

Schottky Barrier Diode NSR0620P2

Schottky barrier diodes are optimized for very low forward voltage drop and low leakage current and are used in a wide range of dc-dc converter, clamping and protection applications in portable devices. NSR0620P2 in a SOD-923 miniature package enables designers to meet the challenging task of achieving higher efficiency and meeting reduced space requirements.

Features

- Very Low Forward Voltage Drop 350 mV @ 100 mA
- Low Reverse Current 2.0 μA @ 10 V
- Continuous Forward Current 500 mA
- Power Dissipation with Minimum Trace 190 mW
- Very High Switching Speed 4.0 ns @ 10 mA
- Low Capacitance 12 pF @ 1.0 V
- NSVR 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

Typical Applications

- LCD and Keypad Backlighting
- Camera Photo Flash
- Buck and Boost dc-dc Converters
- Reverse Voltage and Current Protection
- Clamping & Protection

Markets

- Mobile Handsets
- MP3 Players
- Digital Camera and Camcorders
- Notebook PCs & PDAs
- GPS

MAXIMUM RATINGS

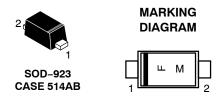
Rating	Symbol	Value	Unit
Reverse Voltage	V _R	20	Vdc
Forward Continuous Current (DC)	IF	500	mA
Non-Repetitive Peak Forward Surge Current	I _{FSM}	1.0	Α
ESD Rating: Human Body Model Machine Model	ESD	Class 3B Class C	

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.

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20 V SCHOTTKY **BARRIER DIODE**





= Specific Device Code = Month Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR0620P2T5G	SOD-923 (Pb-Free)	8000/Tape & Reel
NSVR0620P2T5G	SOD-923 (Pb-Free)	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.

THERMAL CHARACTERISTICS

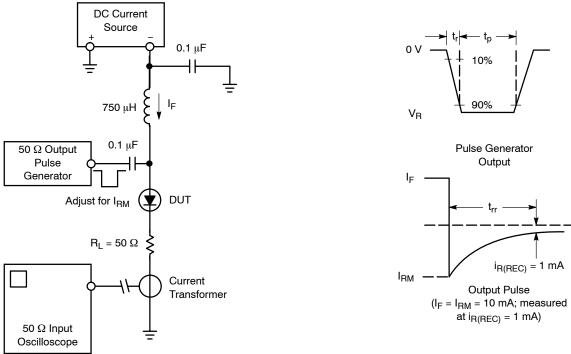
Characteristic	Symbol	Max	Unit
Thermal Resistance Junction-to-Ambient (Note 1) Total Power Dissipation @ T _A = 25°C	R _{θJA}	520	°C/W
	P _D	190	mW
Thermal Resistance Junction-to-Ambient (Note 2) Total Power Dissipation @ T _A = 25°C	R _{θJA}	175	°C/W
	P _D	570	mW
Junction Operating and Storage Temperature Range	T _J , T _{stg}	-55 to +125	°C

- 1. Mounted onto a 4 in square FR-4 board 10 mm sq. 1 oz. Cu 0.06" thick single-sided. Operating to steady state.
- 2. Mounted onto a 4 in square FR-4 board 1 in sq. 1 oz. Cu 0.06" thick single-sided. Operating to steady state.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Тур	Max	Unit
Reverse Leakage (V _R = 10 V) (V _R = 20 V)	I _R		2.0 9.0	10	μΑ
Forward Voltage (I _F = 10 mA) (I _F = 100 mA) (I _F = 500 mA)	V _F		270 350 480	310 390 520	mV
Total Capacitance (V _R = 1.0 V, f = 1 MHz)	СТ		12		pF
Reverse Recovery Time (I _F = I _R = 10 mA, I _R = 1.0 mA)	t _{rr}		4.0		ns

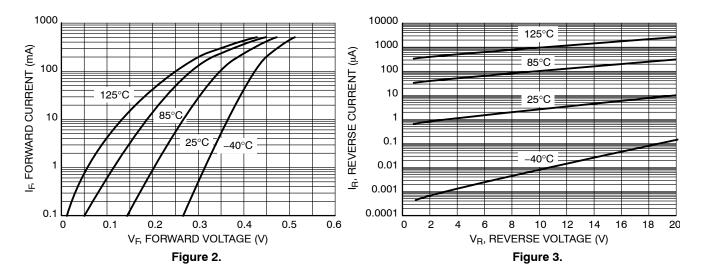
Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

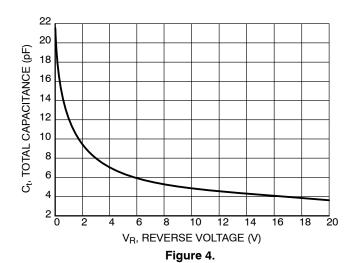


- 1. DC Current Source is adjusted for a Forward Current (I_F) of 10 mA.
- 2. Pulse Generator Output is adjusted for a Peak Reverse Recovery Current I_{RM} of 10 mA.
- 3. Pulse Generator transition time $<< t_{rr}$.
- 4. $I_{R(REC)}$ is measured at 1 mA. Typically 0.1 X I_{RM} or 0.25 X I_{RM} .
- 5. t_p » t_{rr}

Figure 1. Recovery Time Equivalent Test Circuit

NSR0620P2





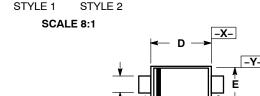




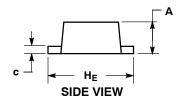


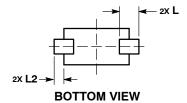
SOD-923 CASE 514AB ISSUE D

DATE 03 SEP 2020

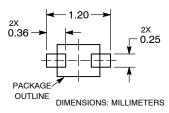








SOLDERING FOOTPRINT*



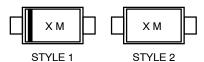
See Application Note AND8455/D for more mounting details

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

- NOTES:
 1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
- 2. CONTROLLING DIMENSION: MILLIMETERS.
 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD 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. DIMENSION L WILL NOT EXCEED 0.30mm.

	MILLIMETERS				INCHES		
DIM	MIN	NOM	MAX	MIN	MOM	MAX	
Α	0.34	0.37	0.40	0.013	0.015	0.016	
b	0.15	0.20	0.25	0.006	800.0	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	
Е	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	

GENERIC MARKING DIAGRAM*



Х = Specific Device Code = 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. Some products may not follow the Generic Marking.

STYLE 2: PIN 1. CATHODE (POLARITY BAND)
2. ANODE NO POLARITY

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DESCRIPTION:	SOD-923, 1.0x0.6x0.37, MAX	K HEIGHT 0.40	PAGE 1 OF 1

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