

# Schottky Barrier Diode

## NSR0130P2

These Schottky barrier diodes are designed for high-speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand-held and portable applications where space is limited.

### Features

- Extremely Fast Switching Speed
- Extremely Low Forward Voltage 0.385 V (max) @  $I_F = 10$  mA
- Low Reverse Current
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	30	Vdc
Forward Current DC	$I_F$	100	mA
Forward Current Surge Peak (60 Hz, 1 cycle)	$I_{FSM}$	1.0	A
ESD Rating: Class 3B per Human Body Model Class B per Machine Model			

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.

### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (Note 1) $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_D$	200 2.0	mW mW/ $^\circ\text{C}$
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	600	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +125	$^\circ\text{C}$

1. FR-5 Minimum Pad.

### ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

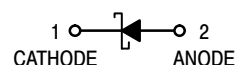
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Leakage ( $V_R = 10$ V) ( $V_R = 30$ V)	$I_R$	- -	- -	0.35 3.0	$\mu\text{A}$
Forward Voltage ( $I_F = 10$ mA) ( $I_F = 100$ mA)	$V_F$	- -	- -	0.385 0.525	Vdc



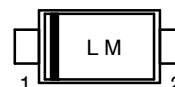
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## 30 V SCHOTTKY BARRIER DIODE



### MARKING DIAGRAM



L = Specific Device Code\*  
(Character is rotated  $270^\circ$  clockwise)  
M = Month Code

### ORDERING INFORMATION

Device	Package	Shipping†
NSR0130P2T5G	SOD-923 (Pb-Free)	2 mm Pitch 8000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

# NSR0130P2

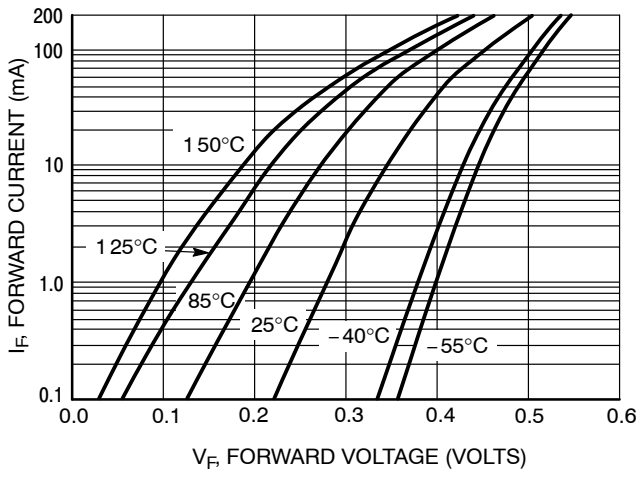


Figure 1. Forward Voltage

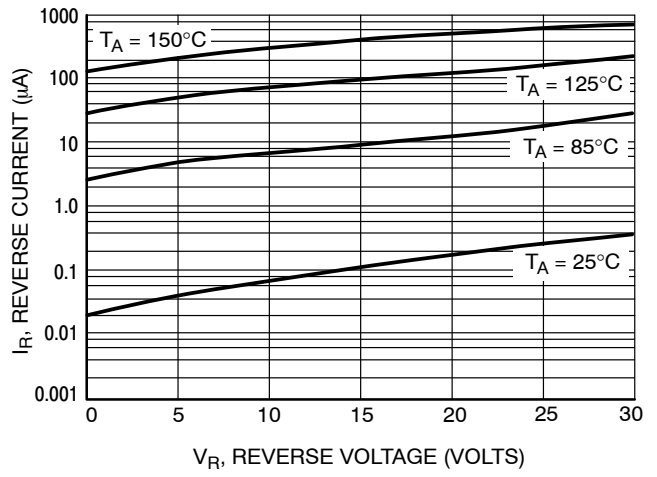


Figure 2. Leakage Current

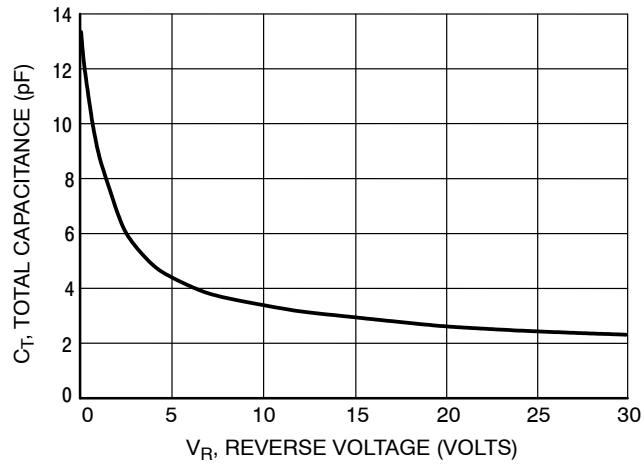
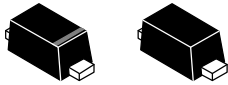


Figure 3. Total Capacitance

# MECHANICAL CASE OUTLINE

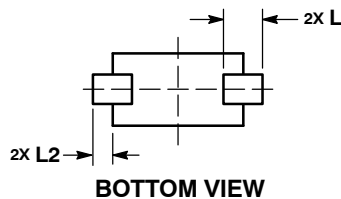
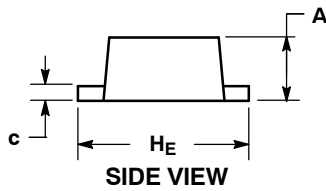
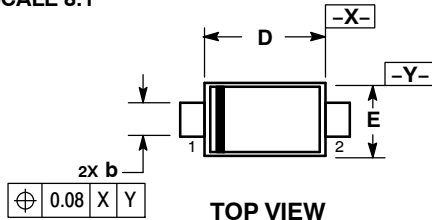
## PACKAGE DIMENSIONS

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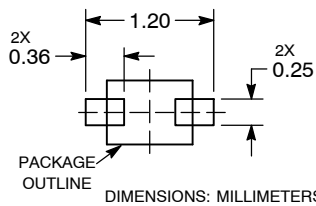


STYLE 1      STYLE 2

SCALE 8:1



### SOLDERING FOOTPRINT\*



See Application Note AND8455/D for more mounting details

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

**SOD-923**  
CASE 514AB-01  
ISSUE C

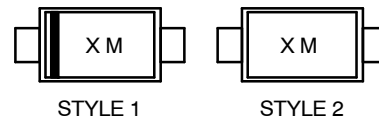
DATE 11 MAR 2011

#### NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.34	0.37	0.40	0.013	0.015	0.016
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
HE	0.95	1.00	1.05	0.037	0.039	0.041
L	0.19 REF			0.007 REF		
L2	0.05	0.10	0.15	0.002	0.004	0.006

### GENERIC MARKING DIAGRAM\*



X = Specific Device Code  
M = Date Code

\*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 (POLARITY BAND)  
2. ANODE

STYLE 2:  
NO POLARITY

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<b>STATUS:</b>	<b>ON SEMICONDUCTOR STANDARD</b>	
<b>NEW STANDARD:</b>		
<b>DESCRIPTION:</b>	<b>SOD-923, 1.0X0.6X0.37, MAX HEIGHT 0.40</b>	<b>PAGE 1 OF 2</b>



ISSUE	REVISION	DATE
O	RELEASED FOR PRODUCTION. REQ. BY J. DAUGHERTY.	29 AUG 2006
A	CHANGED DIMENSION A VALUES. REQ. BY D. TRUHITTE.	23 JAN 2007
B	CREATED CATHODE AND NON-CATHODE BAND VERSIONS. REQ. BY J. DAUGHERTY.	07 MAR 2007
C	ADDED BOTTOM VIEW AND DIMENSION L2. MODIFIED SOLDER FOOTPRINT. REQ. BY D. TRUHITTE.	11 MAR 2011

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