

# MBRS3100

**PRV : 100 Volts**  
**Io : 3.0 Amperes**

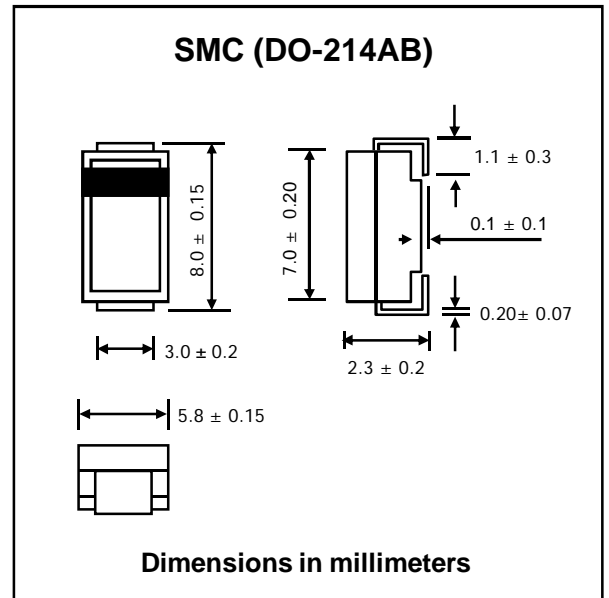
### FEATURES :

- \* Small Compact Surface Mountable Package
- \* Highly Stable Oxide Passivated Junction
- \* Excellent Ability to Withstand Reverse Avalanche Energy Transients
- \* Guardring for Stress Protection
- \* **Pb / RoHS Free**

### MECHANICAL DATA :

- \* Case : SMC Molded plastic
- \* Epoxy : UL94V-O rate flame retardant
- \* Lead : Lead Formed for Surface Mount
- \* Polarity : Color band denotes cathode end
- \* Mounting position : Any
- \* Weight : 0.21 gram

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER



### 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%.

| RATING   | SYMBOL          | VALUE        | UNIT               |
|--|-----------------|--------------|--------------------|
| Maximum Repetitive Reverse Voltage   | $V_{RRM}$       | 100          | V                  |
| Maximum Working Peak Reverse Voltage   | $V_{RWM}$       | 100          | V                  |
| Maximum DC Blocking Voltage  | $V_{DC}$        | 100          | V                  |
| Maximum Average Rectified Forward Current @ $T_L = 100\text{ }^\circ\text{C}$  | $I_{F(AV)}$     | 3.0          | A                  |
| Maximum Non-repetitive Peak Surge Current (Surge applied at rated load conditions half wave, single phase ,60 Hz)  | $I_{FSM}$       | 130          | A                  |
| Maximum Instantaneous Forward Voltage (Note 1)<br>( $I_F = 3.0\text{ A}$ , $T_J = 25\text{ }^\circ\text{C}$ )  | $V_F$           | 0.79         | V                  |
| Maximum Instantaneous Reverse Current (Note1)<br>( $V_R = V_{RRM}$ , $T_J = 25\text{ }^\circ\text{C}$ )<br>( $V_R = V_{RRM}$ , $T_J = 125\text{ }^\circ\text{C}$ ) | $I_R$           | 0.05         | mA                 |
|  | $I_{R(H)}$      | 5.0          |                    |
| Thermal Resistance Junction to Lead  | $R_{\theta JL}$ | 11           | $^\circ\text{C/W}$ |
| Operating Junction Temperature   | $T_J$           | - 65 to +150 | $^\circ\text{C}$   |

Note: (1) Pulse Test : Pulse Width = 300 $\mu\text{s}$  Duty Cycle  $\leq$  2%

## RATING AND CHARACTERISTIC CURVES ( MBR3100 )

FIG.1 - CURRENT DERATING (LEAD)

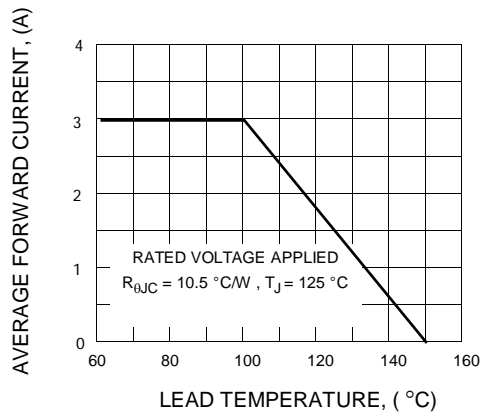


FIG.2 - POWER DISSIPATION

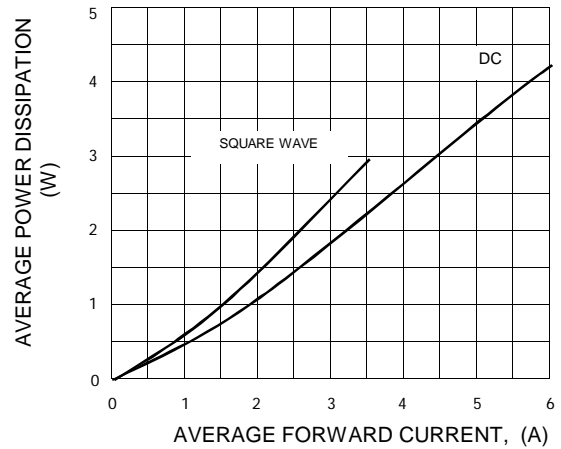


FIG.3 - TYPICAL FORWARD VOLTAGE

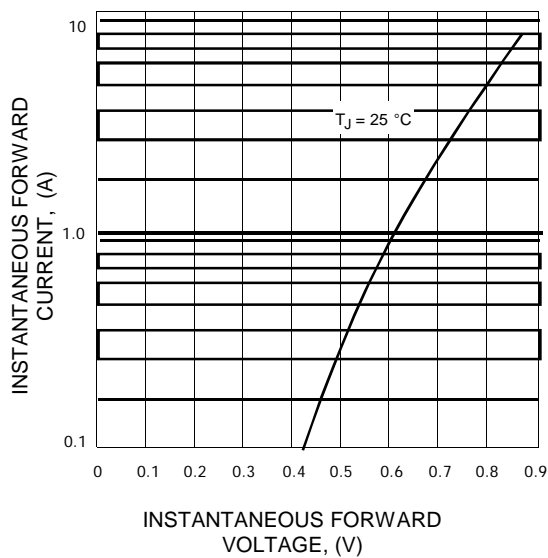


FIG.4 - TYPICAL REVERSE CURRENT

