

Schottky Barrier Diode

NSR0230P2

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 0.325 V (max) @ $I_F = 10$ mA
- Low Reverse Current
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- 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	200	mA
Forward Current Surge Peak (60 Hz, 1 cycle)	I_{FSM}	1.0	A
ESD Rating: Class 3B per Human Body Model Class C 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°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)

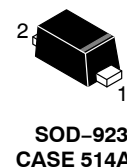
Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Leakage ($V_R = 10$ V)	I_R	–	–	10	μA
Forward Voltage ($I_F = 10$ mA) ($I_F = 200$ mA)	V_F	– –	– –	0.325 0.500	Vdc



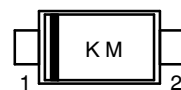
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30 V SCHOTTKY BARRIER DIODE



MARKING DIAGRAM



K = Specific Device Code*
(Character is rotated 270° clockwise)
M = Month Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR0230P2T5G	SOD-923 (Pb-Free)	2 mm Pitch 8000/Tape & Reel
NSVR0230P2T5G	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.

TYPICAL CHARACTERISTICS

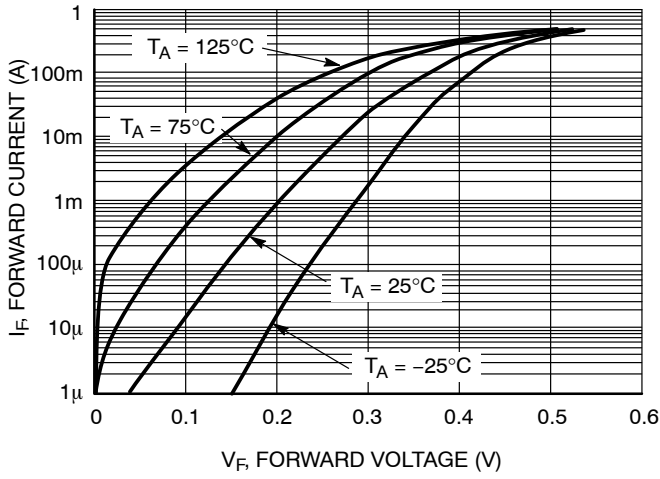


Figure 1. Forward Characteristics

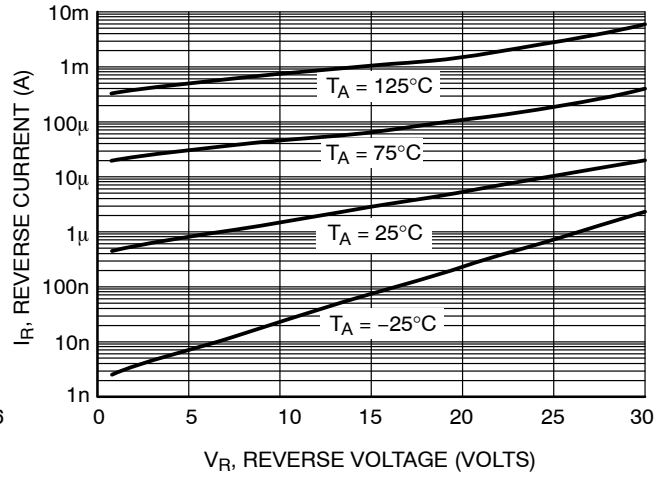


Figure 2. Reverse Characteristics

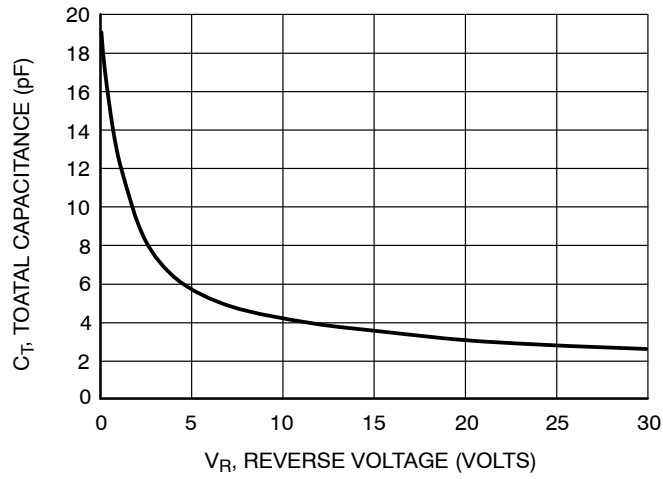
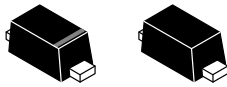


Figure 3. Total Capacitance

MECHANICAL CASE OUTLINE

PACKAGE DIMENSIONS

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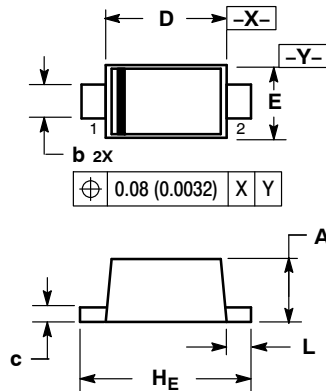


STYLE 1 STYLE 2

SCALE 8:1

SOD-923
CASE 514AB-01
ISSUE B

DATE 07 MAR 2007

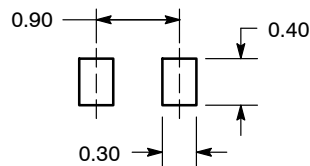


NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

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
H _E	0.95	1.00	1.05	0.037	0.039	0.041
L	0.05	0.10	0.15	0.002	0.004	0.006

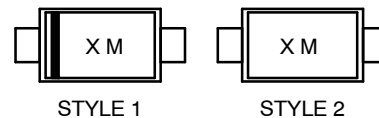
SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

*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*



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

DOCUMENT NUMBER:	98AON23284D	Electronic versions are uncontrolled except when accessed directly from the Document Repository. Printed versions are uncontrolled except when stamped "CONTROLLED COPY" in red.
DESCRIPTION:	SOD-923, 1.0X0.6X0.37, MAX HEIGHT 0.40	PAGE 1 OF 1

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