# NSR0230P2, NSVR0230P2,

# **Schottky Barrier Diode**

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) @  $I_F = 10 \text{ mA}$
- 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 <sub>R</sub>	30	Vdc
Forward Current DC	I <sub>F</sub>	200	mA
Forward Current Surge Peak (60 Hz, 1 cycle)	I <sub>FSM</sub>	1.0	Α
ESD Rating: Class 3B per Human Body Model			

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

#### THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board, (Note 1) T <sub>A</sub> = 25°C	P <sub>D</sub>	200	mW
Derate above 25°C		2.0	mW/°C
Thermal Resistance, Junction-to-Ambient	$R_{\theta JA}$	600	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to +125	°C

<sup>1.</sup> FR-5 Minimum Pad.

# **ELECTRICAL CHARACTERISTICS** (T<sub>A</sub> = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Leakage (V <sub>R</sub> = 10 V)	I <sub>R</sub>	-	-	10	μΑ
Forward Voltage (I <sub>F</sub> = 10 mA) (I <sub>F</sub> = 200 mA)	V <sub>F</sub>	-	-	0.325 0.500	Vdc



## ON Semiconductor®

http://onsemi.com

# 30 V SCHOTTKY BARRIER DIODE





SOD-923 CASE 514AA

1 2

**MARKING** 

**DIAGRAM** 

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

M = Month Code

= Pb-Free Package

(Note: Microdot may be in either location)

#### **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

<sup>†</sup>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.

# NSR0230P2, NSVR0230P2,

## **TYPICAL CHARACTERISTICS**

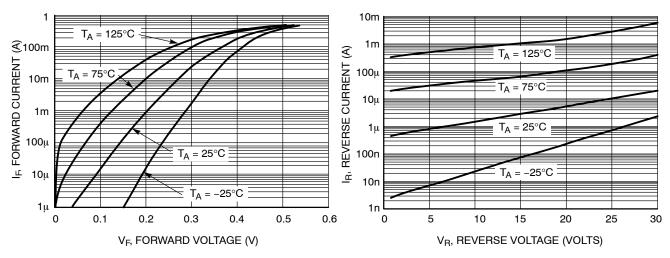


Figure 1. Forward Characteristics

Figure 2. Reverse Characteristics

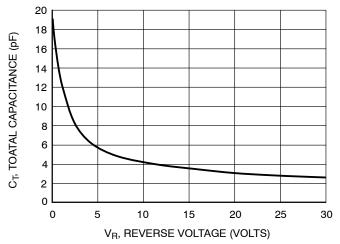
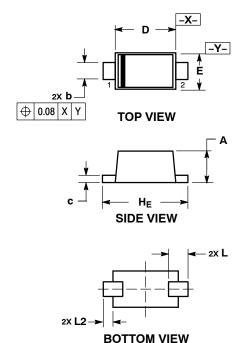


Figure 3. Total Capacitance

#### NSR0230P2, NSVR0230P2,

#### PACKAGE DIMENSIONS

SOD-923 CASE 514AA ISSUE E

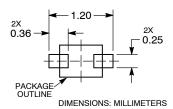


#### NOTES:

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

	MILLIMETERS			MILLIMETERS INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
Α	0.34	0.39	0.43	0.013	0.015	0.017
b	0.15	0.20	0.25	0.006	0.008	0.010
С	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 RE	F	
L2	0.05	0.10	0.15	0.002	0.004	0.006

#### **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.

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