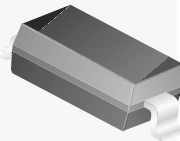


# MBR0540

## Schottky Rectifier

### Features

- 0.5 Ampere, low forward voltage, less than 460mV.
- 400 milliwatt Power Dissipation package.
- Compact surface mount package with the same footprint as mini-melf.



**SOD123**  
Color Band Denotes Cathode  
Mark: B4

### 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	40	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 **	118	$^\circ\text{C/W}$

\* 1.0 inch" pad size (1.0 x 0.5 inch for each lead) on FR4 board.

\*\* Device mounted on FR-4 PCB 0.013 mm.

### Electrical Characteristics

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

Symbol	Parameter	Value	Units
$V_F$	Forward Voltage @ $I_F = 500\text{mA}$ $I_F = 500\text{mA}, T_a = 100^\circ\text{C}$ $I_F = 1.0\text{A}$ $I_F = 1.0\text{A}, T_a = 100^\circ\text{C}$	510	mV
		460	mV
		620	mV
		610	mV
$I_R$	Reverse Current @ $V_R = 20\text{V}$ $V_R = 20\text{V}, T_a = 100^\circ\text{C}$ $V_R = 40\text{V}$ $V_R = 40\text{V}, T_a = 100^\circ\text{C}$	10	$\mu\text{A}$
		5.0	mA
		20	$\mu\text{A}$
		13	mA

Typical Performance Characteristics

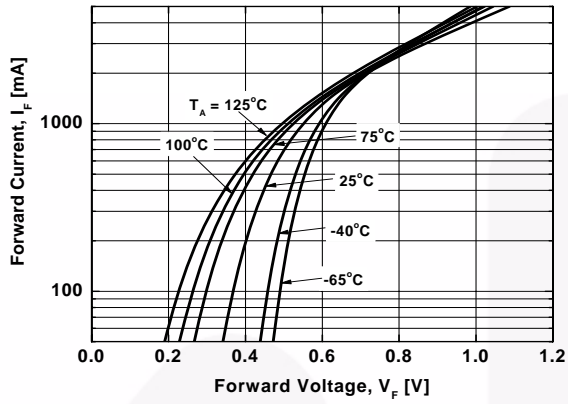


Figure 1. Forward Current vs Forward Voltage

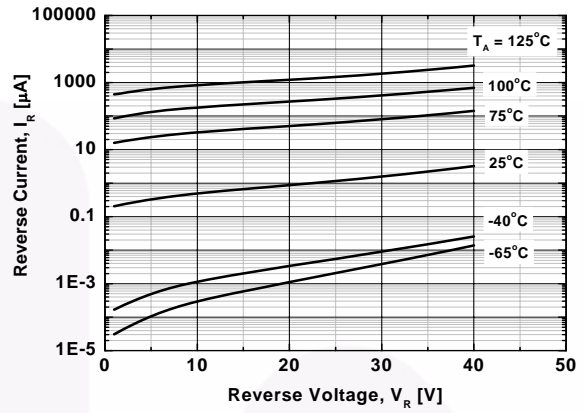


Figure 2. Reverse Current vs Reverse Voltage

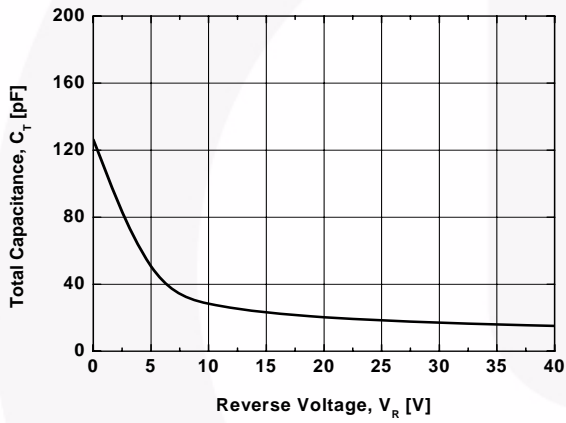






Figure 3. Total Capacitance





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| BitSiC™  | GreenBridge™                                   | QFET®  | TinyBuck™   |
| Build it Now™  | Green FPS™                                     | QS™  | TinyCalc™   |
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| FACT Quiet Series™   | MotionMax™                                     | SuperSOT™-6  | UniFET™   |
| FACT®  | Motion-SPM™                                    | SupreMOS®  | VCX™  |
| FAST®  | mWSaver™                                       | SyncFET™   | VisualMax™  |
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