

TOSHIBA Zener Diode Silicon Junction

CMZB68 to CMZB82

○ Surge absorber

- Power dissipation : P = 1 W
- Zener voltage : V_Z = 68 to 82 V
- Suitable for high-density board assembly due to the use of a small surface-mount package, M-FLAT™

Absolute Maximum Ratings (Ta = 25°C)

Characteristics	Symbol	Rating	Unit
Power dissipation	P	1 (Note 1)	W
Junction temperature	T _j	150	°C
Storage temperature range	T _{stg}	-55 to 150	°C

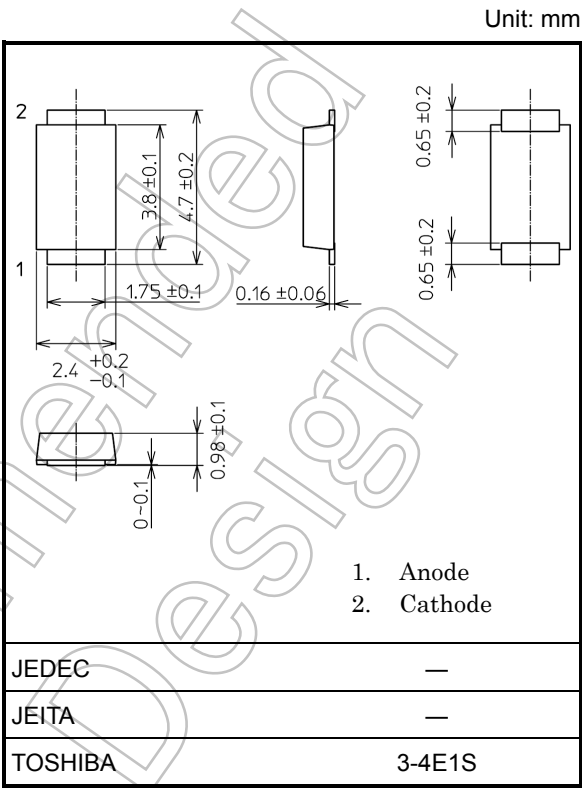
Note : Using continuously under heavy loads (e.g. the application of high temperature/current/voltage and the significant change in temperature, etc.) may cause this product to decrease in the reliability significantly even if the operating conditions (i.e. operating temperature / current / voltage, 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).

Note 1: Ta = 40°C

Device mounted on a glass-epoxy board
Board size : 50 mm × 50 mm
Land pattern : 6 mm × 6 mm
Board thickness : 1.6 mm

Land Pattern Dimensions (for reference only)



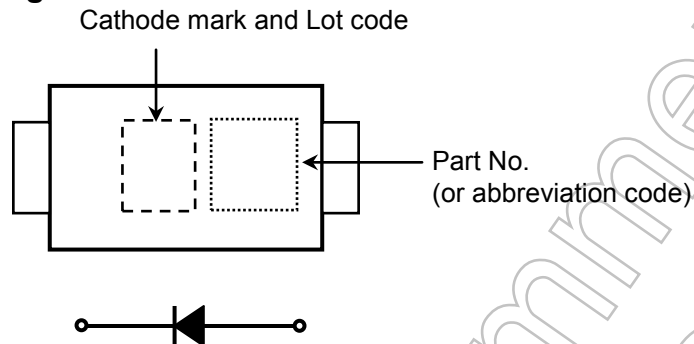
Weight: 0.023 g (typ.)

Start of commercial production
2010-09

Electrical Characteristics (Ta = 25°C)

Type	Zener Voltage V _z (V)				Dynamic Resistance r _d (Ω)		Temperature Coefficient		Forward Voltage V _F (V)		Reverse Current I _R (μA)	
				Measurement Current I _z (mA)	Max	Measurement Current I _z (mA)	αT (mV/°C)		Max	Measurement Current I _F (A)	Max	Measurement Voltage V _R (V)
	Min	Typ.	Max				Typ.	Max				
CMZB68	61.2	68	74.8	4	120	4	57	90	1.2	0.2	10	54.4
CMZB75	67.5	75	82.5	4	150	4	66	104	1.2	0.2	10	60
CMZB82	73.8	82	90.2	3	170	3	71	113	1.2	0.2	10	65.6

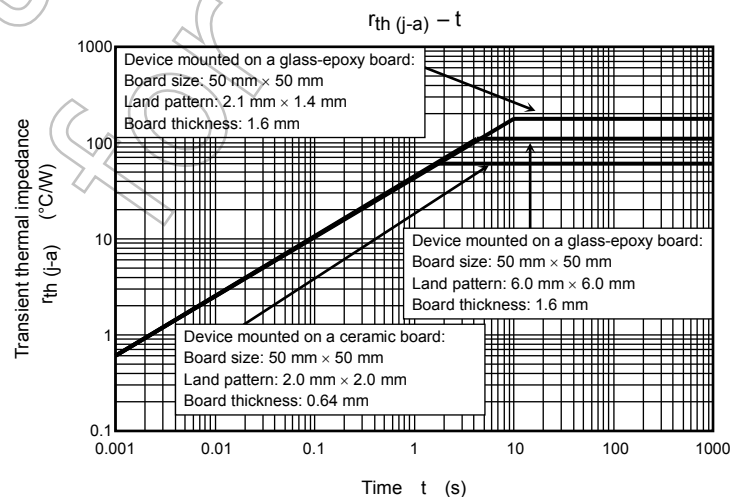
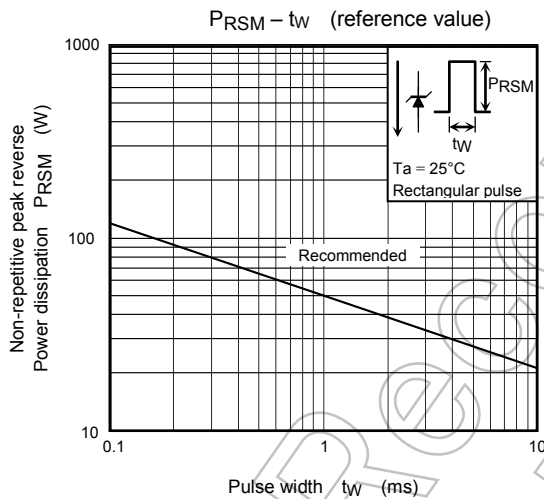
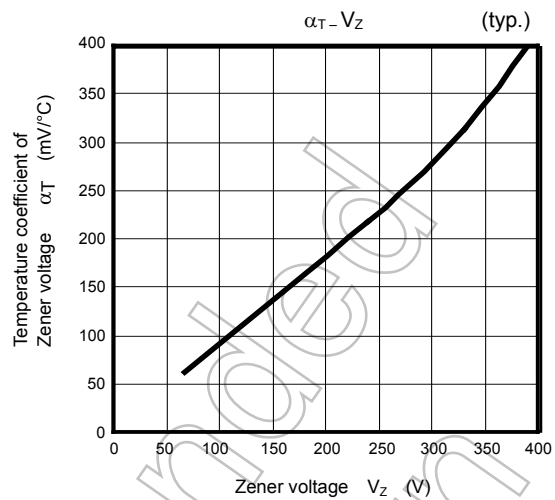
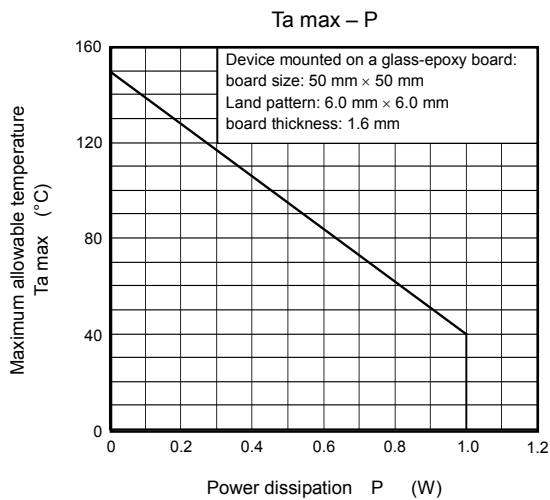
Marking



Abbreviation Code	Part No.
B68	CMZB68
B75	CMZB75
B82	CMZB82

Handling Precaution

- The absolute maximum ratings of a semiconductor device are a set of ratings that must not be exceeded, even for a moment. Do not exceed any of these ratings. 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.
 - Tj: Derate this rating when using a device in order to ensure high reliability. We recommend that the device be used at Tj of below 120°C.
- Thermal resistance between junction and ambient fluctuates depending on the device's mounting condition. When using a device, design a circuit board and a land pattern to match the appropriate thermal resistance value.
- Please refer to the Rectifiers databook for further information.



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