



Features

- ✧ Low power loss, high efficiency
- ✧ High current capability, Low forward voltage drop.
- ✧ Plastic material used carries Underwriters Laboratory Classification 94V-0
- ✧ High surge current capability
- ✧ Qualified as per AEC-Q101
- ✧ Guard-ring for transient protection
- ✧ For use in low voltage, high frequency inverter, freewheeling, and polarity protection application
- ✧ High temperature soldering guaranteed:
260°C/10S/.375"(9.5mm) lead lengths
5 lbs tension

Mechanical Data

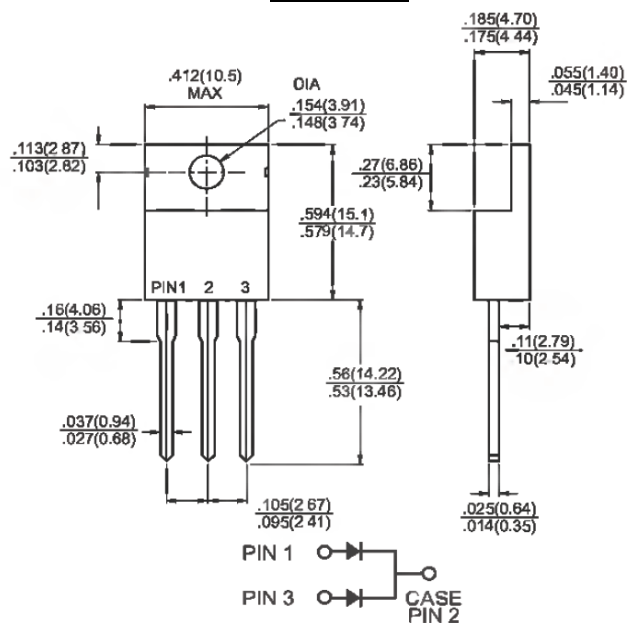
- ✧ Case: TO-220AB
- ✧ Terminals: Pure tin plated leads, solderable per MIL-STD-202, Method 208 guaranteed
- ✧ Polarity: As marked
- ✧ Weight: 1.88 grams
- ✧ Mounting Torque: 5 in-lbs. max.
- ✧ Mounting position: Any

Maximum Ratings and Electrical Characteristics

Rating at 25 °C ambient temperature unless otherwise specified.

Single phase, half wave, 60 Hz, resistive or inductive load.

For capacitive load, derate current by 20%



Dimensions in inches and (millimeters)



Marking Diagram

- MBR10LXXXCT = Specific Device Code
- G = Green Compound
- Y = Year Code
- WW = Work Week Code

Parameter	Symbol	MBR10L100CT		Unit	
Maximum Repetitive Peak Reverse Voltage	V_{RRM}	100		V	
Maximum RMS Voltage	V_{RMS}	70		V	
Maximum DC blocking voltage	V_{DC}	100		V	
Maximum Average Forward Rectified Current	$I_{F(AV)}$	10		A	
Peak Repetitive Forward Current (Rated VR, Square Wave, 20KHz)	$I_{F(RMS)}$	10		A	
Peak Forward Surge Current, 8.3 ms Single Half Sine-wave Superimposed on Rated Load	I_{FSM}	120		A	
Peak Repetitive Reverse Surge Current (Note 1)	I_{RRM}	1		A	
Maximum Instantaneous Forward Voltage (Pulse test: $t_p=300\mu s$, $\delta < 1\%$)	V_F	TYP.	Max.	V	
		@ 5A / $T_a=25^\circ C$	0.73		0.76
		@ 5A / $T_a=125^\circ C$	0.59		0.65
		@ 10A / $T_a=25^\circ C$	0.82		0.85
		@ 10A / $T_a=125^\circ C$	0.66		0.71
Maximum Reverse Current (Pulse test: $t_p=300\mu s$, $\delta < 1\%$)	I_R	TYP.	Max.	uA mA	
		$T_a=25^\circ C$	0.3		20
		$T_a=125^\circ C$	0.5		15
Voltage rate of change (rated V_R)	dV/dt	10,000		V/uS	
Typical Junction Capacitance (Note 2)	C_j	185		pF	
Typical Thermal Resistance (Note 3)	$R_{\theta JC}$	2.8		$^\circ C/W$	
Operating Temperature Range	T_J	-55 to + 150		$^\circ C$	
Storage Temperature Range	T_{STG}	-55 to + 150		$^\circ C$	

Note1: 2.0uS Pulse Width, F=1.0KHz, Continues 10 cycles

Note2: Measured at 1 MHz and Applied Reverse Voltage of 4.0 V D.C.

Note3: Mount on Heatsink Size of 4" x 6" x 0.25" Al-Plate

RATINGS AND CHARACTERISTIC CURVES (MBR10L100CT)

Fig.1 Maximum Forward Current Derating Curve

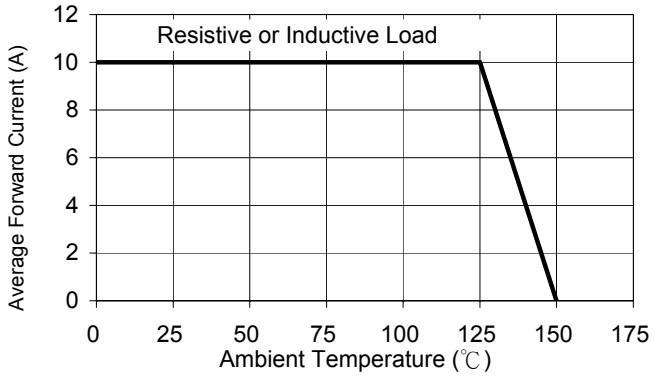


Fig. 2 Maximum Forward Surge Current

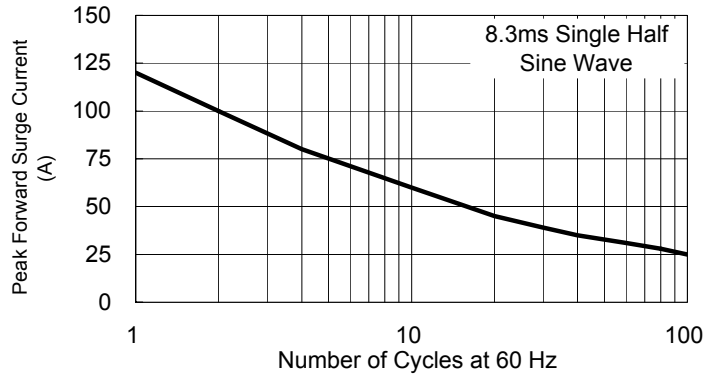


Fig. 3 Typical Forward Characteristics

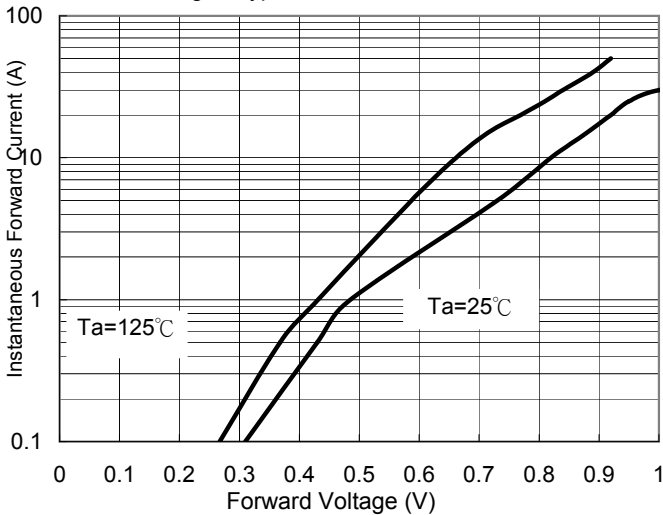


Fig. 4 Typical Reverse Characteristics

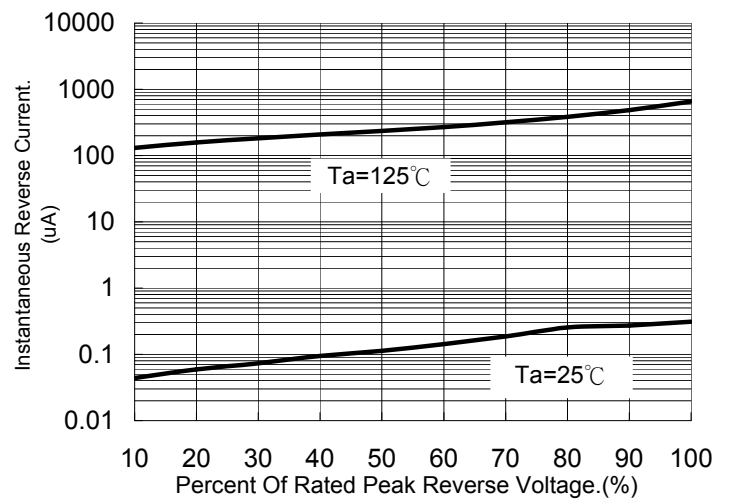


Fig. 5 Typical Junction Capacitance

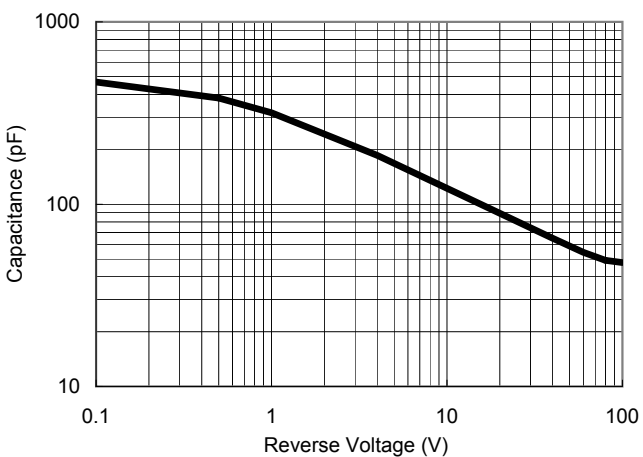


Fig. 6 Typical Transient Thermal Impedance

