

TOSHIBA Zener Diode Silicon Junction

CMZB68 to CMZB82

○ Surge absorber

- Power dissipation : $P = 1 \text{ W}$
- Zener voltage : $V_Z = 68 \text{ to } 82 \text{ V}$
- 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

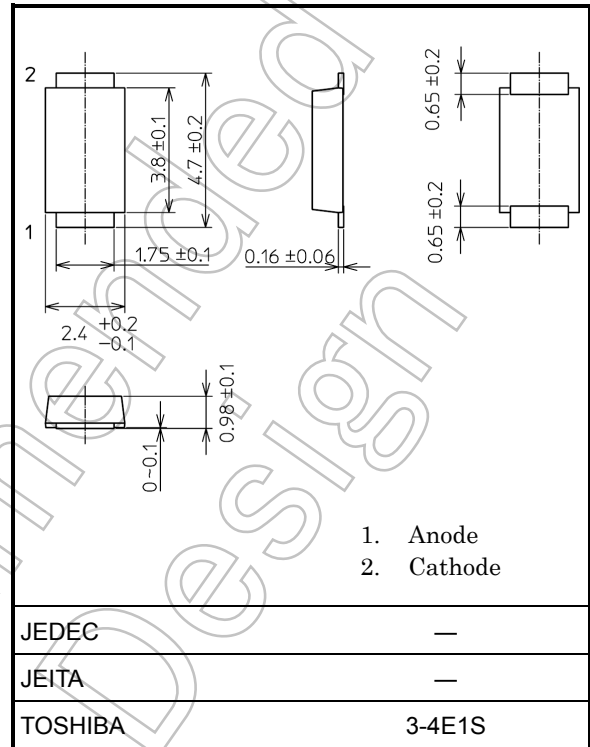
Land pattern : 6 mm × 6 mm

Board thickness : 1.6 mm

Land Pattern Dimensions (for reference only)



Unit: mm



Weight: 0.023 g (typ.)

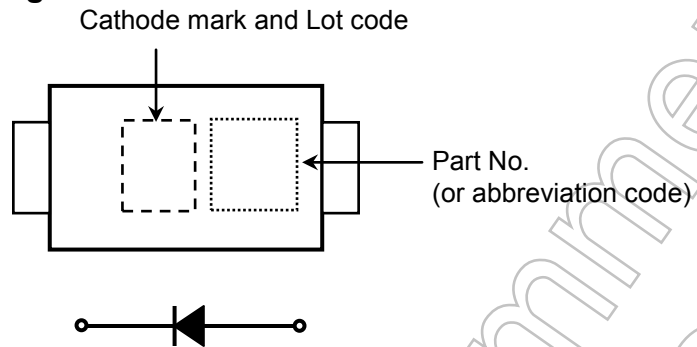
JEDEC	—
JEITA	—
TOSHIBA	3-4E1S

Start of commercial production
2010-09

Electrical Characteristics (Ta = 25°C)

Type	Zener Voltage Vz (V)			Dynamic Resistance rd (Ω)		Temperature Coefficient		Forward Voltage VF (V)		Reverse Current IR (μA)		
	Min	Typ.	Max	Measurement Current IZ (mA)	Max	Measurement Current IZ (mA)	αT (mV/°C)		Max	Measurement Current IF (A)	Max	Measurement Voltage VR (V)
							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

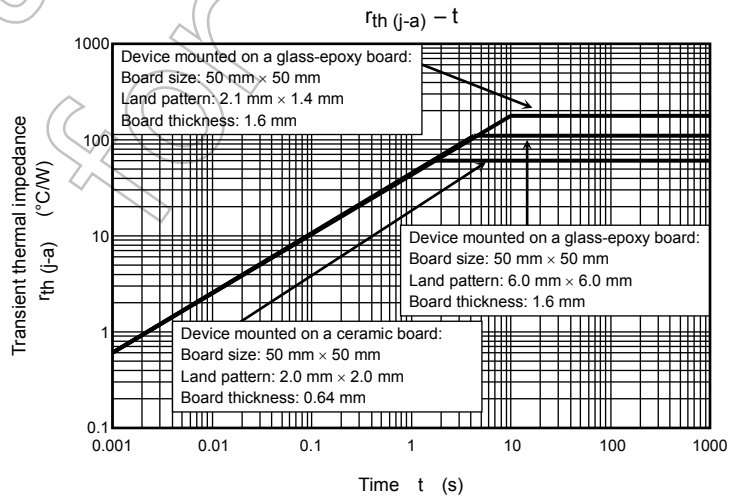
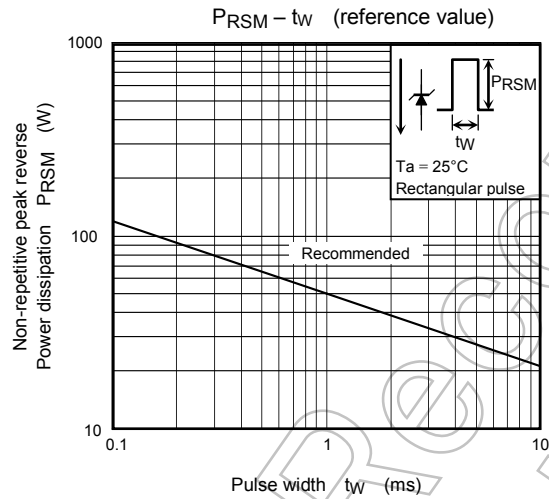
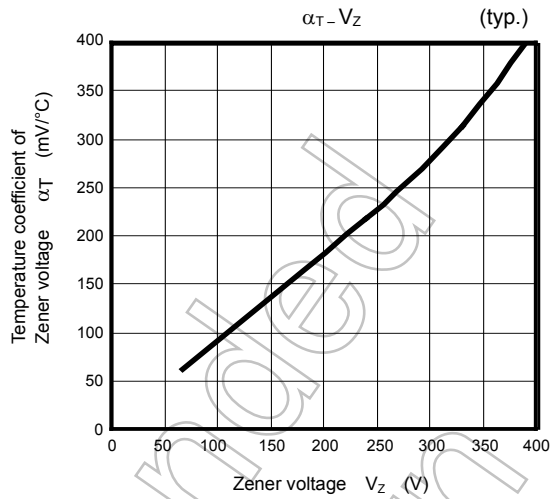
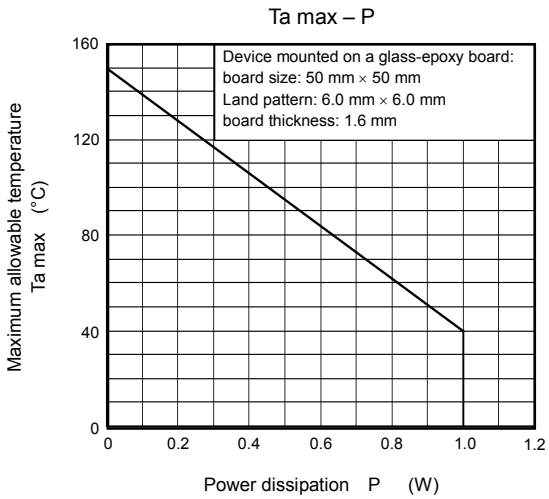
Marking



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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