

# MBRS3201

**PRV : 200 Volts**

**Io : 3.0 Amperes**

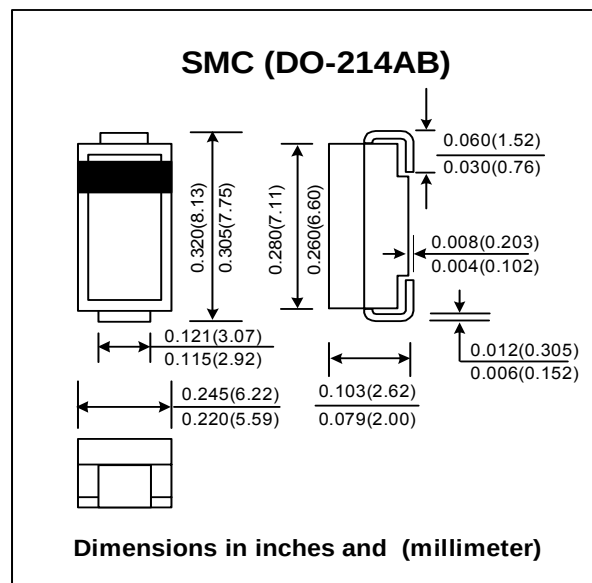
## FEATURES :

- \* Lower forward voltage than any ultrafast rectifier:  $V_F < 0.59 \text{ V}$  at  $150^\circ\text{C}$
- \* Fast switching speed
- \* Soft recovery characteristics
- \* Highly stable over temperature
- \* **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

## SCHOTTKY FAST SOFT-RECOVERY POWER RECTIFIER



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at  $25^\circ\text{C}$  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                                                                                                                              | $V_{RRM}$           | 200          | V                         |
| Maximum Working Peak Reverse Voltage                                                                                                                            | $V_{RWM}$           | 200          | V                         |
| Maximum DC Blocking Voltage                                                                                                                                     | $V_R$               | 200          | V                         |
| Maximum Average Rectified Forward Current ( $T_C = 70^\circ\text{C}$ )                                                                                          | $I_{F(AV)}$         | 3.0          | A                         |
| Maximum Non-Repetitive Peak Surge Current (Surge applied at rated load conditions half wave, single phase ,60 Hz)                                               | $I_{FSM}$           | 100          | A                         |
| Maximum Instantaneous Forward Voltage (Note 1)<br>( $I_F = 3.0 \text{ A}$ , $T_J = 25^\circ\text{C}$ )<br>( $I_F = 3.0 \text{ A}$ , $T_J = 150^\circ\text{C}$ ) | $V_F$               | 0.84<br>0.59 | V                         |
| Maximum Instantaneous Reverse Current (Note1)<br>( Rated dc Voltage, $T_J = 25^\circ\text{C}$ )<br>( Rated dc Voltage, $T_J = 150^\circ\text{C}$ )              | $I_R$<br>$I_{R(H)}$ | 1.0<br>5.0   | mA                        |
| Maximum Reverse Recovery Time( $I_F = 1\text{A}$ , $di/dt=100 \text{ A}/\mu\text{s}$ , $V_R = 30 \text{ V}$ )                                                   | $T_{rr}$            | 35           | ns                        |
| Thermal Resistance Junction to Ambient                                                                                                                          | $R_{\theta JA}$     | 60           | $^\circ\text{C}/\text{W}$ |
| Thermal Resistance Junction to Lead                                                                                                                             | $R_{\theta JL}$     | 12           | $^\circ\text{C}/\text{W}$ |
| Operating Junction Temperature                                                                                                                                  | $T_J$               | - 55 to +150 | $^\circ\text{C}$          |

## RATING AND CHARACTERISTIC CURVES ( MBR3201 )

FIG.1 - CURRENT DERATING

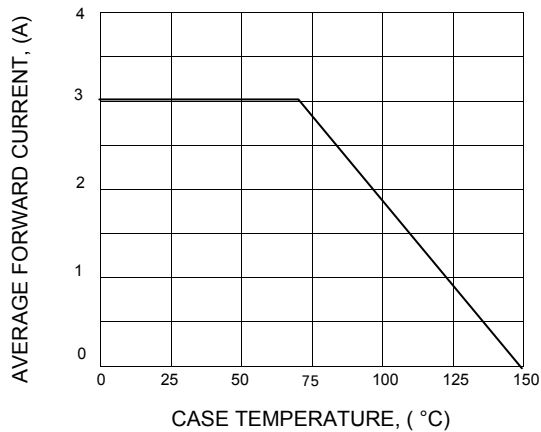


FIG.2 - POWER DISSIPATION

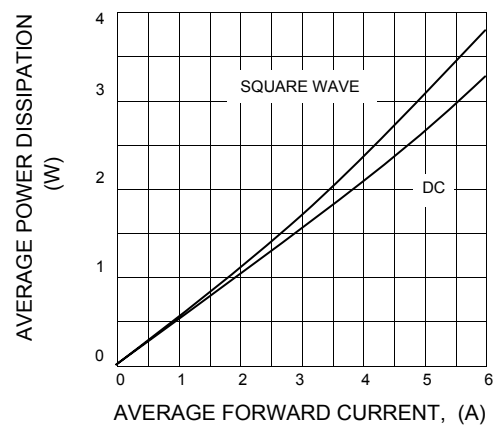


FIG.3 - TYPICAL FORWARD VOLTAGE

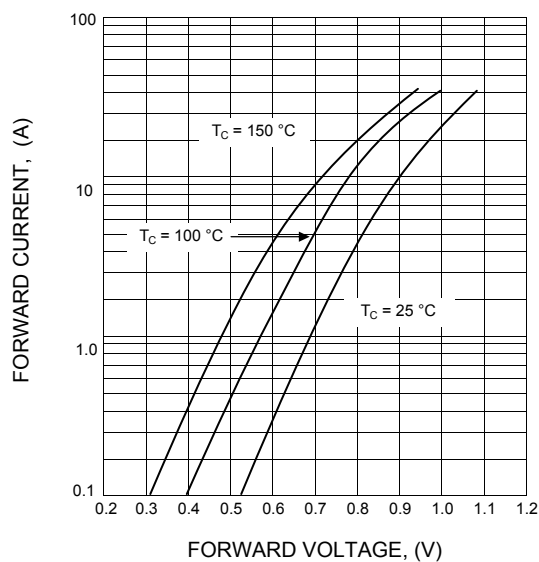


FIG.4 - TYPICAL REVERSE CURRENT

