Zener diode
PTZ Series

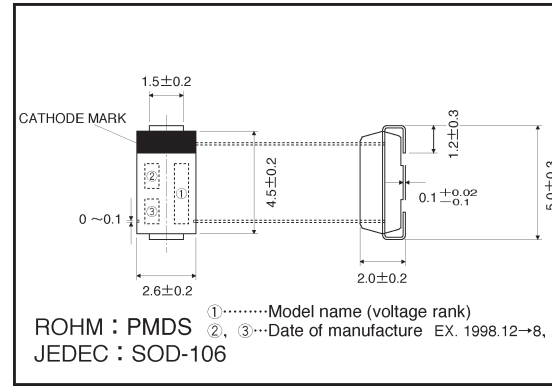
●Applications

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

●Features

1) Small surface mounting type (PMDS)
2) 1W of power can be obtained despite compact size
3) High surge withstand level

●External dimensions (Units: mm)



●Construction

Silicon epitaxial planar

●Absolute maximum ratings (Ta = 25°C)

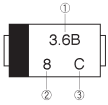
Parameter	Symbol	Limits	Unit
Power dissipation *	P	1	W
Junction temperature	Tj	150	℃
Storage temperature	Tstg	−55～+150	℃

* Mounting density of other power components should be taken into consideration when laying out the pattern.

●Marking (Voltage rank)

Type No.	①	Type No.	①	Type No.	①
PTZ3.6A	3.6 A	PTZ8.2A	8.2 A	PTZ20A	20 A
PTZ3.6B	3.6 B	PTZ8.2B	8.2 B	PTZ20B	20 B
PTZ3.9A	3.9 A	PTZ9.1A	9.1 A	PTZ22A	22 A
PTZ3.9B	3.9 B	PTZ9.1B	9.1 B	PTZ22B	22 B
PTZ4.3A	4.3 A	PTZ10A	10 A	PTZ24A	24 A
PTZ4.3B	4.3 B	PTZ10B	10 B	PTZ24B	24 B
PTZ4.7A	4.7 A	PTZ11A	11 A	PTZ27A	27 A
PTZ4.7B	4.7 B	PTZ11B	11 B	PTZ27B	27 B
PTZ5.1A	5.1 A	PTZ12A	12 A	PTZ30A	30 A
PTZ5.1B	5.1 B	PTZ12B	12 B	PTZ30B	30 B
PTZ5.6A	5.6 A	PTZ13A	13 A	PTZ33A	33 A
PTZ5.6B	5.6 B	PTZ13B	13 B	PTZ33B	33 B
PTZ6.2A	6.2 A	PTZ15A	15 A	PTZ36A	36 A
PTZ6.2B	6.2 B	PTZ15B	15 B	PTZ36B	36 B
PTZ6.8A	6.8 A	PTZ16A	16 A	PTZ39A	39 A
PTZ6.8B	6.8 B	PTZ16B	16 B	PTZ43A	43 A
PTZ7.5A	7.5 A	PTZ18A	18 A	——	——
PTZ7.5B	7.5 B	PTZ18B	18 B	——	——

(Ex.) PTZ3.6B



①Zener voltage category
②Year of manufacture: last digit of Western calendar
③Month of manufacture

Ex.) PTZ3.6B
1998
Dec.

Month	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
Symbol	1	2	3	4	5	6	7	8	9	O	A	C

●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	4.000					
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					

(Continued on next page)

Type	Zener voltage subdivision				Operating resistance		Reverse current	
	Rank	V_Z (V)			Z_Z (Ω)		I_R (μA)	
		Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)
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					
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 (Z_Z, Z_{ZK}) are measured by superimposing a minute alternating current on the regulated current (I_Z).
3. Specify Zener voltage rank (A, B, or C) when ordering the parts.

●Electrical characteristic curves (Ta = 25°C unless specified otherwise)

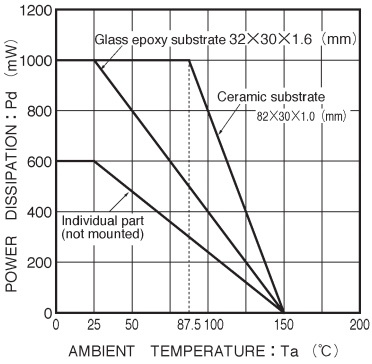


Fig. 1 Derating curve

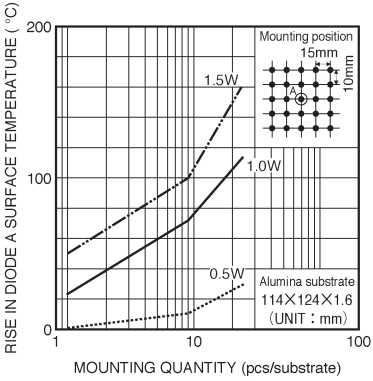


Fig. 2 Rise in surface temperature

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

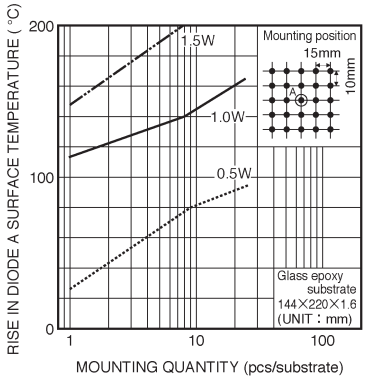


Fig. 3 Rise in surface temperature

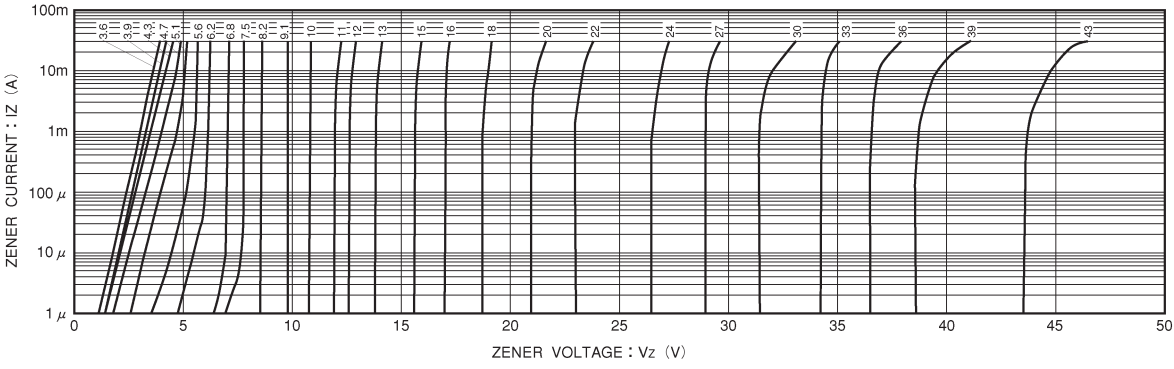


Fig. 4 Zener characteristics