

MBRS3100T3

Preferred Device

Surface Mount Schottky Power Rectifier

...employing the Schottky Barrier principle in a large area metal-to-silicon power diode. State-of-the-art geometry features epitaxial construction with oxide passivation and metal overlay contact. Ideally suited for low voltage, high frequency rectification, or as free wheeling and polarity protection diodes, in surface mount applications where compact size and weight are critical to the system.

- Small Compact Surface Mountable Package with J-Bend Leads
- Rectangular Package for Automated Handling
- Highly Stable Oxide Passivated Junction
- Excellent Ability to Withstand Reverse Avalanche Energy Transients
- Guardring for Stress Protection

Mechanical Characteristics:

- Case: Epoxy, Molded
- Weight: 217 mg (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead and Mounting Surface Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped in 16 mm Tape and Reel, 2500 units per reel
- Polarity: Notch in Plastic Body Indicates Cathode Lead
- ESD Ratings: Machine Model = C
Human Body Model = 3B
- Marking: B310

**SCHOTTKY BARRIER
RECTIFIERS
3.0 AMPERES
100 VOLTS**



SMC
CASE 403
PLASTIC

MARKING DIAGRAM



Y = Year
WW = Work Week
B310 = Device Code

MAXIMUM RATINGS

| Rating | Symbol | Value | Unit |
|--|---------------------------------|-----------------|------------------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V_{RRM} V_{RWM} V_R | 100 | Volts |
| Average Rectified Forward Current (At Rated V_R , $T_L = 100^\circ\text{C}$) | $I_{F(AV)}$ | 3.0 | Amps |
| Nonrepetitive Peak Surge Current (Surge applied at rated load conditions halfwave, single phase, 60 Hz) | I_{FSM} | 130 | Amps |
| Operating Junction Temperature Range | T_J | - 65 to +150 | $^\circ\text{C}$ |

THERMAL CHARACTERISTICS

| | | | |
|---------------------------------------|-----------------|----|--------------------|
| Thermal Resistance – Junction to Lead | $R_{\theta JL}$ | 11 | $^\circ\text{C/W}$ |
|---------------------------------------|-----------------|----|--------------------|

ORDERING INFORMATION

| Device | Package | Shipping |
|------------|---------|------------------|
| MBRS3100T3 | SMC | 2500/Tape & Reel |

Preferred devices are recommended choices for future use and best overall value.

ELECTRICAL CHARACTERISTICS

| | | | |
|--|-------|------------------------------|-------|
| Maximum Instantaneous Forward Voltage (Note 1) ($i_F = 3.0\text{ A}$, $T_J = 25^\circ\text{C}$) ($i_F = 6.0\text{ A}$, $T_J = 25^\circ\text{C}$) ($i_F = 3.0\text{ A}$, $T_J = 125^\circ\text{C}$) ($i_F = 6.0\text{ A}$, $T_J = 125^\circ\text{C}$) | V_F | 0.79 0.90 0.62 0.70 | Volts |
| Maximum Instantaneous Reverse Current (Note 1) (Rated dc Voltage, $T_J = 25^\circ\text{C}$) (Rated dc Voltage, $T_J = 125^\circ\text{C}$) | i_R | 0.05 5.0 | mA |

1. Pulse Test: Pulse Width = 300 μs , Duty Cycle $\leq 2.0\%$.

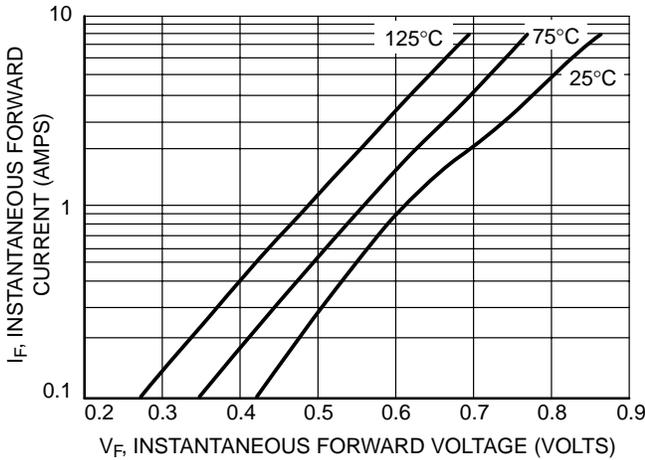


Figure 1. Typical Forward Voltage

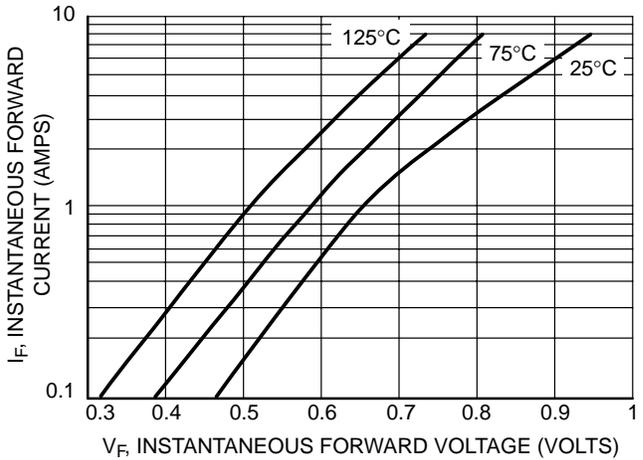


Figure 2. Maximum Forward Voltage

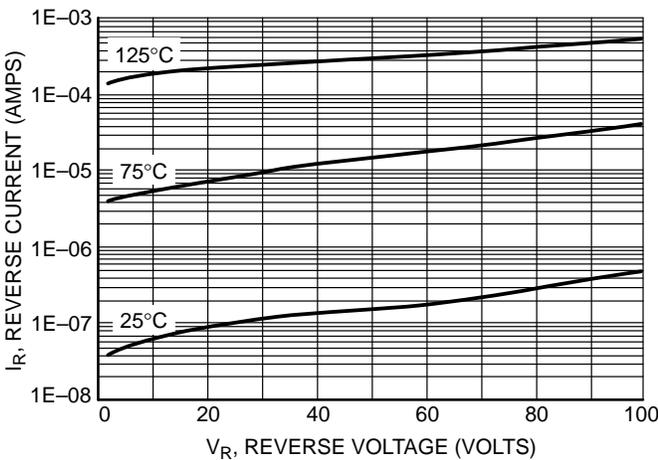


Figure 3. Typical Reverse Current

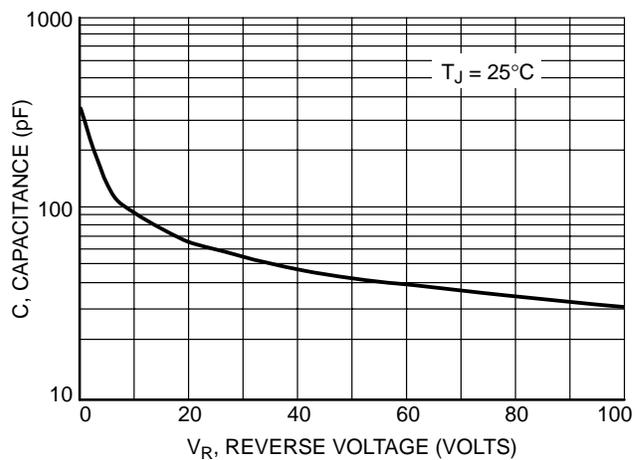


Figure 4. Typical Capacitance