

## Schottky Barrier Diodes

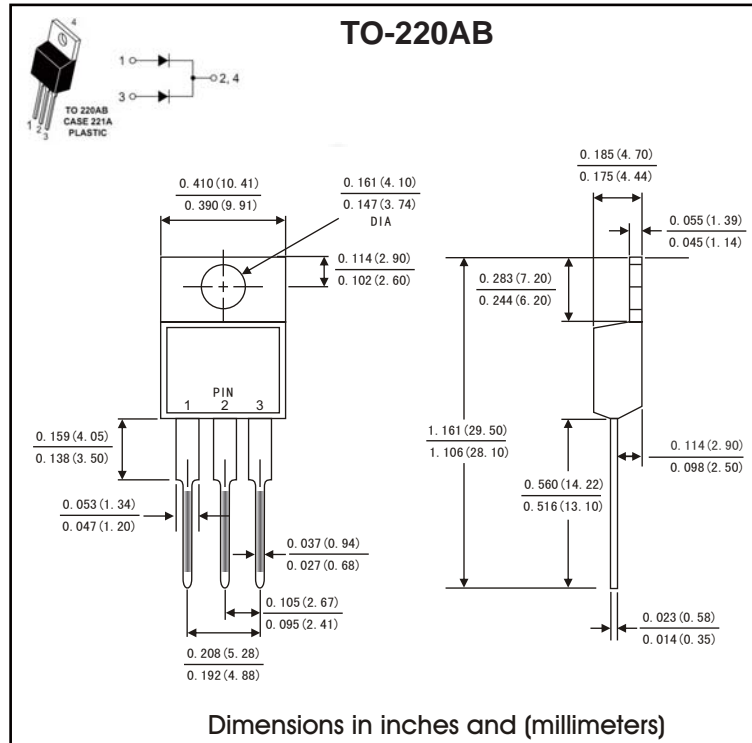
**VOLTAGE RANGE: 100 V**  
**CURRENT: 20.0 A**

### Features

- 40 A Total (20A Per Diode Leg) Guard Ring for Stress Protection
- Low Forward Voltage
- 175°C Operating Junction Temperature
- Epoxy Meets UL 94 V 0 @ 0.125 in
- Low Power Loss/High Efficiency
- High Surge Capacity
- Low Stored Charge Majority Carrier Conduction Pb Free Packages are Available

### Mechanical Characteristics

- Case: Epoxy, Molded
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes:260°C Max. for 10 Seconds



## MAXIMUM RATINGS AND CHARACTERISTICS

@ 25°C Ambient Temperature (unless otherwise noted)Single phase, half wave, 60 Hz, resistive or inductive load.  
For capacitive load, derate by 20%.

| Rating  | Symbol      | MBR40100CT   | Unit                   |
|---|-------------|--------------|------------------------|
| Peak Repetitive Reverse Voltage   | $V_{RRM}$   | 100          | V                      |
| Average Rectified Forward Current (Rated $V_R$ ) $T_C = 133^\circ\text{C}$                                | $I_{F(AV)}$ | 20           | A                      |
| Peak Repetitive Forward Current (Rated $V_R$ , Square Wave, 20 kHz) $T_C = 133^\circ\text{C}$             | $I_{FRM}$   | 40           | A                      |
| Maximum Instantaneous Forward Voltage ( $i_F = 20\text{Amps}$ , $T_C = 25^\circ\text{C}$ )                | $V_F$       | 0.85         | V                      |
| Nonrepetitive Peak Surge Current<br>(Surge applied at rates load conditions halfwave, single phase, 60Hz) | $I_{FSM}$   | 400          | A                      |
| Peak Repetitive Reverse Surge Current (2.0 $\mu\text{s}$ , 1.0 kHz)                                       | $I_{RRM}$   | 5            | A                      |
| Operating Junction Temperature  | $T_J$       | - 65 to +175 | $^\circ\text{C}$       |
| Voltage Rate of Change (Rated $V_R$ )   | $dv/dt$     | 10,000       | $\text{V}/\mu\text{s}$ |
| Maximum Instantaneous Reverse Current<br>(Rated dc Voltage, $T_C = 125^\circ\text{C}$ )                   | $I_R$       | 6.0          | mA                     |
| (Rated dc Voltage, $T_C = 25^\circ\text{C}$ )   |             | 0.05         |                        |

# RATINGS AND CHARACTERISTIC CURVES

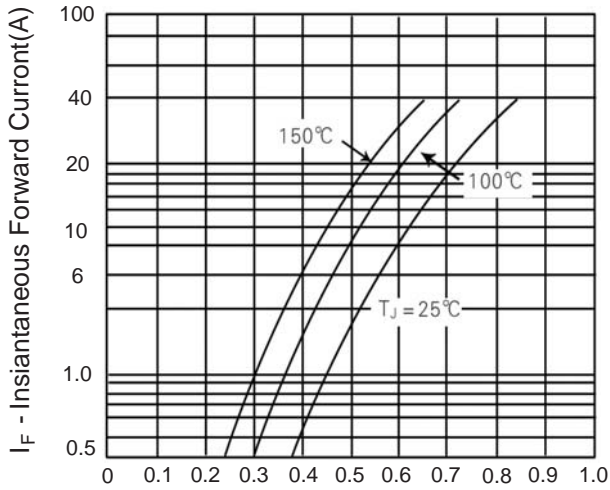


Figure 1. Typical Forward Voltage Per Diode

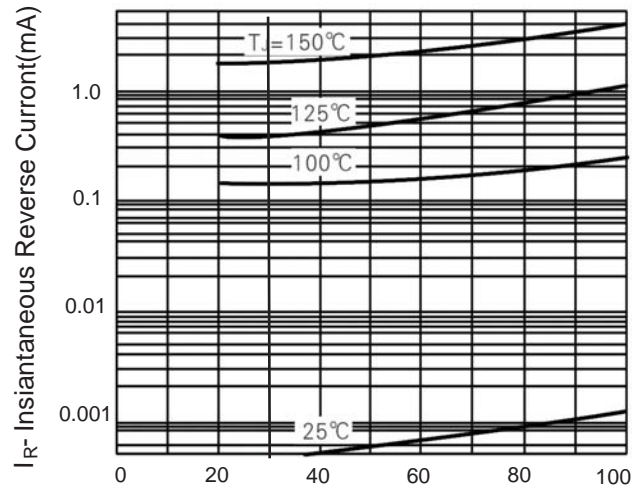


Figure 2. Typical Reverse Current Per Diode

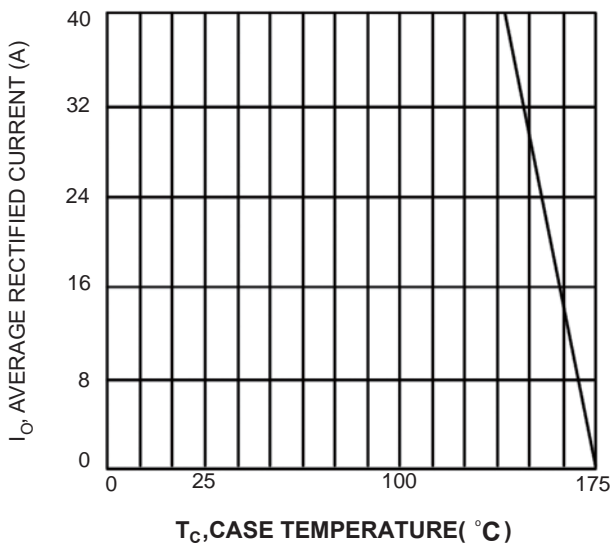


Fig.3 Forward Current Derating Curve

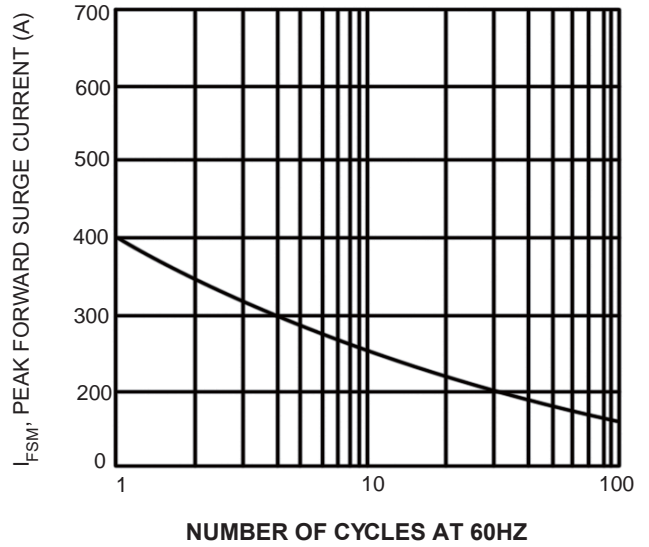


Fig.4 Max Non- Repetitive Surge Current