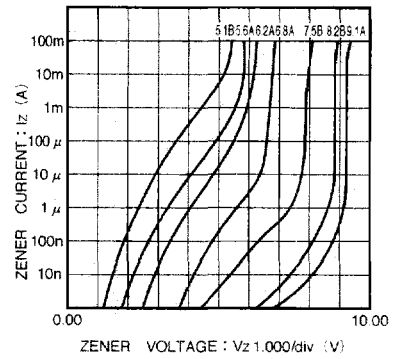


Fig. 6 PTZ5.1~PTZ9.1
Zener characteristics

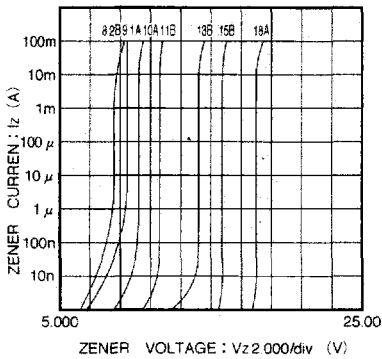


Fig. 7 PTZ8.2~PTZ18
Zener characteristics

Zener diodes

Zener diodes

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