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October 2014

# MBR0530 Schottky Rectifier

## Features

- 0.5 A, Low Forward Voltage less than 430 mV
- 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
MBR0530	B3	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  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$V_{RRM}$	Maximum Repetitive Reverse Voltage	30	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	$^\circ\text{C}$
$T_{Jmax}$	Operating Junction Temperature	-65 to +125	$^\circ\text{C}$

### Thermal Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance, Junction-to-Ambient <sup>(1)</sup>	206	$^\circ\text{C/W}$
$R_{\theta JL}$	Thermal Resistance, Junction-to-Lead	173	$^\circ\text{C/W}$

**Note:**

1. 1 inch square pad size on FR-4 board.

### Electrical Characteristics

Values are at  $T_A = 25^\circ\text{C}$  unless otherwise noted.

Symbol	Parameter	Conditions	Min.	Max.	Unit
$V_F$	Forward Voltage	$I_F = 100\text{ mA}$		375	mV
		$I_F = 100\text{ mA}, T_A = 100^\circ\text{C}$		340	
		$I_F = 500\text{ mA}$		430	
		$I_F = 500\text{ mA}, T_A = 100^\circ\text{C}$		420	
$I_R$	Reverse Current	$V_R = 15\text{ V}$		20	$\mu\text{A}$
		$V_R = 30\text{ V}$		130	$\mu\text{A}$
		$V_R = 30\text{ V}, T_A = 100^\circ\text{C}$		5	mA

Typical Performance Characteristics

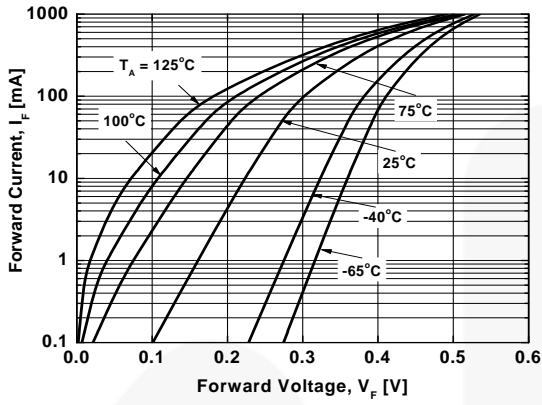


Figure 1. Forward Current vs. Forward Voltage

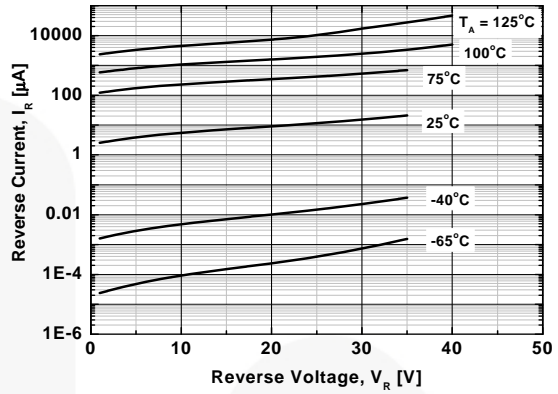


Figure 2. Reverse Current vs. Reverse Voltage

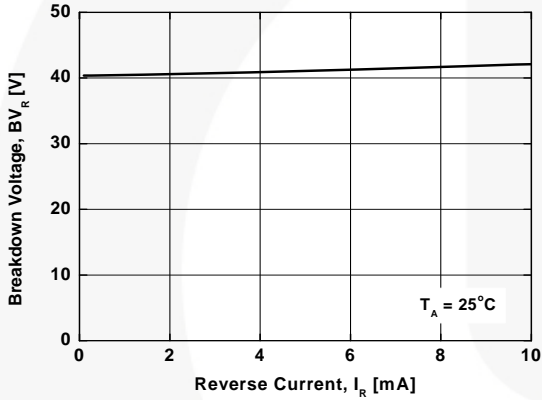


Figure 3. Breakdown Voltage vs. Reverse Current

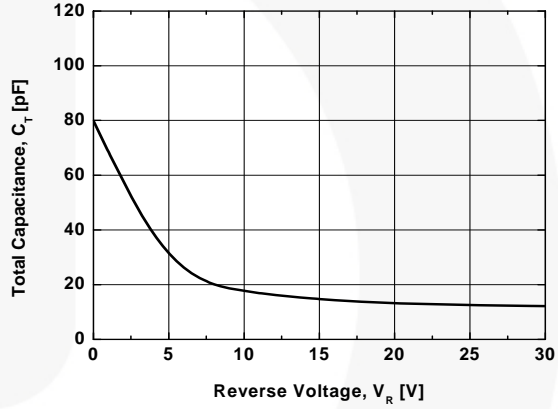
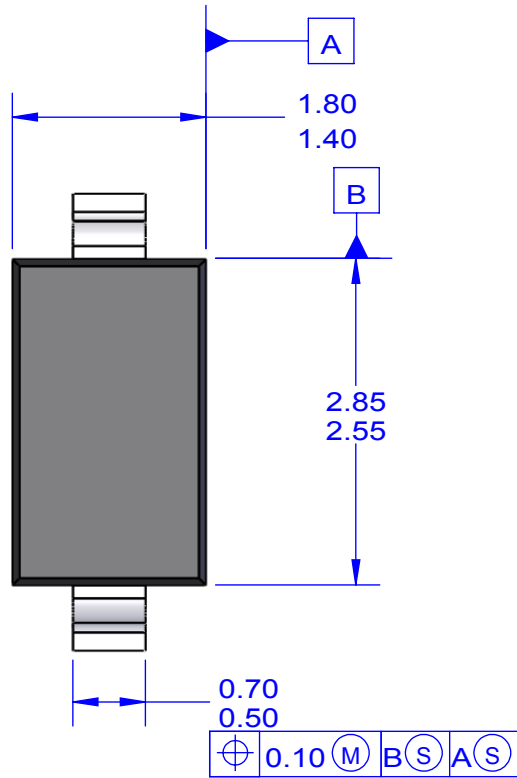
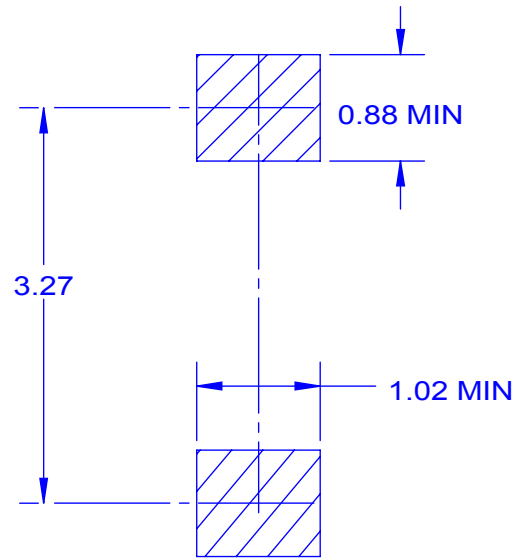


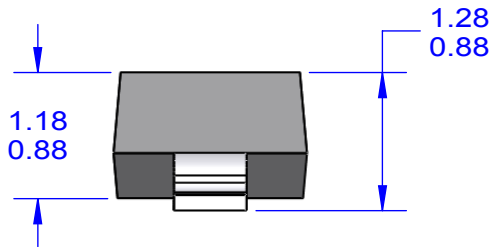
Figure 4. Total Capacitance



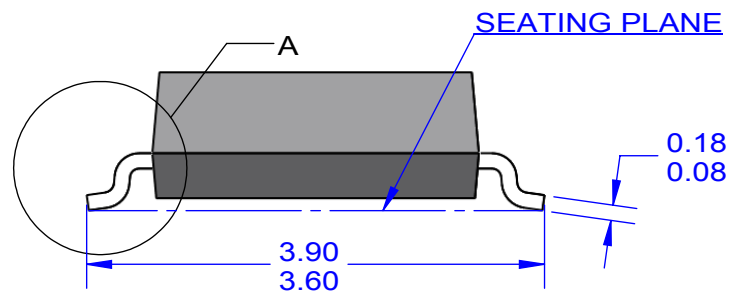
TOP VIEW



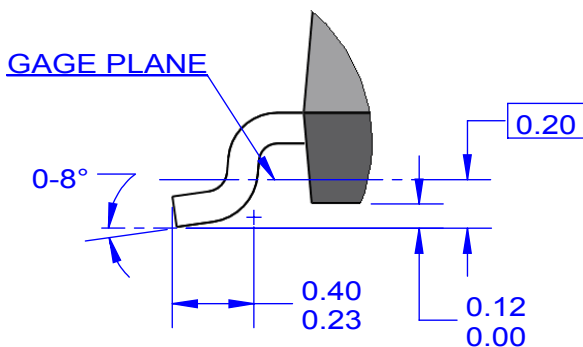
LAND PATTERN RECOMMENDATION



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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