NSD914XV2

High-Speed Switching Diode

ON Semiconductor®

Features

- High–Speed Switching Applications
- Lead Finish: 100% Matte Sn (Tin)
- Qualified Maximum Reflow Temperature: 260°C
- Extremely Small SOD–523 Package
- These Devices are Pb–Free, Halogen Free/BFR Free and are RoHS Compliant

1 CATHODE   2 ANODE

SOD–523
CASE 502

MARKING DIAGRAM

5D M■

5D = Specific Device Code
M = Date Code
■ = Pb–Free Package

(Note: Microdot may be in either location)

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Max	Unit
Reverse Voltage	V_R	100	V
Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

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°C Derate above 25°C	P_D	200 1.57	mW mW/°C
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature Range	T_J, T_{stg}	–55 to 150	°C

1. FR–4 @ Minimum Pad.

OFF CHARACTERISTICS

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage (I_{BR} = 100 μAdc)	$V_{(BR)}$	100	–	Vdc
Reverse Voltage Leakage Current (V_R = 20 Vdc) (V_R = 75 Vdc)	I_R	– –	25 5.0	nAdc μAdc
Diode Capacitance (V_R = 0 V, f = 1.0 MHz)	C_D	–	4.0	pF
Forward Voltage (I_F = 10 mAdc)	V_F	–	1.0	Vdc
Reverse Recovery Time (I_F = I_R = 10 mAdc)	t_{rr}	–	4.0	ns

ORDERING INFORMATION

Device	Package	Shipping†
NSD914XV2T1G	SOD–523 (Pb–Free)	3000 / Tape & Reel
NSD914XV2T5G	SOD–523 (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 Specification Brochure, BRD8011/D.

NSD914XV2
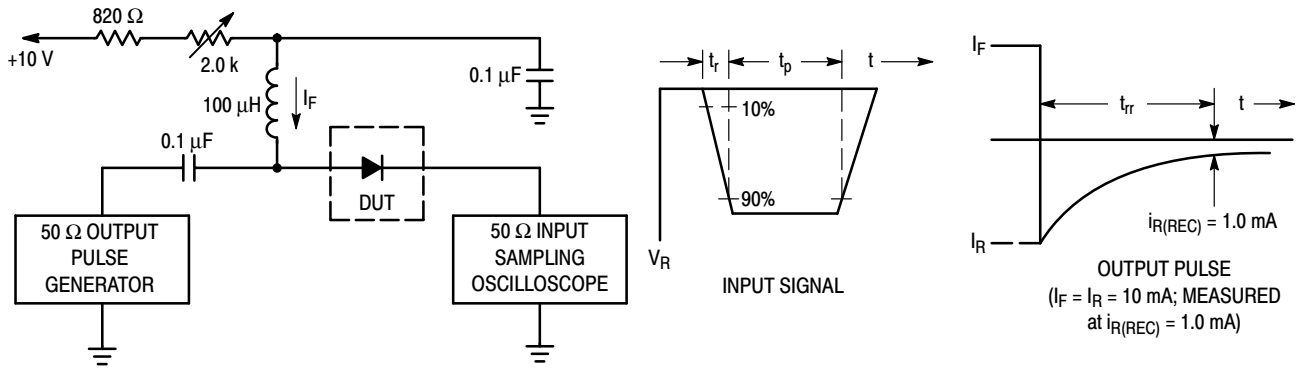
Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$
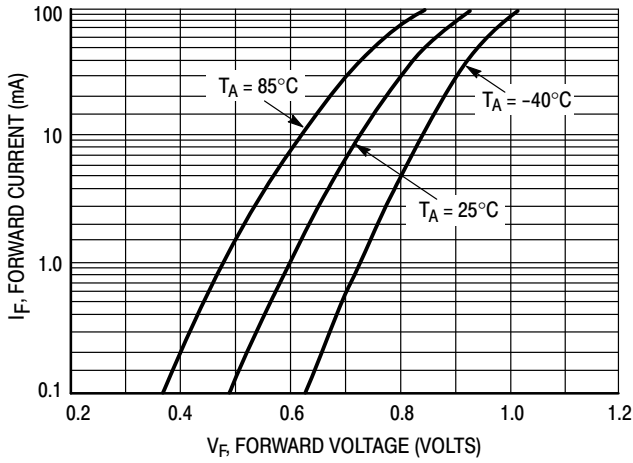
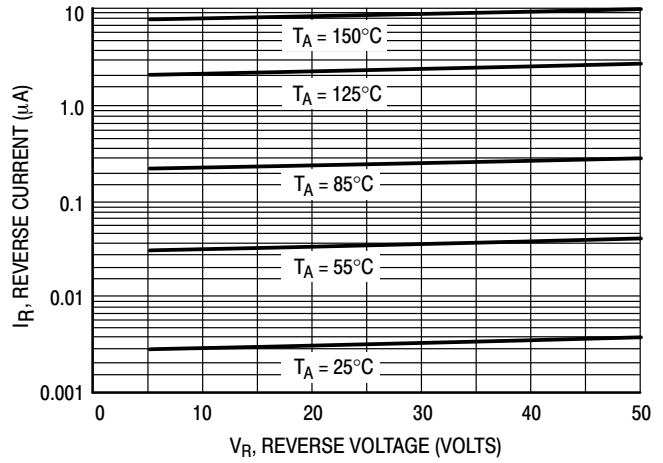**Figure 1. Recovery Time Equivalent Test Circuit**

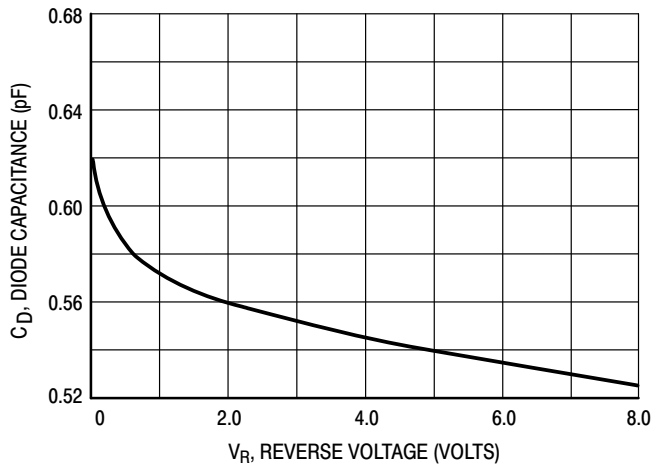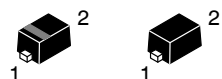**Figure 2. Forward Voltage**

Figure 3. Leakage Current

Figure 4. Capacitance

SOD−523
CASE 502−01
ISSUE E

DATE 28 SEP 2010

STYLE 1   STYLE 2

SCALE 4:1
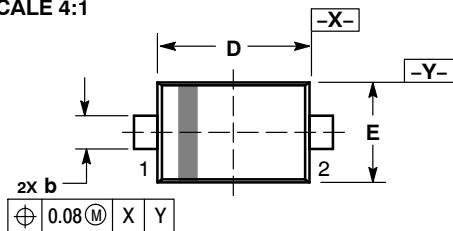
TOP VIEW
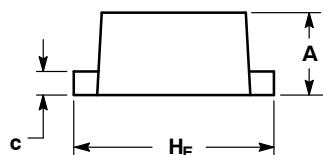
SIDE VIEW
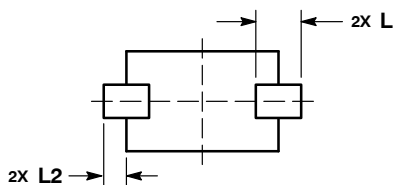
BOTTOM VIEW

**RECOMMENDED
SOLDERING FOOTPRINT***

DIMENSION: MILLIMETERS

PACKAGE
OUTLINE

*For additional information on our Pb−Free strategy and soldering
details, please download the ON Semiconductor Soldering and
Mounting Techniques Reference Manual, SOLDERRM/D.
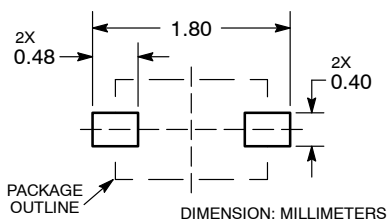
**NOTES:**
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PRO-TRUSIONS, OR GATE BURRS.

DIM	MILLIMETERS		
	MIN	NOM	MAX
A	0.50	0.60	0.70
b	0.25	0.30	0.35
c	0.07	0.14	0.20
D	1.10	1.20	1.30
E	0.70	0.80	0.90
H E	1.50	1.60	1.70
L	0.30 REF		
L2	0.15	0.20	0.25

GENERIC
MARKING DIAGRAM*
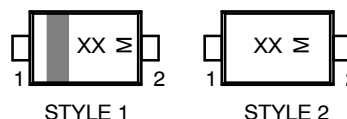
STYLE 1   STYLE 2

XX   = 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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