

# MBR0520L

**PRV : 20 Volts**  
**I<sub>o</sub> : 0.5 Ampere**

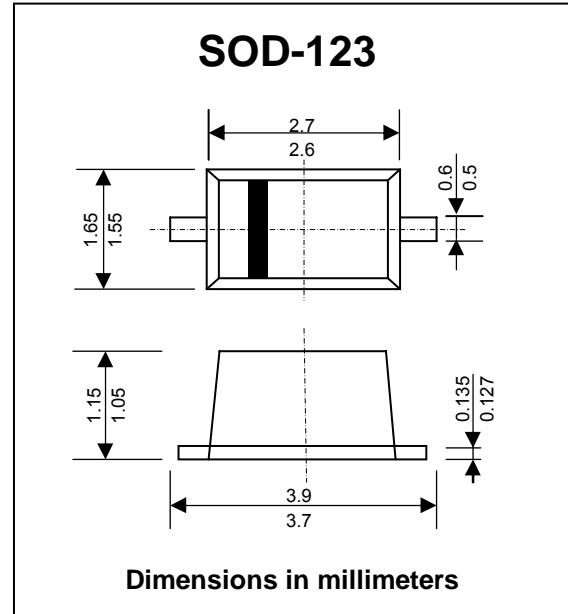
## FEATURES :

- \* Guardring for Stress Protection
- \* Very Low Forward Voltage
- \* 125 °C Operating Junction Temperature
- \* Package Designed for Optimal Automated Board Assembly
- \* Pb / RoHS Free

## MECHANICAL DATA :

- \* Case : SOD-123
- \* Weight : 0.01 gram (approximately)

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER



## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

Rating at 25 °C ambient temperature unless otherwise specified.

| RATING  | SYMBOL          | VALUE                          | UNIT |
|---|-----------------|--------------------------------|------|
| Maximum Peak Repetitive Reverse Voltage   | $V_{RRM}$       | 20                             | V    |
| Maximum Working Peak Reverse Voltage  | $V_{RWM}$       | 20                             | V    |
| Maximum DC Blocking Voltage   | $V_R$           | 20                             | V    |
| Maximum Average Rectified Forward Current, $T_L = 90\text{ °C}$   | $I_{F(AV)}$     | 0.5                            | A    |
| Maximum Non-Repetitive Peak Forward Surge Current<br>( Surge Applied at Rated Load Conditions Halfwave,<br>Single Phase, 60 HZ) | $I_{FSM}$       | 5.5                            | A    |
| Maximum Instantaneous Forward Voltage at $I_F = 0.5\text{ A}$<br>(Note 1)   | $V_F$           | 0.385( $T_J = 25\text{ °C}$ )  | V    |
|   |                 | 0.330( $T_J = 100\text{ °C}$ ) |      |
| Maximum Instantaneous Reverse Current<br>at Rated DC Voltage = 20 V (Note 1)  | $I_R$           | 0.250( $T_J = 25\text{ °C}$ )  | mA   |
|   | $I_{R(H)}$      | 8.0( $T_J = 100\text{ °C}$ )   | mA   |
| Thermal Resistance Junction to Ambient (Note 2)   | $R_{\theta JA}$ | 206                            | °C/W |
| Thermal Resistance Junction to Lead   | $R_{\theta JL}$ | 150                            | °C/W |
| Junction Temperature Range  | $T_J$           | - 65 to + 125                  | °C   |
| Storage Temperature Range   | $T_{STG}$       | - 65 to + 125                  | °C   |

### Notes :

- (1) Pulse Test : Pulse Width = 300  $\mu$ s, Duty Cycle  $\leq$  2%.
- (2) 1 inch square pad size ( 1 x 0.5 inch for each lead) on FR4 board.

### RATING AND CHARACTERISTIC CURVES ( MBR0520L )

FIG.1 - DERATING CURVE

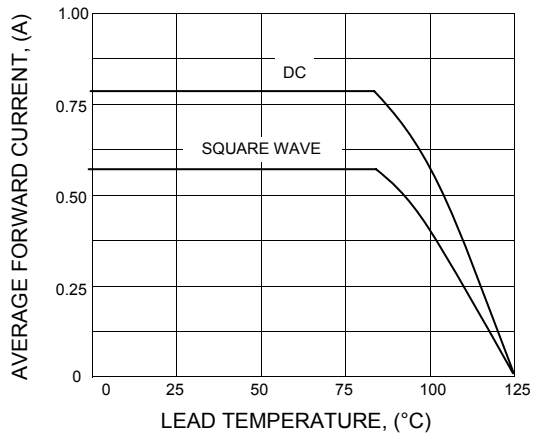


FIG.2 - TYPICAL CAPACITANCE

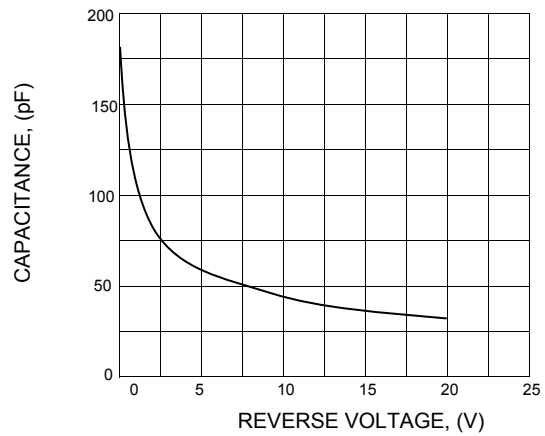


FIG.3 - TYPICAL FORWARD VOLTAGE

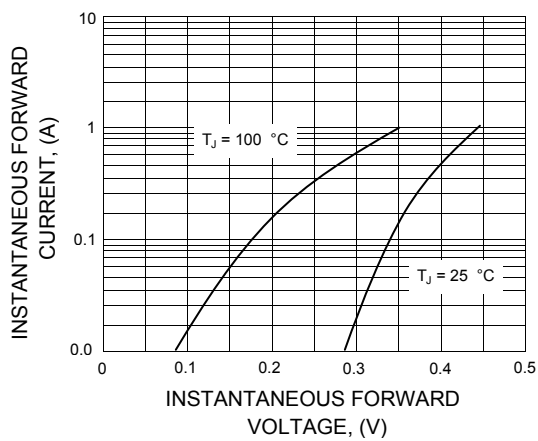


FIG.4 - TYPICAL REVERSE CURRENT

