

# NSD914XV2T1

Preferred Device

## High-Speed Switching Diode

### Features

- High-Speed Switching Applications
- Lead Finish: 100% Matte Sn (Tin)
- Qualified Maximum Reflow Temperature: 260°C
- Extremely Small SOD-523 Package
- Pb-Free Package is Available

### MAXIMUM RATINGS ( $T_A = 25^\circ\text{C}$ )

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

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) $T_A = 25^\circ\text{C}$ 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	$T_J, T_{stg}$	150	°C

1. FR-4 @ Minimum Pad.

Characteristic	Symbol	Min	Max	Unit
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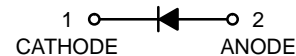
### OFF CHARACTERISTICS

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



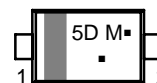
ON Semiconductor®

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SOD-523  
CASE 502  
PLASTIC

### MARKING DIAGRAM



5D = Specific Device Code  
M = Date Code  
▪ = Pb-Free Package  
(Note: Microdot may be in either location)

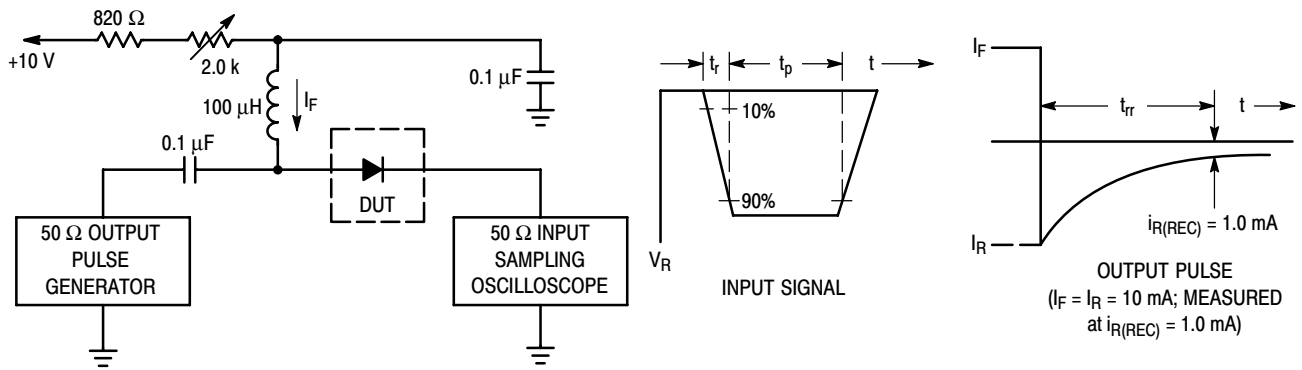
### ORDERING INFORMATION

Device	Package	Shipping†
NSD914XV2T1	SOD-523	3000/Tape & Reel
NSD914XV2T1G	SOD-523 (Pb-Free)	3000/Tape & Reel

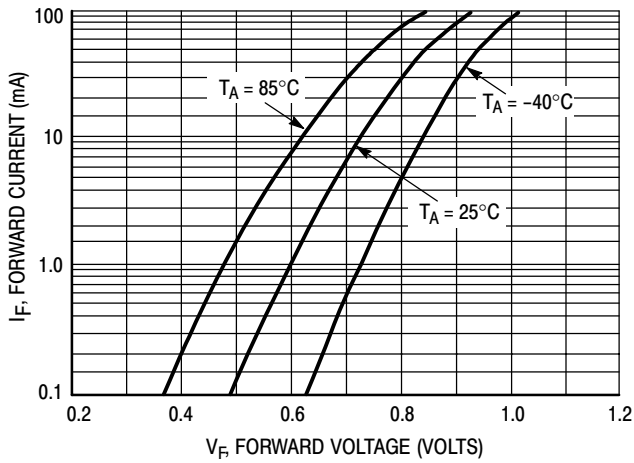
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

**Preferred** devices are recommended choices for future use and best overall value.

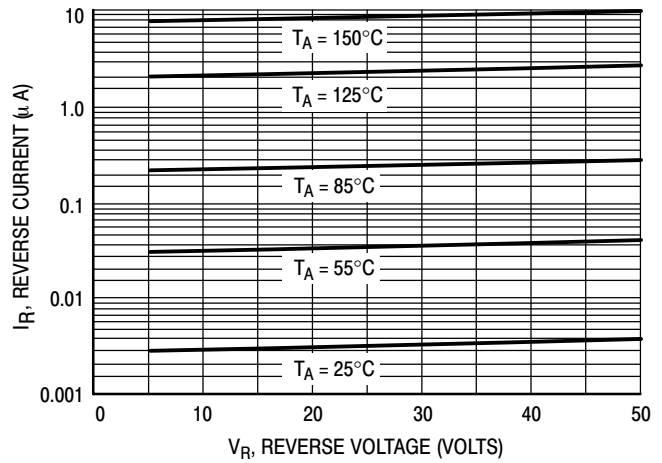
# NSD914XV2T1



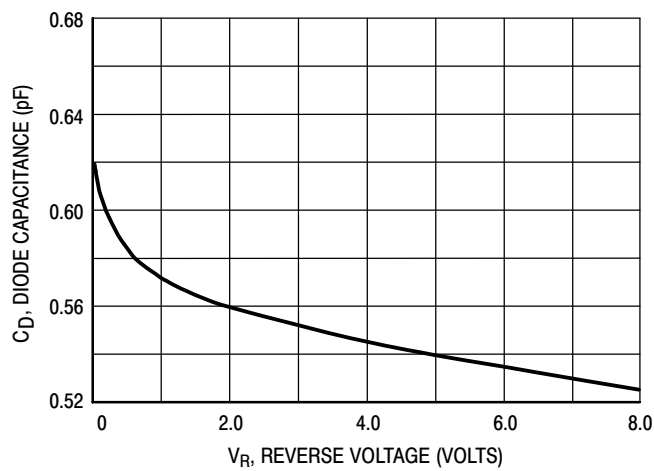
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**

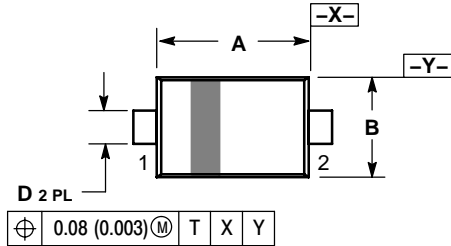


**Figure 4. Capacitance**

# NSD914XV2T1

## PACKAGE DIMENSIONS

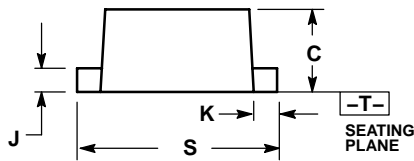
**SOD-523**  
CASE 502-01  
ISSUE B



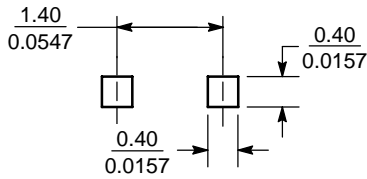
**NOTES:**

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
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	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
S	1.50	1.60	1.70	0.059	0.063	0.067



### SOLDERING FOOTPRINT\*



SCALE 10:1 (mm/inches)

\*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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**NSD914XV2T1/D**