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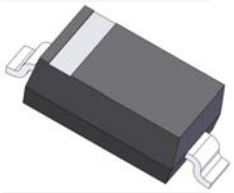
October 2014

# MBR0520L
# Schottky Rectifier

## Features

- 0.5 A, Low Forward Voltage less than 385 mV
- 400 mW Power Dissipation Package
- Compact Surface Mount Package with The Same Footprint as Mini-melf



**SOD-123**
* Band marking denotes cathode

## Ordering Information

| Part Number | Top Mark | Package | Packing Method |
|---|---|---|---|
| MBR0520L | B2 | SOD-123 2L | Tape and Reel |

## Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $V_{RRM}$ | Maximum Repetitive Reverse Voltage | 20 | V |
| $I_{F(AV)}$ | Average Rectified Forward Current | 500 | mA |
| $I_{FSM}$ | Non Repetitive Peak Forward Current (Surge Applied at Rated Load Conditions Half-Wave, Single-Phase, 60 Hz) | 5.5 | A |
| $T_{STG}$ | Storage Temperature Range | -65 to +150 | °C |
| $T_{Jmax}$ | Operating Junction Temperature | -65 to +125 | °C |

## Thermal Characteristics

Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Value | Unit |
|---|---|---|---|
| $R_{\theta JA}$ | Thermal Resistance, Junction-to-Ambient[1] | 340 | °C/W |
| $R_{\theta JL}$ | Thermal Resistance, Junction-to-Lead | 150 | °C/W |

**Note:**

1. FR-4 or FR-5 = 3.5 inch x 1.5 inch using minimum recommended land pads.

## Electrical Characteristics

Values are at $T_A$ = 25°C unless otherwise noted.

| Symbol | Parameter | Conditions | Min. | Max. | Unit |
|---|---|---|---|---|---|
| $V_F$ | Forward Voltage | $I_F$ = 100 mA | | 300 | mV |
| | | $I_F$ = 100 mA, $T_A$ = 100°C | | 220 | |
| | | $I_F$ = 500 mA | | 385 | |
| | | $I_F$ = 500 mA, $T_A$ = 100°C | | 330 | |
| $I_R$ | Reverse Current | $V_R$ = 10 V | | 75 | µA |
| | | $V_R$ = 10 V, $T_A$ = 100°C | | 5.0 | mA |
| | | $V_R$ = 20 V | | 250 | µA |
| | | $V_R$ = 20 V, $T_A$ = 100°C | | 8.0 | mA |

## Typical Performance Characteristics

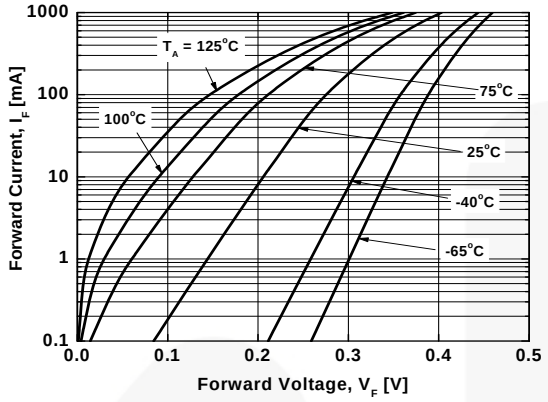



**Figure 1. Forward Current vs. Forward Voltage**

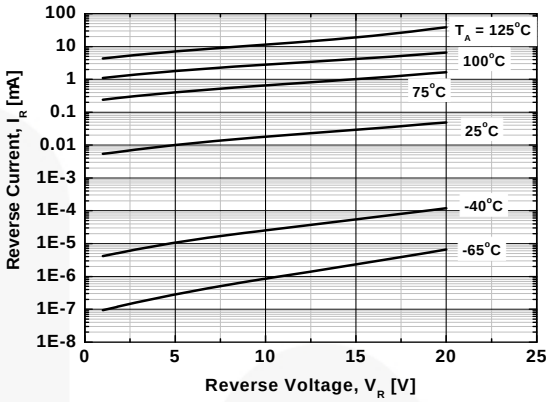



**Figure 2. Reverse Current vs. Reverse Voltage**

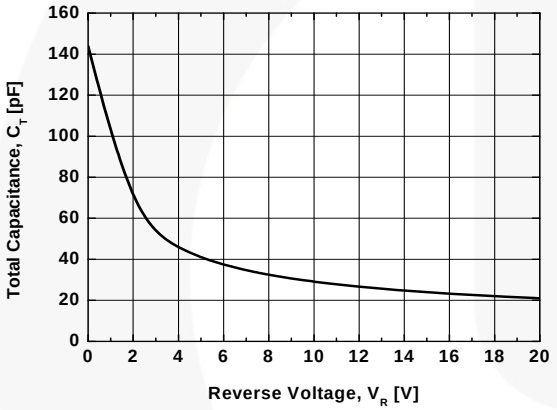
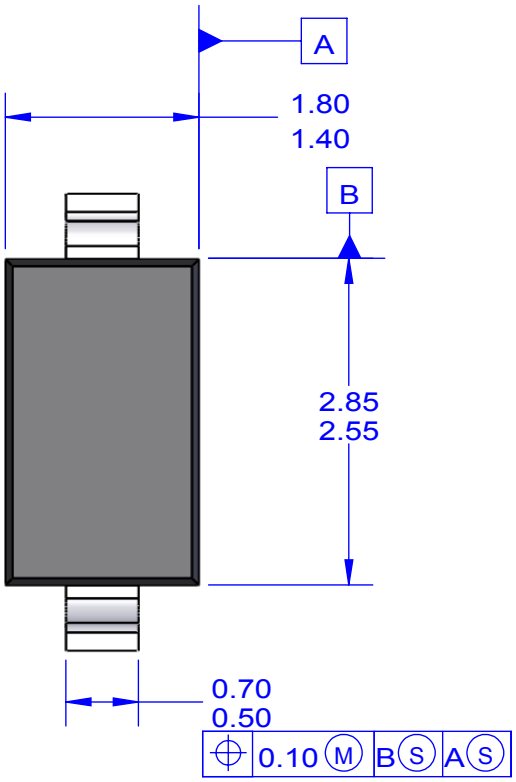
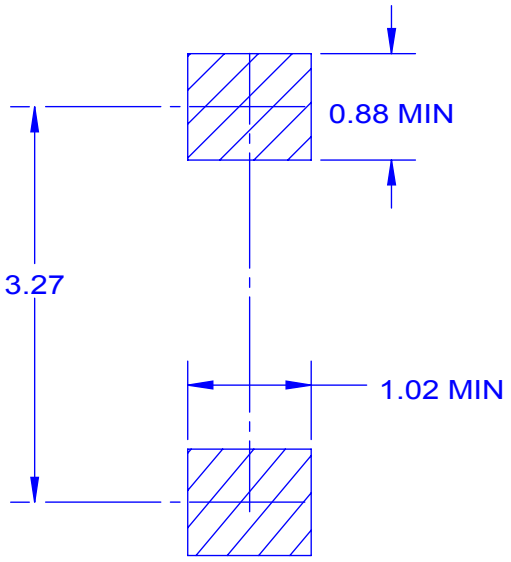


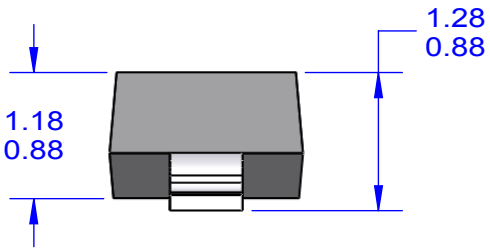

**Figure 3. Total Capacitance**



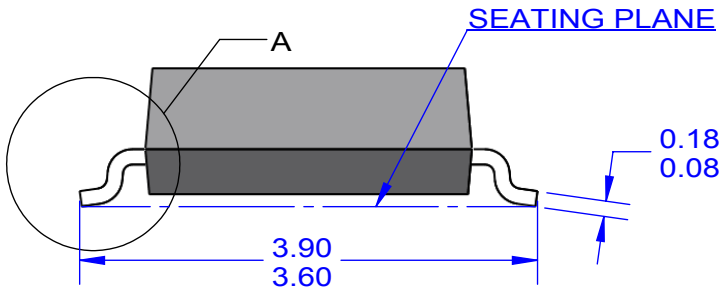

TOP VIEW



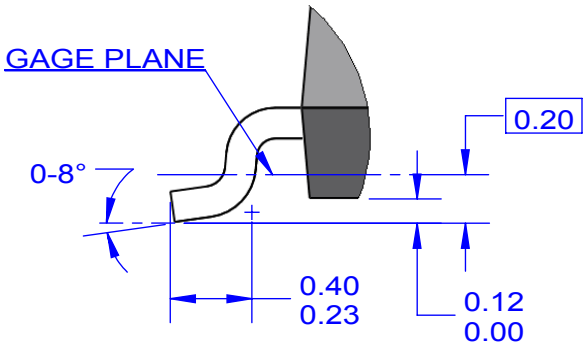

LAND PATTERN
RECOMMENDATION




FRONT VIEW




SIDE VIEW




DETAIL "A"
SCALE 2:1

NOTES: UNLESS OTHERWISE SPECIFIED
A) PACKAGE REFERENCE: JEDEC, DO-215 ISSUE D, VARIATION AD.
B) ALL DIMENSIONS ARE IN MILLIMETERS.
C) DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
E) DRAWING FILE NAME: MA02AREV4

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