FAIRCHILD SEMICONDUCTOR®

July 2009

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 * T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
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	°C
T_{Jmax}	Operating Junction Temperature	-65 to +125	°C

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

Thermal Characteristics

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

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

Electrical Characteristics T_C = 25°C unless otherwise noted

Symbol	Parameter		Value	Units
V_F	Forward Voltage	@ I_F = 100mA	375	mV
		I_F = 100mA, T_A = 100°C	340	mV
		I_F = 500mA	430	mV
		I_F = 500mA, T_A = 100°C	420	mV
I_R	Reverse Current	@ V_R = 15V	20	µA
		V_R = 30V	130	µA
		V_R = 30V, T_a = 100°C	5	mA

Typical Performance Characteristics

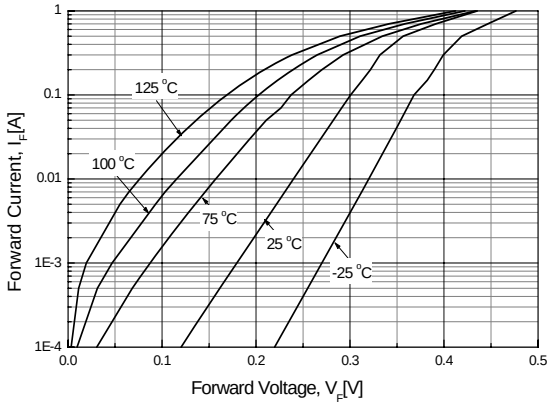

Figure 1. Forward Current vs Forward Voltage

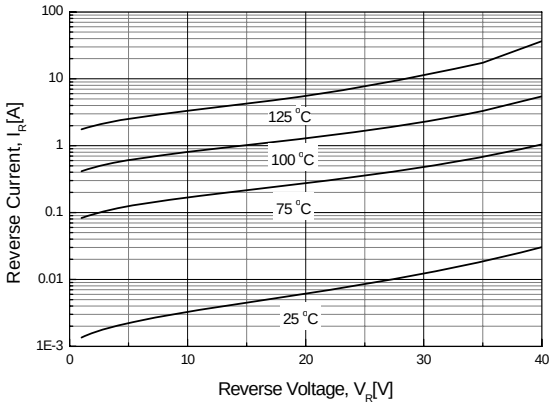

Figure 2. Reverse Current vs Reverse Voltage

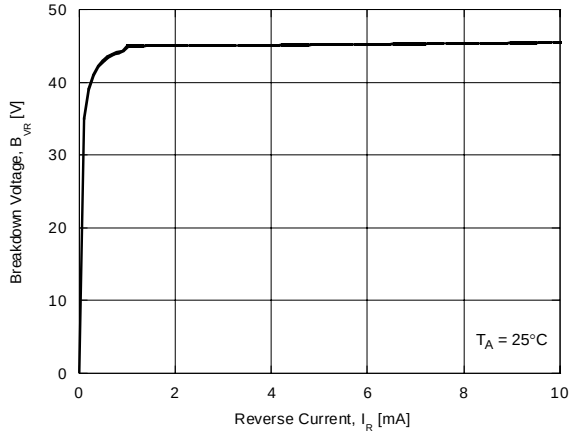

Figure 3. Breakdown Voltage vs Reverse Current

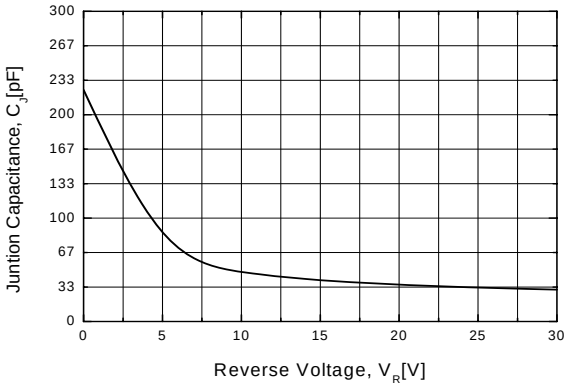

Figure 4. Total Capacitance

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