

MBR1040CT/TF THRU MBR10200CT/TF

SCHOTTKY BARRIER RECTIFIERS

Reverse Voltage - 40 to 200 V

Forward Current - 10 A

FEATURES

- High current capability
- Low forward voltage drop
- Low power loss, high efficiency
- High surge capability
- High temperature soldering guaranteed
- Mounting position: any

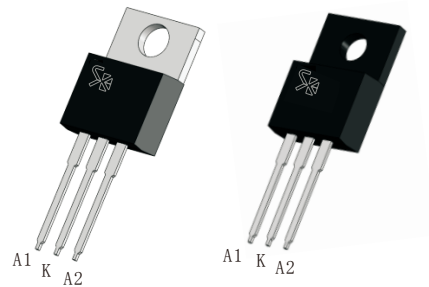
Mechanical data

- Case: TO-220
- Approx. Weight: 1.9g (0.067oz)
- Case: TO-220F
- Approx. Weight: 2.1g (0.07oz)
- Terminals: Lead solderable per MIL-STD-202, Method 208

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

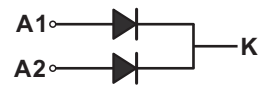
Ratings at 25°C ambient temperature unless otherwise specified

CHARACTERISTICS	TO-220	MBR1040CT	MBR1045CT	MBR1060CT	MBR10100CT	MBR10150CT	MBR10200CT	Units
	TO-220F	MBR1040CTF	MBR1045CTF	MBR1060CTF	MBR10100CTF	MBR10150CTF	MBR10200CTF	
Maximum Recurrent Peak Reverse Voltage	V _{RRM}	40	45	60	100	150	200	V
Maximum RMS voltage	V _{RMS}	28	31.5	42	70	105	140	V
Maximum DC Blocking Voltage	V _{DC}	40	45	60	100	150	200	V
Maximum Average Forward Rectified Current Per diode Per device	I _{F(AV)}	5 10						A
Peak Forward Surge Current,8.3ms Single Half Sine-wave Superimposed on Rated Load (JEDEC method) per diode	I _{FSM}	100						A
Max Instantaneous Forward Voltage at 5 A(per diode)	V _F	0.70		0.75	0.85	0.90	0.92	V
Maximum DC Reverse Current T _a = 25°C at Rated DC Reverse Voltage T _a =125°C	I _R	0.1 20			0.05 20			mA
Typical Junction Capacitance ⁽¹⁾	C _j	600		400				pF
Typical Thermal Resistance ⁽²⁾	R _{θJA}	45						°C/W
Operating Junction Temperature Range	T _j	-55 ~ +150				-55 ~ +175		°C
Storage Temperature Range	T _{stg}	-55 ~ +150				-55 ~ +175		°C



TO-220

TO-220F



(1) Measured at 1 MHz and applied reverse voltage of 4 V D.C

(2) P.C.B. mounted with 10cmX10cmX1mm copper pad areas.



MBR1040CT/TF THRU MBR10200CT/TF

Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE

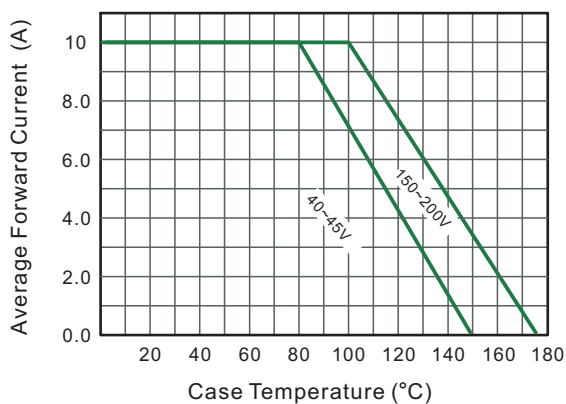


Fig.2 Typical Reverse Characteristics

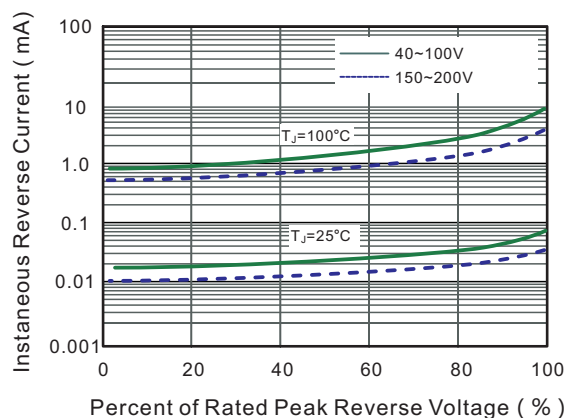


Fig.3 Typical Forward Characteristic(per leg)

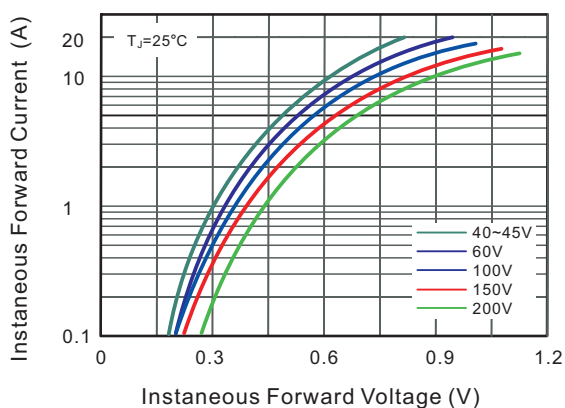


Fig.4 Typical Junction Capacitance

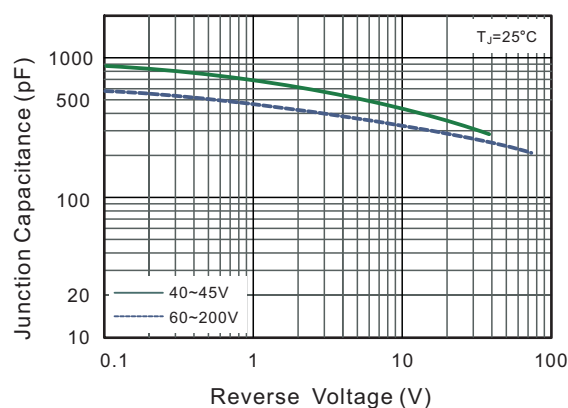


Fig.5 Maximum Non-Repetitive Peak Forward Surge Current

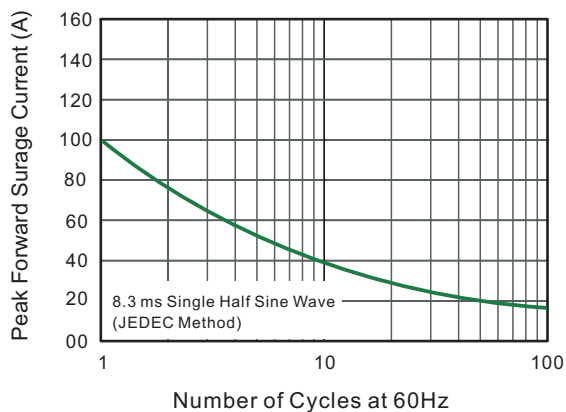
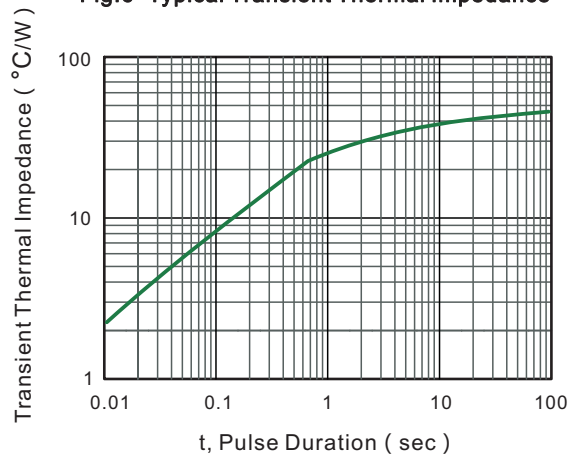


Fig.6- Typical Transient Thermal Impedance





TO-220

Figure 1: Schematic diagram of the test specimen. The diagram shows a vertical specimen with various dimensions and material layers. From top to bottom: a top flange with a width of 4.76 (0.187) and a height of 1.40 (0.055); a neck with a width of 4.42 (0.174) and a height of 1.14 (0.045); a main body with a height of 16.0 (0.630) and a width of 14.6 (0.575); a base with a height of 14.79 (0.582) and a width of 13.19 (0.519); and a bottom flange with a width of 2.80 (0.110) and a height of 2.20 (0.087). The specimen is composed of different materials, indicated by different shades of gray and orange. Arrows indicate the direction of force application.

TO-220F

3 of 3