

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

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	120 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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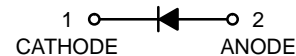
OFF CHARACTERISTICS

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 μAdc
Diode Capacitance ($V_R = 0, f = 1.0 \text{MHz}$)	C_T	–	4.0	pF
Forward Recovery Voltage ($I_F = 10 \text{mAdc}$)	V_{FR}	–	1.0	Vdc
Reverse Recovery Time ($I_F = I_R = 10 \text{mAdc}$)	t_{rr}	–	4.0	ns



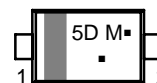
ON Semiconductor®

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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)

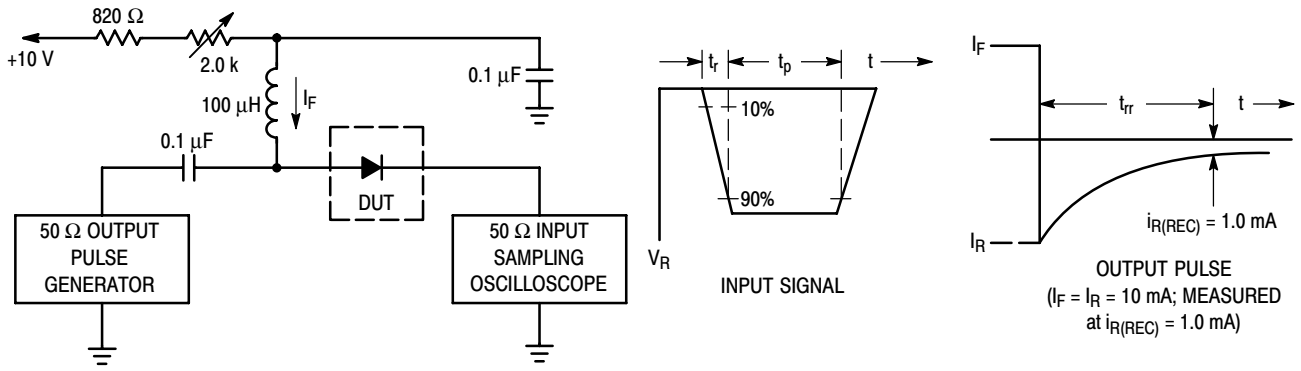
ORDERING INFORMATION

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



- 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

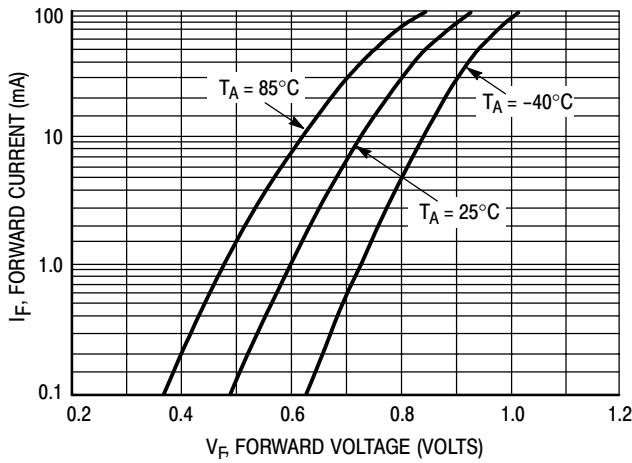


Figure 2. Forward Voltage

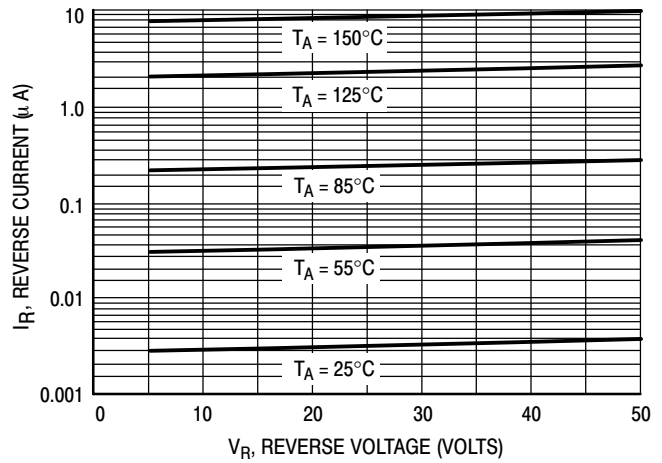


Figure 3. Leakage Current

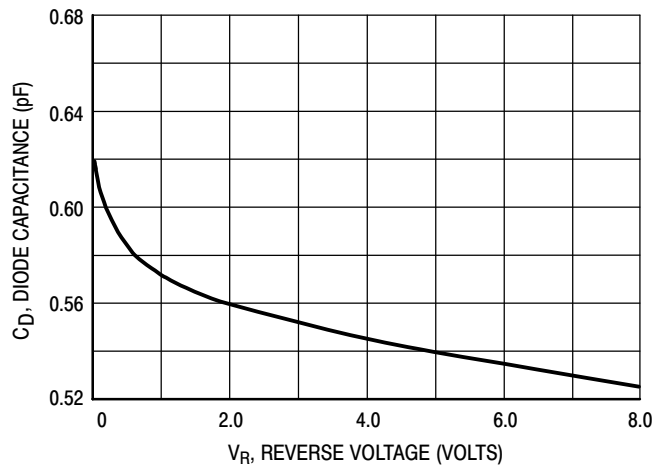
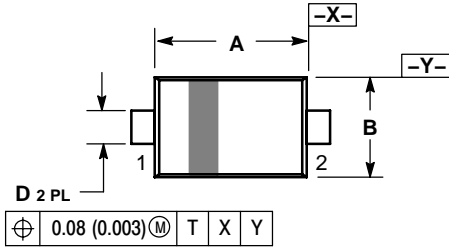


Figure 4. Capacitance

NSD914XV2T1

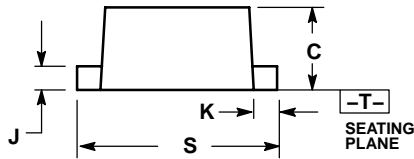
PACKAGE DIMENSIONS

SOD-523
CASE 502-01
ISSUE B

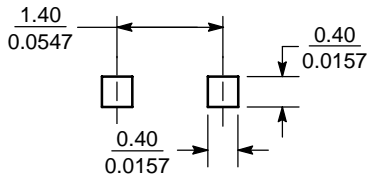


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETER.
 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

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.

NSD914XV2T1

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