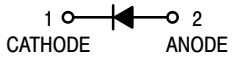
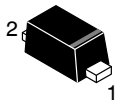
Schottky Barrier Diode

NSR0240P2

40 V SCHOTTKY BARRIER DIODE

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. NSR0240P2 in a SOD−923 miniature package enables designers to meet the challenging task of achieving higher efficiency and meeting reduced space requirements.





SOD−923
CASE 514AB

Features

- Very Low Forward Voltage Drop − 460 mV @ 100 mA
- Low Reverse Current − 0.2 μA @ 25 V VR
- 200 mA of Continuous Forward Current
- Power Dissipation of 240 mW with Minimum Trace
- Very High Switching Speed
- Low Capacitance − CT = 7 pF
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- This is a Pb−Free Device

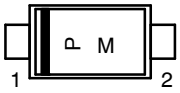
Typical Applications

- 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

MARKING DIAGRAM



P = Specific Device Code
M = Month Code

ORDERING INFORMATION

Device	Package	Shipping†
NSR0240P2T5G	SOD−923 (Pb−Free)	8000 / Tape & Reel
NSVR0240P2T5G	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.

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	40	V
Forward Current (DC)	I_F	200	mA
Non−Repetitive Peak Forward Surge Current	I_{FSM}	2.0	A
ESD Rating: Human Body Model Machine Model	ESD	Class 1C Class A	

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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THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Thermal Resistance Junction–to–Ambient (Note 1) Total Power Dissipation @ T_A = 25°C	 $R_{\theta JA}$ P_D			 520 240	 °C/W mW
Thermal Resistance Junction–to–Ambient (Note 2) Total Power Dissipation @ T_A = 25°C	 $R_{\theta JA}$ P_D			 175 710	 °C/W mW
Junction and Storage Temperature Range	T_J, T_{stg}			–55 to +150	°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	Typ	Max	Unit
Reverse Leakage (V_R = 25 V) (V_R = 40 V)	I_R		 0.2 0.8	 0.55 5.0	μA
Forward Voltage (I_F = 10 mA) (I_F = 100 mA) (I_F = 200 mA)	V_F		0.34 0.46 0.54	0.365 0.50 0.60	V
Total Capacitance (V_R = 1.0 V, f = 1 MHz)	CT		7.0		pF

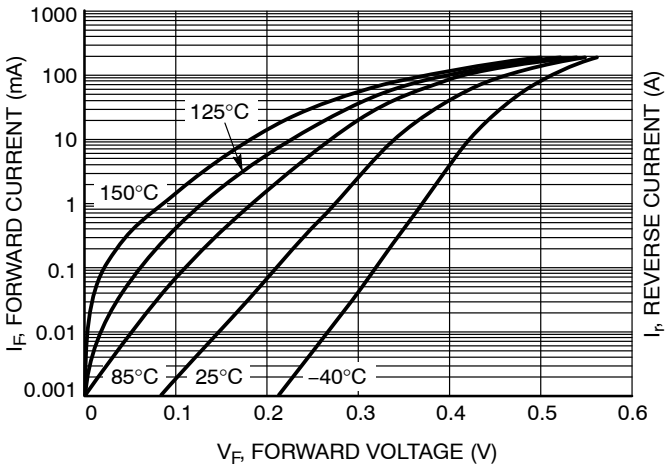


Figure 1. Forward Voltage

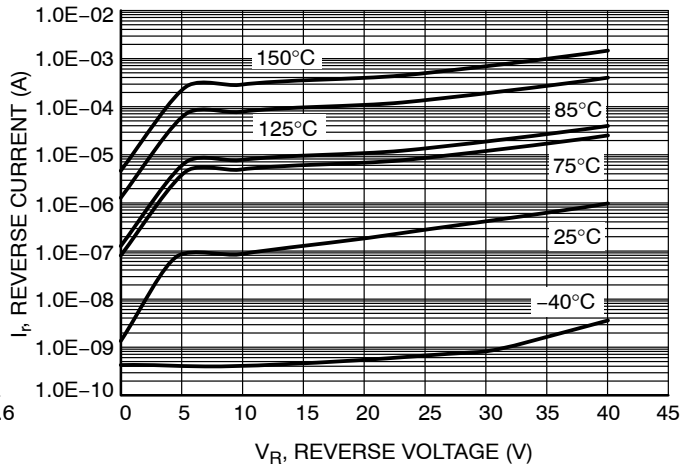


Figure 2. Leakage Current

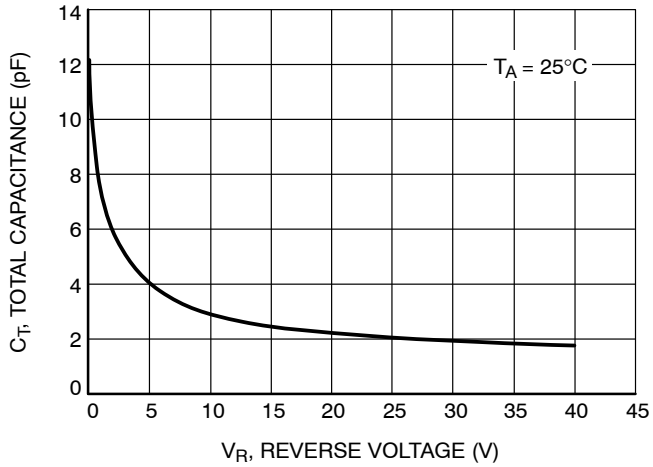
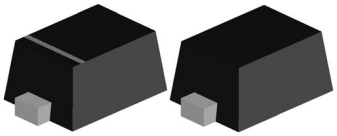


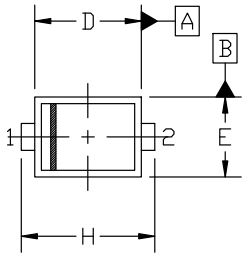
Figure 3. Total Capacitance

Share Feedback
Your Opinion Matters

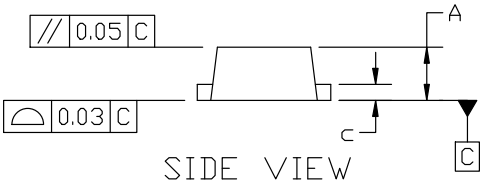


SOD−923 0.80x0.60x0.37
CASE 514AB
ISSUE E

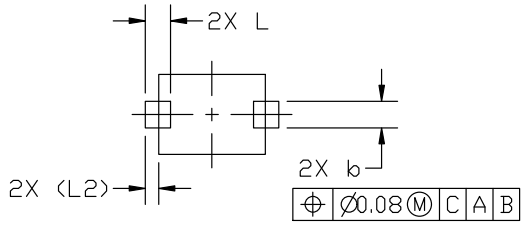
DATE 08 FEB 2024



TOP VIEW



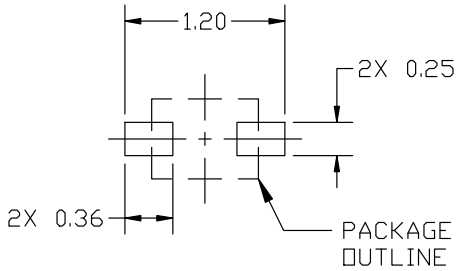
SIDE VIEW



BOTTOM VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 2018.
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.
5. DIMENSION L WILL NOT EXCEED 0.30mm.

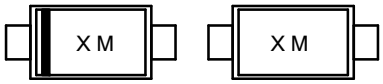
MILLIMETERS			
DIM	MIN.	NOM.	MAX.
A	0.34	0.37	0.40
b	0.15	0.20	0.25
c	0.07	0.12	0.17
D	0.75	0.80	0.85
E	0.55	0.60	0.65
H	0.95	1.00	1.05
L	0.19 REF		
L2	0.05	0.10	0.15



RECOMMENDED MOUNTING FOOTPRINT

*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*



STYLE 1 STYLE 2

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. Some products may not follow the Generic Marking.

STYLE 1:
PIN 1. CATHODE (POLARITY BAND)
2. ANODE

STYLE 2:
NO POLARITY

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DESCRIPTION:	**SOD−923 0.80x0.60x0.37**		**PAGE 1 OF 1**

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