

## 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

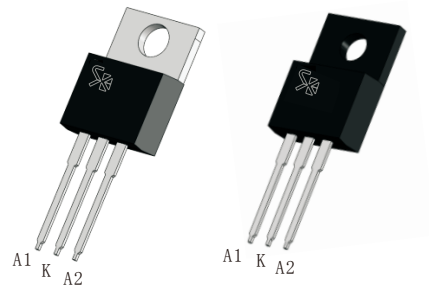
Mechanical data

- 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

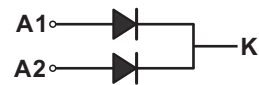
Ratings at 25°C ambient temperature unless otherwise specified

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



TO-220

TO-220F



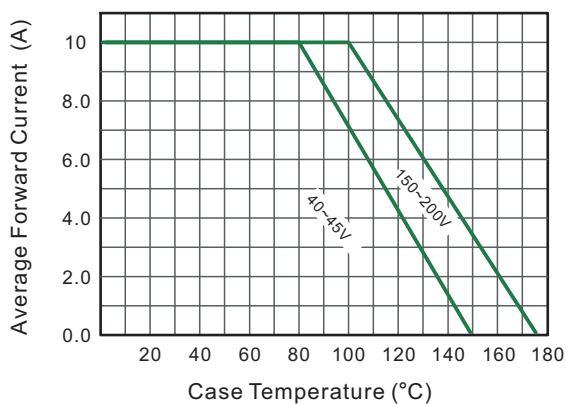
( 1 ) Measured at 1 MHz and applied reverse voltage of 4 V D.C

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

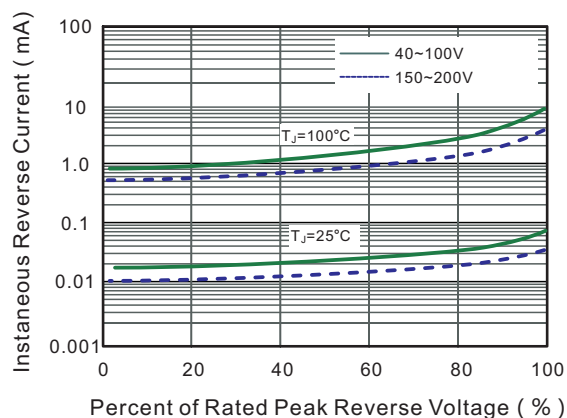


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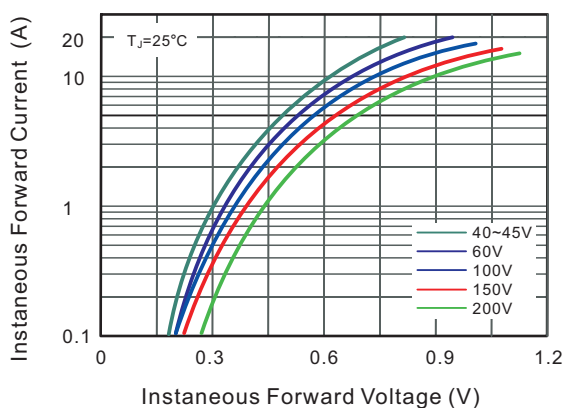
**Fig.1 TYPICAL FORWARD CURRENT DERATING CURVE**



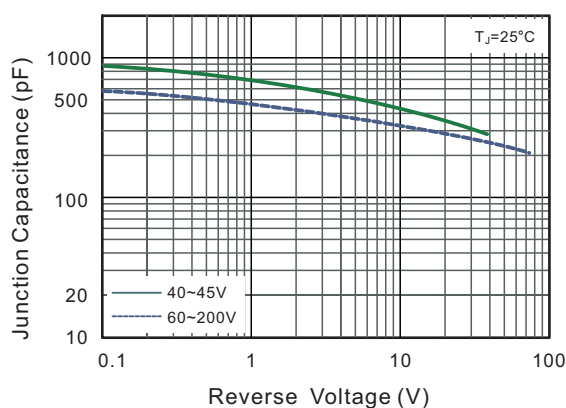
**Fig.2 Typical Reverse Characteristics**



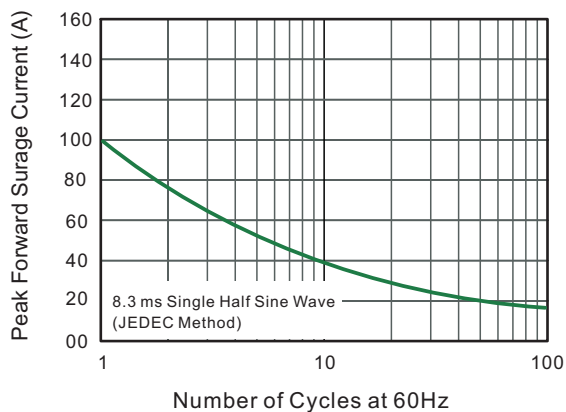
**Fig.3 Typical Forward Characteristic(per leg)**



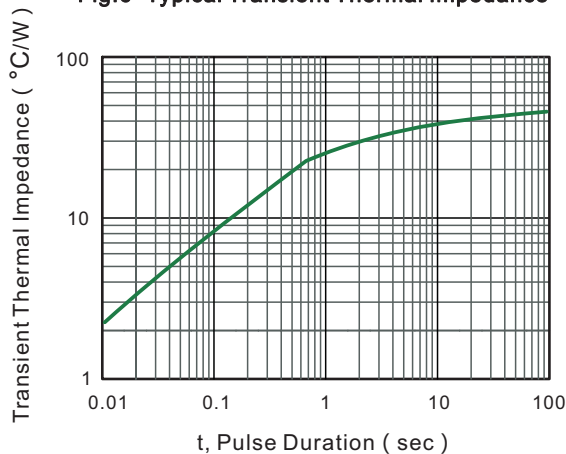
**Fig.4 Typical Junction Capacitance**



**Fig.5 Maximum Non-Repetitive Peak Forward Surge Current**

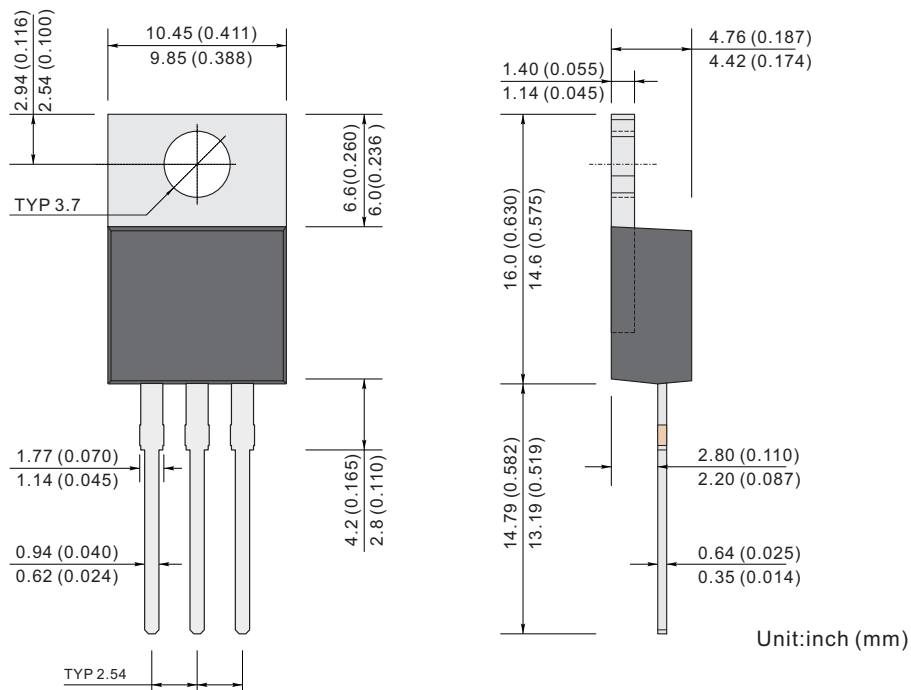


**Fig.6- Typical Transient Thermal Impedance**





## TO-220



## TO-220F

