

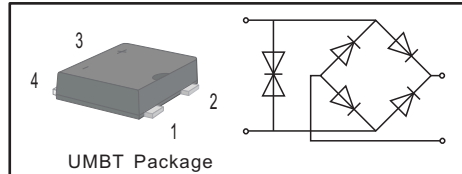


**FEATURES:**

- RoHS compliant
- Large withstanding surge current capability : 200A (@8/20μs)
- Lower clamping voltage and excellent performance on ringing waves testing.
- Lead Free Finish/RoHS Compliant
- Green Molding Compound (No Halogen and Antimony)
- Glass Passivated Chip Junction
- High Surge Current Capability
- Designed for Surface Mount Application

**PINNING**

PIN	DESCRIPTION
1	Input Pin ( ~ )
2	Input Pin ( ~ )
3	Output Anode ( + )
4	Output Cathode ( - )



**MECHANICAL DATA**

- Case: UMBT
- Terminals: Solderable per MIL-STD-750, Method 2026
- Approx. Weight: 60mg/0.0021oz

**Maximum Ratings and Electrical characteristics**

Ratings at 25 °C ambient temperature unless otherwise specified.

Single phase half-wave 60 Hz, resistive or inductive load, for capacitive load current derate by 20 %.

Parameter	Symbols	TB110B	TB120B	TB240B	Units
Average Rectified Output Current at T <sub>c</sub> = 125 °C	I <sub>O</sub>		1.0		A
Peak Forward Surge Current 8.3 ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method)	I <sub>FSM</sub>		30		A
Maximum Forward Voltage at 1.0 A	V <sub>F</sub>		1.1		V
Maximum DC Reverse Current at Rated DC Blocking Voltage (@V <sub>R</sub> =1000V)	I <sub>R</sub>		5 40		μA
Typical Junction Capacitance ( Note1 )	C <sub>j</sub>		13		pF
Typical Thermal Resistance ( Note2 )	R <sub>θJA</sub> R <sub>θJC</sub>		85 25		°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>		-55 ~ +150		°C

Note: 1. Measured at 1MHz and applied reverse voltage of 4 V D.C.

2. Mounted on glass epoxy PC board with 4×1.5"×1.5" ( 3.81×3.81 cm ) copper pad.

**Maximum Ratings and Thermal Characteristics(TA = 25°C unless otherwise specified)**

Technology Data	Symbol	TB110B	TB120B	TB240B	Unit
Maximum allowable continuous AC voltage at 50-60Hz	V <sub>RMS</sub>	125	155	310	V
Breakdown Voltage at 1mA	V <sub>BR</sub>	190~210	237~263	492~543	V
Maximum allowable continuous DC voltage	V <sub>DC</sub>	170	220	440	V
Maximum allowable clamping voltage	V <sub>C</sub>	300	350	700	V
Maximum peak current (8/20μs@2Ω)	I <sub>peak</sub>	200			A
Operating Junction Temperature and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55 ~ +150			°C

**NOTES:**

1. The breakdown voltage was measured at 1mA
2. The clamping voltage was measured at 8/20μs standard current, (1A)
3. The peak current was tested at 8/20μs waveform



Fig.1 Average Rectified Output Current Derating Curve

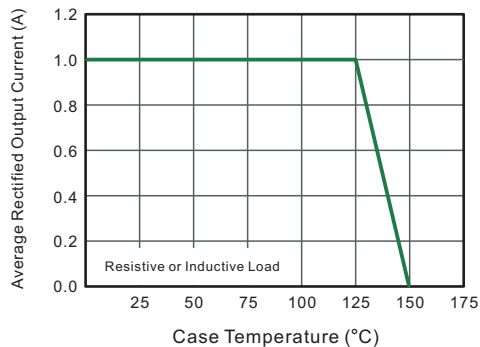


Fig.2 Typical Reverse Characteristics

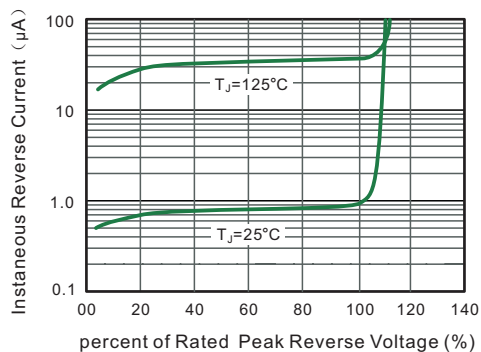


Fig.3 Typical Instantaneous Forward Characteristics

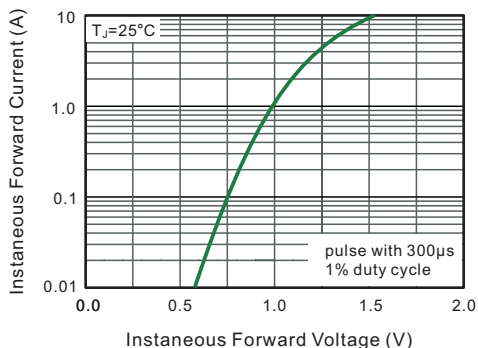


Fig.4 Typical Junction Capacitance

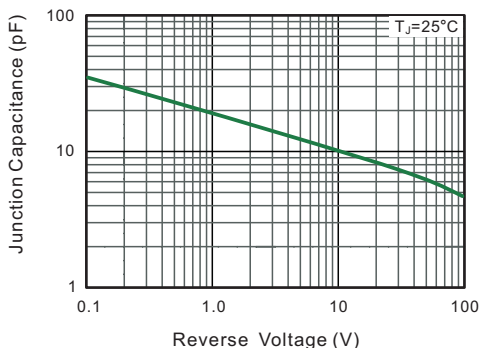


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

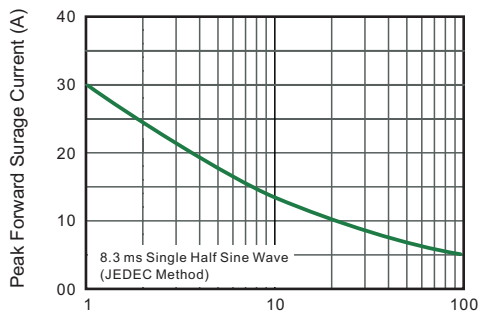


Fig.6 Off-State Current vs. Junction Temperature

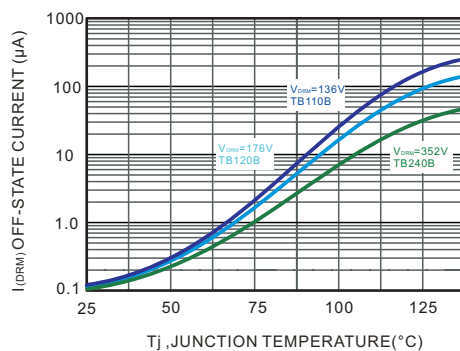


Fig.7 Peak Pulse Power Rating Curve

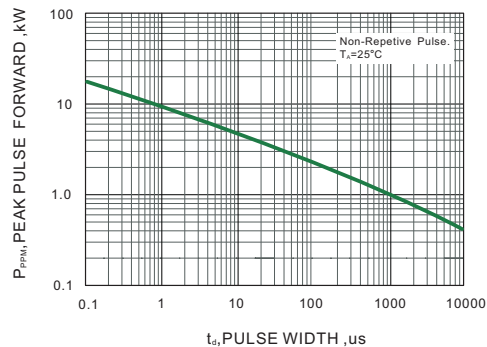




Fig.8 Derating Curve for number of pulses

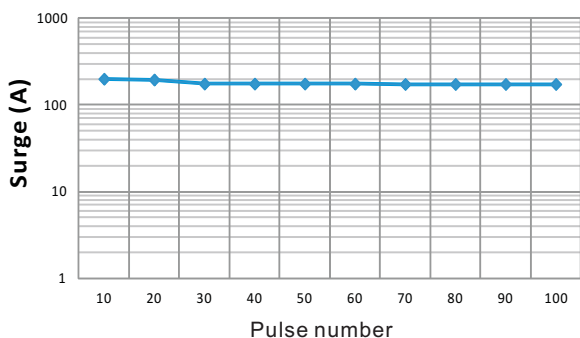


Fig.9 V/I Curve

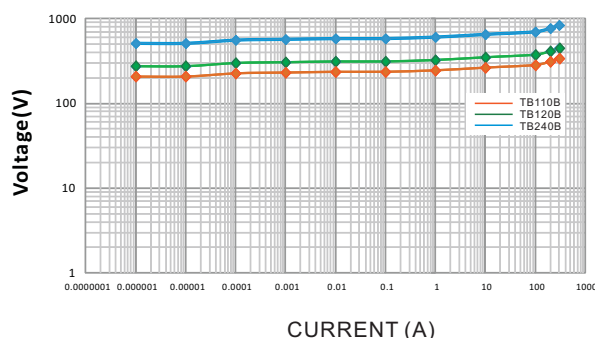
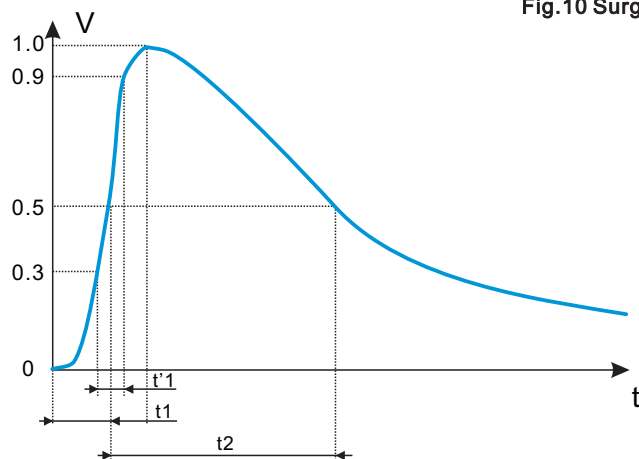


Fig.10 Surge Waveform

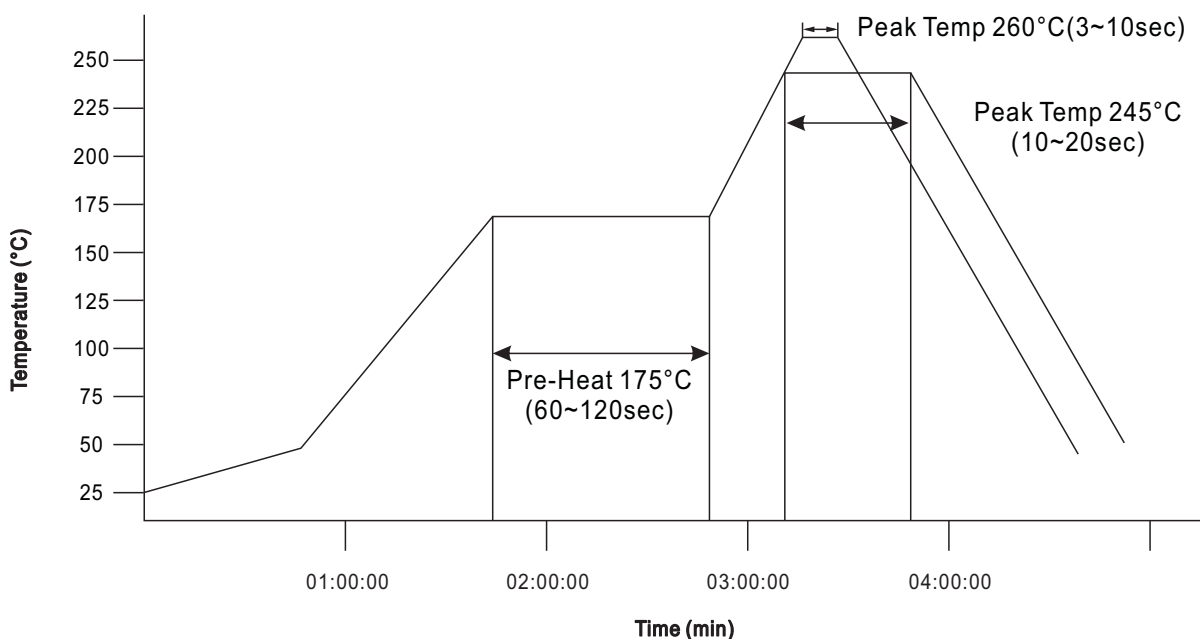


IEC61000-4-5 Standards

SEVERITY LEVEL	T1(=1.67t <sub>1</sub> )	T2
1	10us	1000us
2	8us	20us

8/20us waveform current

Fig.11 The IR reflow and temperature of soldering for Pb free process



**IR reflow Pb free process suggestion profile:**

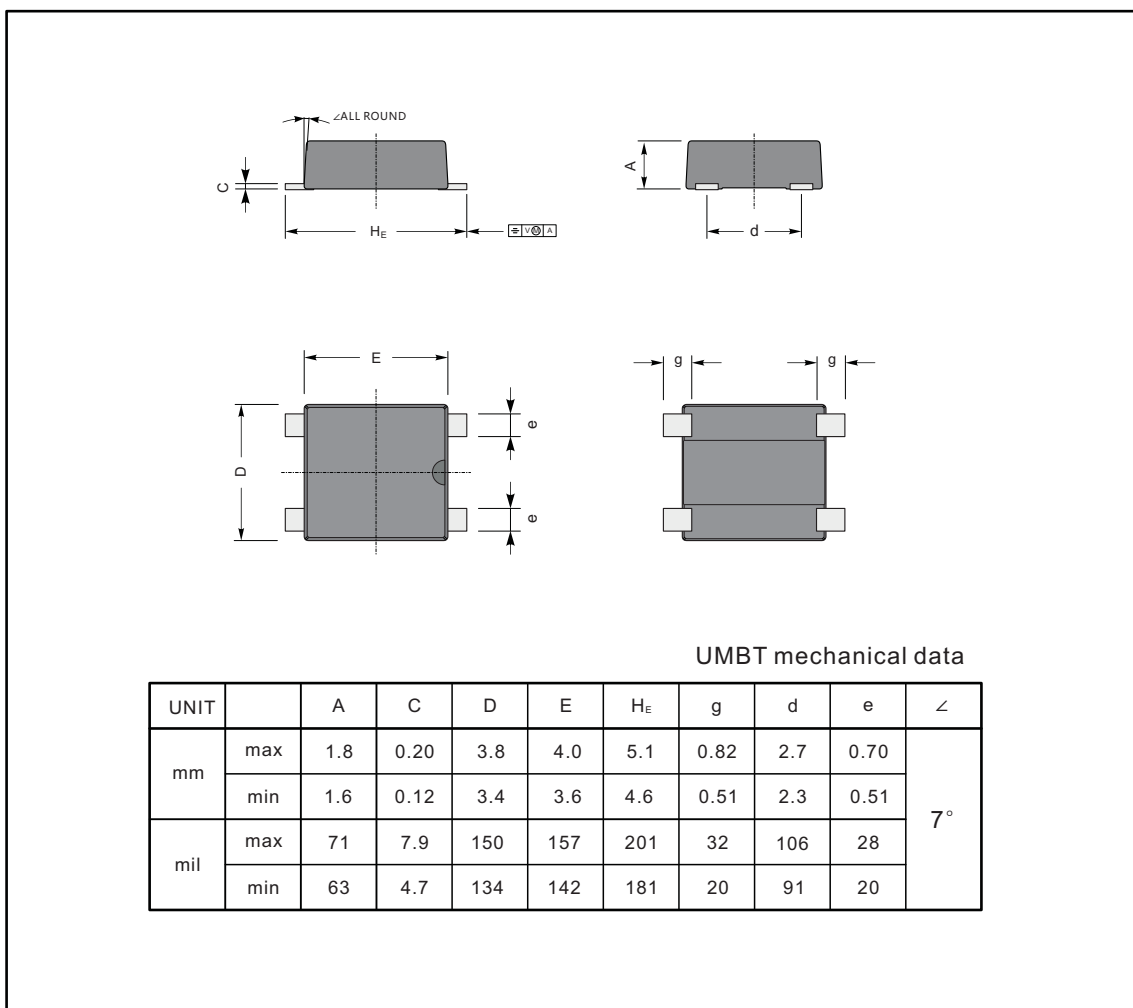
- (1) Ramp-up rate (217°C to peak) +3°C/second max.
- (2) Temp. maintain at 175±25 180seconds max.
- (3) Temp. maintain above 217°C 60~150 seconds
- (4) The peak temperature must be at least 260°C, the time above the 255°C must be within 20s



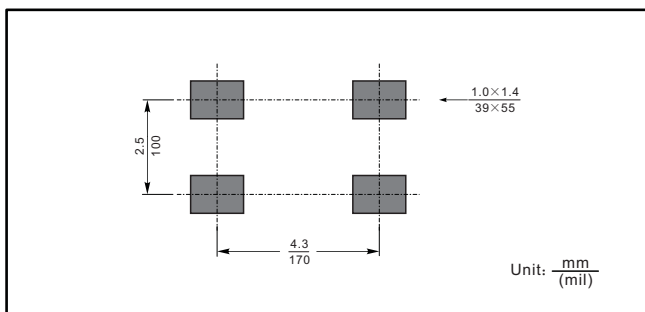
## PACKAGE OUTLINE

Plastic surface mounted package; 4 leads

UMBT



### The recommended mounting pad size



### Marking

Type number	Marking code
TB110B	T110B
TB120B	T120B
TB240B	T240B

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [Bridge Rectifiers](#) category:*

*Click to view products by [Jingdao](#) manufacturer:*

Other Similar products are found below :

[MB2510](#) [MB252](#) [MB356G](#) [MB358G](#) [MP358-BP](#) [90MT160KPBF](#) [GBJ1504-BP](#) [GBU10B-BP](#) [GBU15J-BP](#) [GBU15K-BP](#) [GBU4A-BP](#)  
[GBU4D-BP](#) [GBU6B-E3/45](#) [GSIB680-E3/45](#) [DB101-BP](#) [DF01](#) [DF10SA-E345](#) [BU1508-E3/45](#) [BU1510-E3/45](#) [KBPC50-10S](#) [RS405GL-BP](#)  
[G5SBA60-E3/51](#) [GBJ1502-BP](#) [GBU10J-BP](#) [GBU6M](#) [GBU8D-BP](#) [GBU8J-BP](#) [GSIB1520-E3/45](#) [TB102M](#) [MB1510](#) [MB6M-G](#) [MB86](#)  
[TL401G](#) [MDA920A2](#) [TU602](#) [TU810](#) [MP501W-BP](#) [MP502-BP](#) [BR1005-BP](#) [BR101-BP](#) [BR84DTP204](#) [BU1010A-E3/51](#) [BU1508-E3/51](#)  
[BU2008-E3/51](#) [US15KB80R-7000](#) [KBPC25-02](#) [VS-2KBB60](#) [VS-60MT120KPBF](#) [DB105-BP](#) [DF1510S](#)