

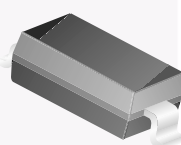


March 2012

# **MBR0530** **Schottky Rectifier**

## **Features**

- 0.5 Ampere, low forward voltage, less than 430mV
- Compact surface mount package with the same footprint as mini-melf



**SOD123**  
Color Band Denotes Cathode  
Mark: B3

## **Absolute Maximum Ratings \***

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, 60Hz)	5.5	A
$T_{STG}$	Storage Temperature Range	-65 to +150	$^{\circ}\text{C}$
$T_{Jmax}$	Operating Junction Temperature	-65 to +125	$^{\circ}\text{C}$

\* These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

## **Thermal Characteristics**

Symbol	Parameter	Value	Units
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient *	206	$^{\circ}\text{C/W}$
$R_{\theta JL}$	Thermal Resistance, Junction to Lead	173	$^{\circ}\text{C/W}$

\* 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	Value	Units
$V_F$	Forward Voltage @ $I_F = 100\text{mA}$ $I_F = 100\text{mA}, T_a = 100^{\circ}\text{C}$ $I_F = 500\text{mA}$ $I_F = 500\text{mA}, T_a = 100^{\circ}\text{C}$	375	mV
		340	mV
		430	mV
		420	mV
$I_R$	Reverse Current @ $V_R = 15\text{V}$ $V_R = 30\text{V}$ $V_R = 30\text{V}, T_a = 100^{\circ}\text{C}$	20	$\mu\text{A}$
		130	$\mu\text{A}$
		5	mA

## Typical Performance Characteristics

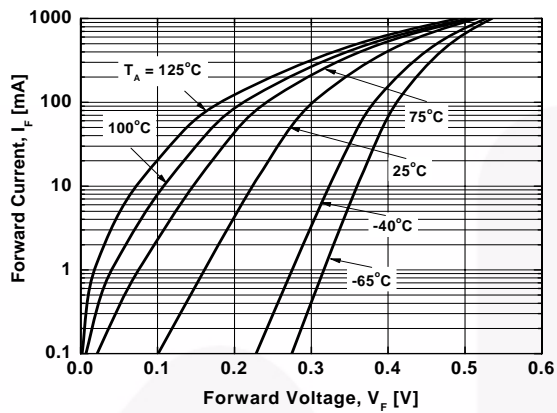


Figure 1. Forward Current vs Forward Voltage

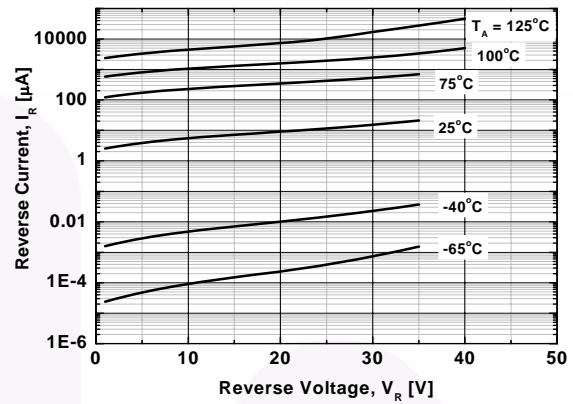


Figure 2. Reverse Current vs Reverse Voltage

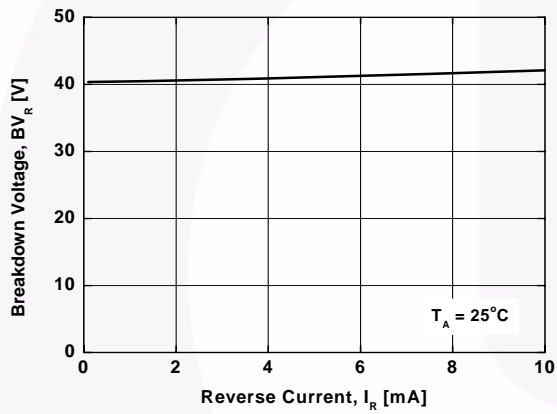


Figure 3. Breakdown Voltage vs Reverse Current

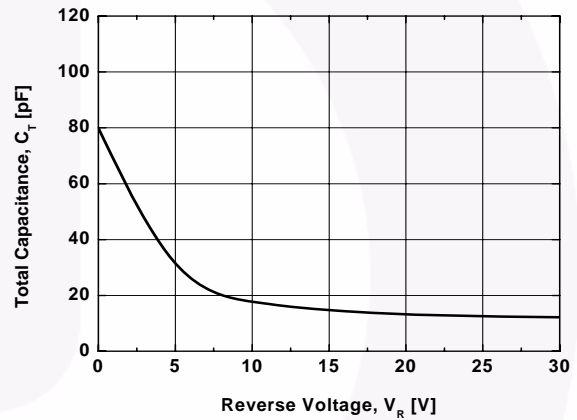


Figure 4. Total Capacitance



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