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

Applications

- Solid−State Relays
- Industrial Controls
- Lighting Controls
- Static Power Switches
- AC Motor Starters

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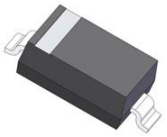
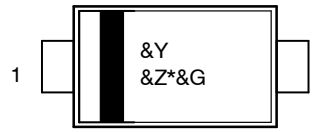


SOD−123
CASE 425−04

MARKING DIAGRAM



&Y	= Binary Calendar Year Coding Scheme
&Z	= Assembly Plant Code
*	= Specific Device Code B3
&G	= Single Digit Weekly Datecode

ABSOLUTE MAXIMUM RATINGS (T_A = 25°C unless otherwise noted)

Symbol	Description	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	°C
T_{Jmax}	Operating Junction Temperature	−65 to +125	°C

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

Table 1. ORDERING INFORMATION

Part Number	Top Mark	Package	Packing Method
MBR0530	B3	SOD−123 2L	Tape and Reel

Table 2. THERMAL CHARACTERISTICS (Values are at T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient (Note 1)	206	°C/W
$R_{\theta JL}$	Thermal Resistance, Junction−to−Lead	173	°C/W

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

Table 3. 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		375	mV
		I_F = 100 mA, T_A = 100°C		340	
		I_F = 500 mA		430	
		I_F = 500 mA, T_A = 100°C		420	
I_R	Reverse Current	V_R = 15 V		20	μA
		V_R = 30 V		130	μA
		V_R = 30 V, T_A = 100°C		5	mA

TYPICAL PERFORMANCE CHARACTERISTICS

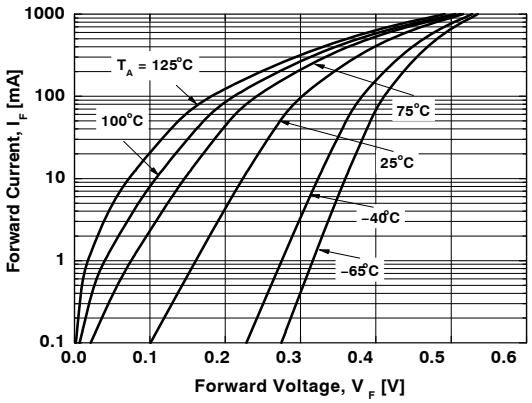


Figure 1. Forward Current vs. Forward Voltage

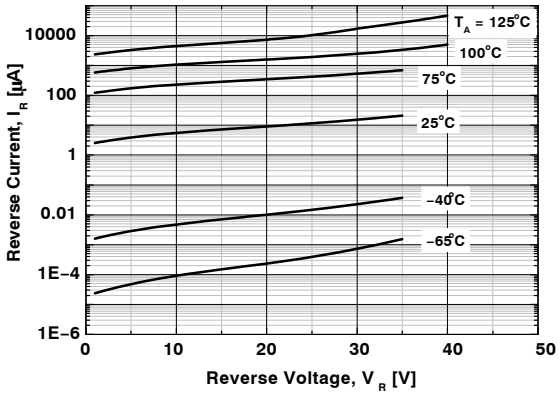


Figure 2. Reverse Current vs. Reverse Voltage

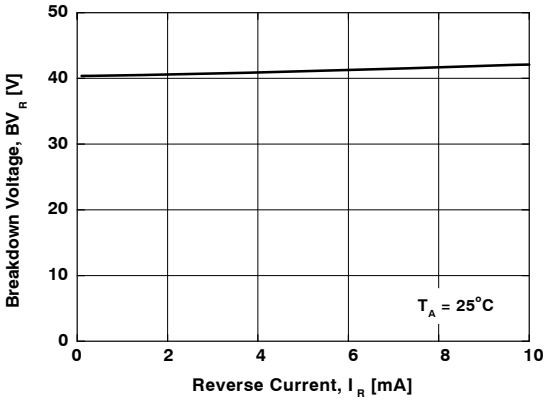


Figure 3. Breakdown Voltage vs. Reverse Current

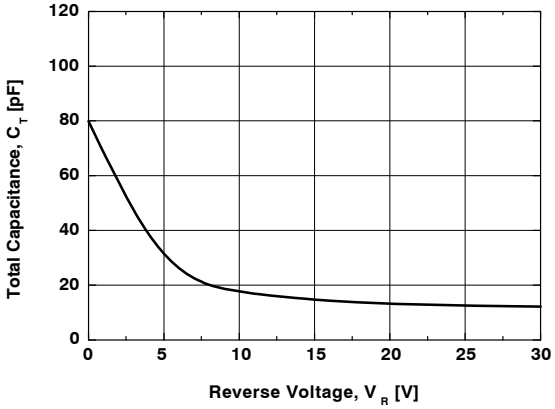


Figure 4. Total Capacitance

MECHANICAL CASE OUTLINE
PACKAGE DIMENSIONS

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SCALE 5:1

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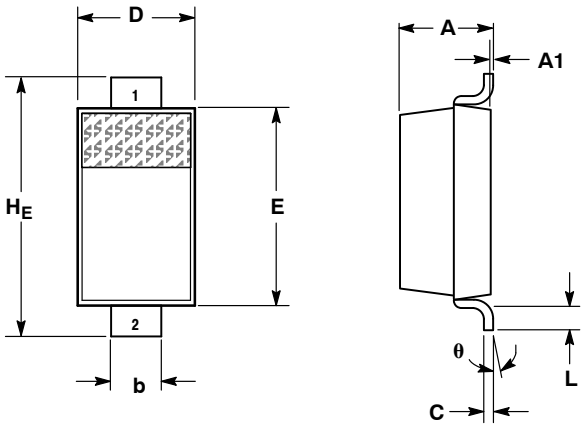
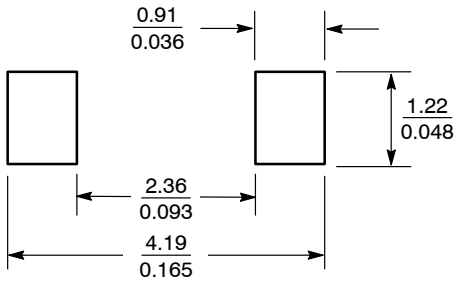
DATE 07 OCT 2009



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.94	1.17	1.35	0.037	0.046	0.053
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.51	0.61	0.71	0.020	0.024	0.028
c	---	---	0.15	---	---	0.006
D	1.40	1.60	1.80	0.055	0.063	0.071
E	2.54	2.69	2.84	0.100	0.106	0.112
H_E	3.56	3.68	3.86	0.140	0.145	0.152
L	0.25	---	---	0.010	---	---
θ	0°	---	10°	0°	---	10°

SOLDERING FOOTPRINT*



SCALE 10:1 $\left(\frac{\text{mm}}{\text{inches}}\right)$

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

GENERIC MARKING DIAGRAM*

XXX = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, “G” or microdot “ ▪”, may or may not be present.

STYLE 1:
PIN 1. CATHODE
2. ANODE

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DESCRIPTION:	**SOD−123**		**PAGE 1 OF 1**

PUBLICATION ORDERING INFORMATION

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