

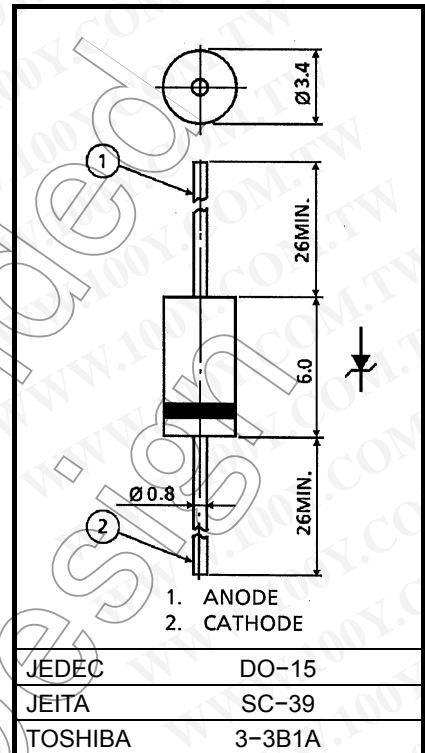
TOSHIBA ZENER DIODE SILICON DIFFUSED JUNCTION TYPE

1Z6.2~1Z390, 1Z6.8A~1Z30A

Unit: mm

CONSTANT VOLTAGE REGULATION TRANSIENT SUPPRESSORS

- Average Power Dissipation : $P = 1 \text{ W}$
- Peak Reverse Power Dissipation : $PRSM = 200 \text{ W}$ at $t_w = 200 \mu\text{s}$
- Zener Voltage : $V_Z = 6.2 \text{ V}$ to 390 V
- Tolerance of Zener Voltage
 1Z6.2 Series : $\pm 10\%$
 1Z6.8A Series : $\pm 5\%$
- Plastic Mold Package



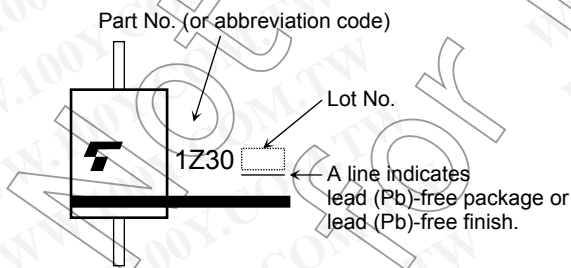
ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Power Dissipation	P	1	W
Junction Temperature	T _j	-40 to 150	°C
Storage Temperature Range	T _{stg}	-40 to 150	°C

Note: Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature/current/voltage, etc.) are within the absolute maximum ratings.
 Please design the appropriate reliability upon reviewing the Toshiba Semiconductor Reliability Handbook ("Handling Precautions"/Derating Concept and Methods) and individual reliability data (i.e. reliability test report and estimated failure rate, etc).

Weight: 0.42g

MARKING



Abbreviation Code	Part No.
1Z30	1Z30

勝特力材料 886-3-5753170
 勝特力电子(上海) 86-21-34970699
 勝特力电子(深圳) 86-755-83298787
[Http://www.100y.com.tw](http://www.100y.com.tw)

ELECTRICAL CHARACTERISTICS (Ta=25°C)

TYPE	ZENER CHARACTERISTICS					TEMPERATURE COEFFICIENT OF ZENER VOLTAGE α_T (mV / °C)		FORWARD VOLTAGE		REVERSE CURRENT	
	ZENER VOLTAGE V_Z (V)			ZENER IMPEDANCE r_d (Ω) MAX.	MEASUREMENT CURRENT I_Z (mA)	TYP.	MAX.	V_F (V) MAX.	MEASUREMENT CURRENT I_F (A)	I_R (μ A) MAX.	MEASUREMENT VOLTAGE V_R (V)
	MIN.	TYP.	MAX.								
1Z6.2	5.6	6.2	6.8	60	10	1.5	2	1.2	0.2	10	3
1Z6.8	6.2	6.8	7.4	60	10	3	4	1.2	0.2	10	2
1Z6.8A	6.45	6.8	7.14								
1Z7.5	6.8	7.5	8.3	30	10	4	5	1.2	0.2	10	4.5
1Z7.5A	7.13	7.5	7.87								
1Z8.2	7.4	8.2	9.1	30	10	4	6	1.2	0.2	10	4.9
1Z8.2A	7.79	8.2	86.1								
1Z9.1	8.2	9.1	10.1	30	10	5	8	1.2	0.2	10	5.5
1Z9.1A	8.65	9.1	9.55								
1Z10	9.0	10	11.0	30	10	6	9	1.2	0.2	10	6
1Z10A	9.5	10	10.5								
1Z11	9.9	11	12.1	30	10	7	11	1.2	0.2	10	7
1Z11A	10.5	11	11.5								
1Z12	10.8	12	13.2	30	10	8	13	1.2	0.2	10	8
1Z12A	11.4	12	12.6								
1Z13	11.7	13	14.3	30	10	9	14	1.2	0.2	10	9
1Z13A	12.4	13	13.6								
1Z15	13.5	15	16.5	30	10	11	17	1.2	0.2	10	10
1Z15A	14.3	15	15.8								
1Z16	14.4	16	17.6	30	10	12	19	1.2	0.2	10	11
1Z16A	15.2	16	16.8								
1Z18	16.2	18	19.8	30	10	14	23	1.2	0.2	10	13
1Z18A	17.1	18	18.9								
1Z20	18.0	20	22.0	30	10	16	26	1.2	0.2	10	14
1Z20A	19.0	20	21								
1Z22	19.8	22	24.2	30	10	18	28	1.2	0.2	10	16
1Z22A	20.9	22	23.1								
1Z24	21.6	24	26.4	30	10	20	32	1.2	0.2	10	17
1Z24A	22.8	24	25.2								
1Z27	24.3	27	29.7	30	10	23	36	1.2	0.2	10	19
1Z27A	25.7	27	28.3								
1Z30	27.0	30	33.0	30	10	25	40	1.2	0.2	10	21
1Z30A	28.5	30	31.5								
1Z33	29.7	33	36.3	30	10	26	41	1.2	0.2	10	26.4
1Z36	32.4	36	39.6	30	9	28	45	1.2	0.2	10	28.8
1Z43	38.7	43	47.3	40	7	33	53	1.2	0.2	10	34.4
1Z47	42.3	47	51.7	65	6	38	60	1.2	0.2	10	37.6

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	MIN.	TYP.	MAX.	MAX.		TYP.	MAX.				
1Z51	45.9	51	56.1	65	6	43	68	1.2	0.2	10	40.8
1Z68	61.2	68	74.8	120	4	57	90	1.2	0.2	10	54.4
1Z75	67.5	75	82.5	150	4	66	104	1.2	0.2	10	60
1Z82	73.8	82	90.2	170	3	71	113	1.2	0.2	10	65.4
1Z100	90	100	110	300	3	87	138	1.2	0.2	10	80
1Z110	99	110	121	300	3	96	152	1.2	0.2	10	88
1Z150	135	150	165	450	2	136	212	1.2	0.2	10	120
1Z180	162	180	198	500	1.5	161	255	1.2	0.2	10	144
1Z330	297	330	363	5000	1	297	472	1.2	0.2	10	264
1Z390	351	390	429	10000	0.5	350	555	1.2	0.2	10	312

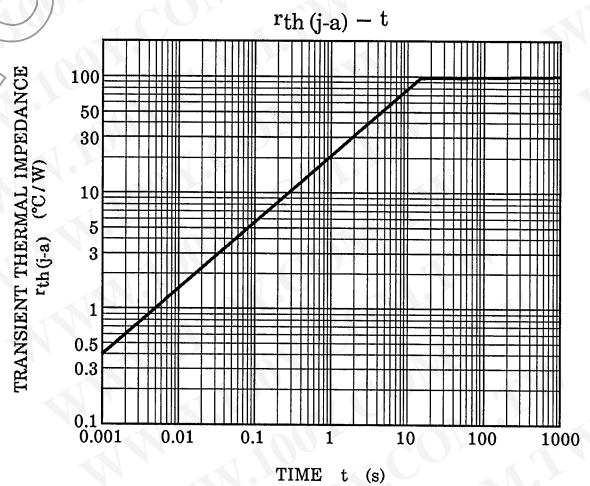
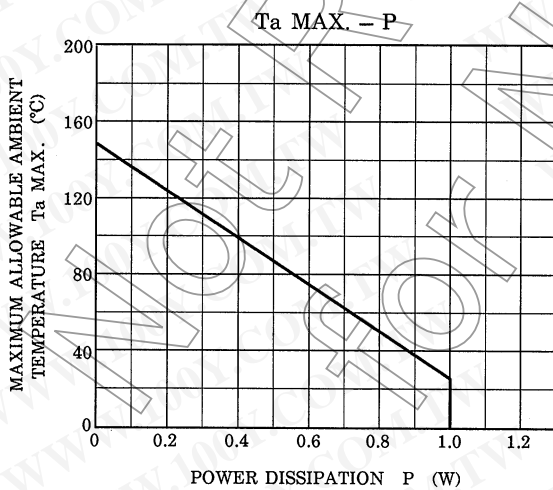
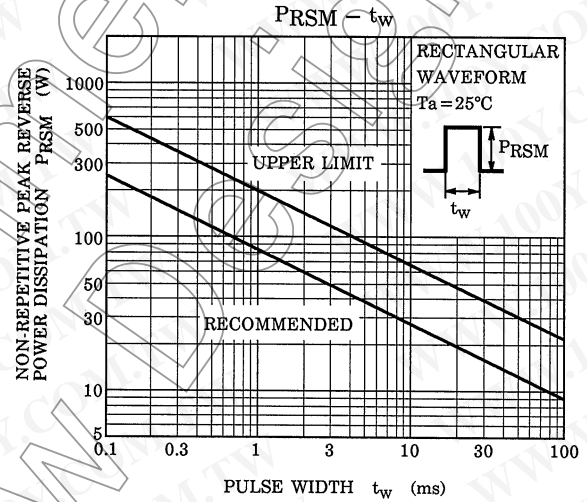
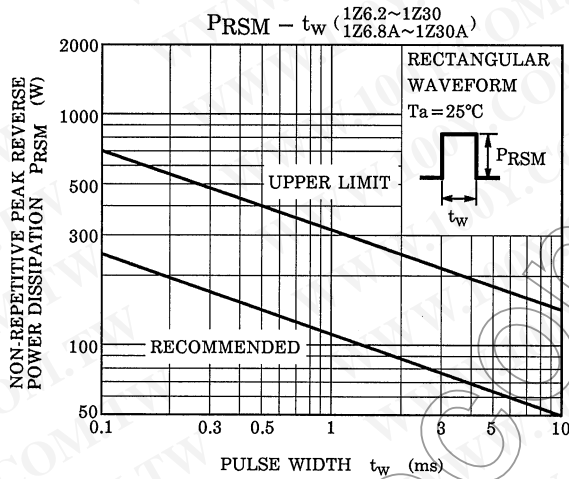
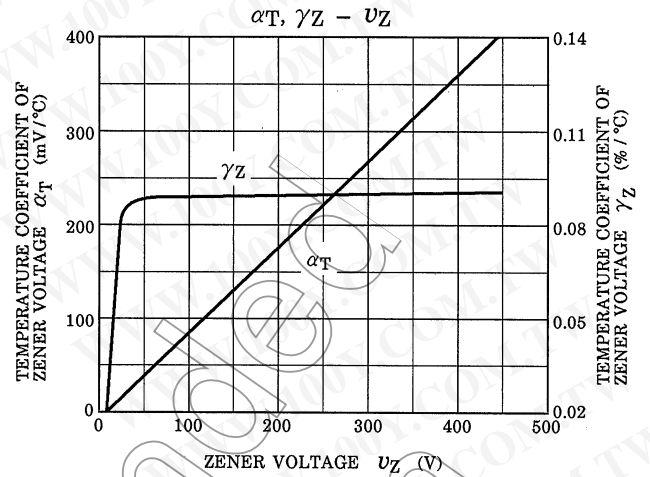
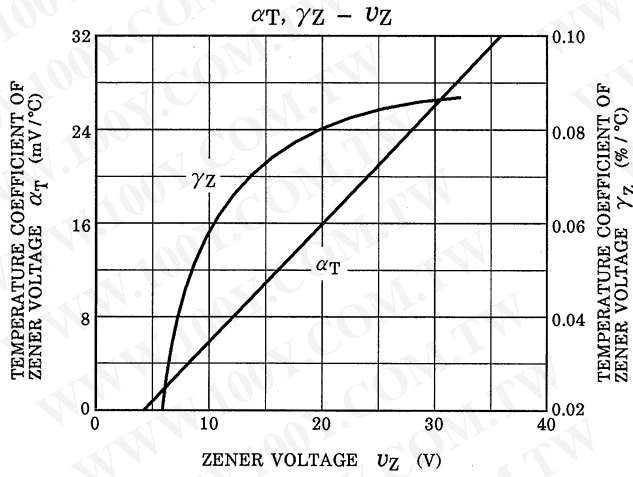
Handling Precaution

The absolute maximum ratings denote the absolute maximum ratings, which are rated values and must not be exceeded during operation, even for an instant. The following are the general derating methods that we recommend when you design a circuit with a device.

- P: We recommend that the worst case power dissipation be no greater than 50% of the absolute maximum rating of power dissipation. Carry out adequate heat design.
- PRSM: We recommend that a device be used within the recommended area in the figure, PRSM-tw.
- T_j : Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at a T_j of below 120°C.

Organic silicon is used as encapsulation material for this product, which is resin seal product. Therefore, it is difficult to seal siloxane coming from silicone completely in this product. When using this product, please consider above.

Please refer to the Rectifiers databook for further information.



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