NSD350H

High Voltage Switching Diode

The NSD350H is a high voltage switching diode in a SOD−323 surface mount package.

Features

- Small Footprint Package, SOD−323
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- Pb−free Device, Halogen Free/BFR Free and are RoHS Compliant

Typical Applications

- Flat Panel TVs
- Power Supply
- Industrial
- Wireless Handsets
- Automotive Modules

MAXIMUM RATINGS Single Diode (T_A = 25°C)

Rating	Symbol	Max	Unit
Reverse Voltage	V_R	350	V
Forward Current (DC)	I_F	200	mA
Non−Repetitive Peak Forward Current (Square Wave, T_J = 25°C prior to surge) t = 10 μs t = 100 μs t = 1 ms t = 10 ms	I_{FSM}	 12 5 2 1.5	A

THERMAL CHARACTERISTICS

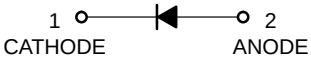
Characteristic	Symbol	Max	Unit
Total Device Dissipation T_A = 25°C Derate above 25°C	P_D (Note 1)	 250 2	 mW mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$ (Note 1)	500	°C/W
Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	°C

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.

1. FR−4 100 mm^2 2 oz Cu PCB

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MARKING DIAGRAM



SOD−323
CASE 477
STYLE 1



AJ = Specific Device Code
M = Date Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
NSD350HT1G	SOD−323 (Pb−Free)	3000 / Tape & Reel
NSVD350HT1G		

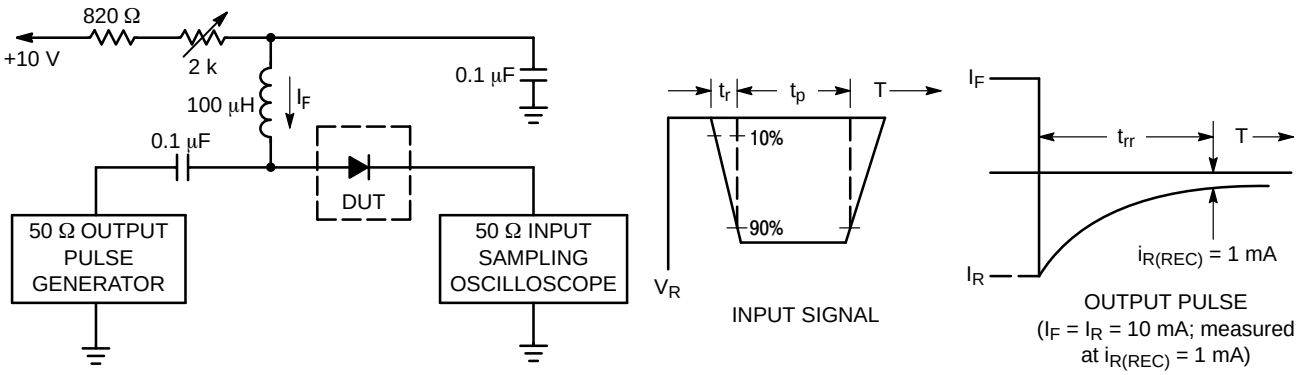
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

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Table 1. ELECTRICAL CHARACTERISTICS (T_A = 25°C)

Characteristic	Symbol	Min	Typ	Max	Unit
Reverse Breakdown Voltage (I_R = 10 μA)	$V_{(BR)R}$	350			V
Reverse Leakage (V_R = 300 V)	I_R			150	nA
Reverse Leakage (V_R = 350 V)	I_R			5	μA
Forward Voltage (I_F = 100 mA)	V_F			1.1	V
Total Capacitance (V_R = 0 V, f = 1.0 MHz)	C_T			5.0	pF
Reverse Recovery Time (I_F = I_R = 10 mA, I_R(rec) = 1.0 mA, Figure 1)	t_{rr}		55		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.



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

TYPICAL CHARACTERISTICS

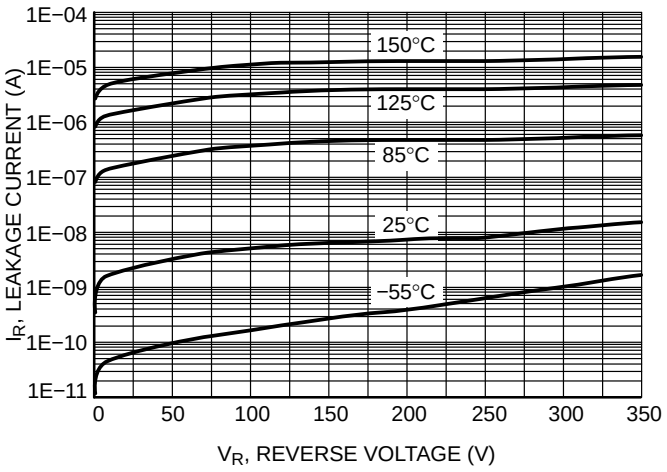


Figure 2. Reverse Leakage Current

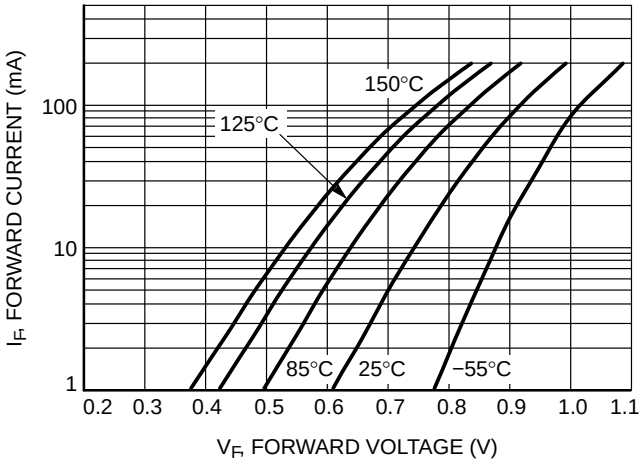


Figure 3. Forward Voltage

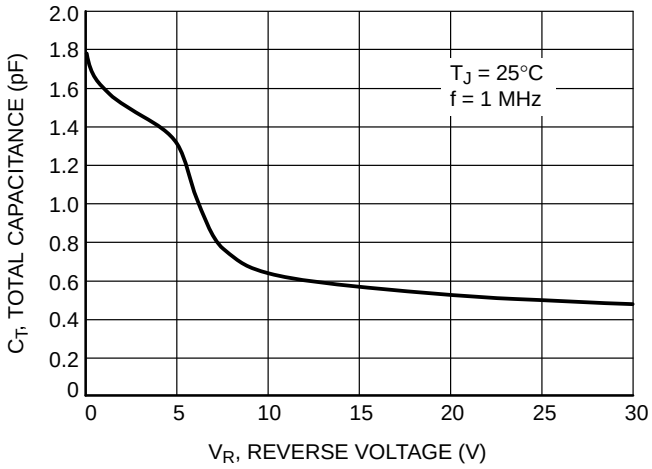
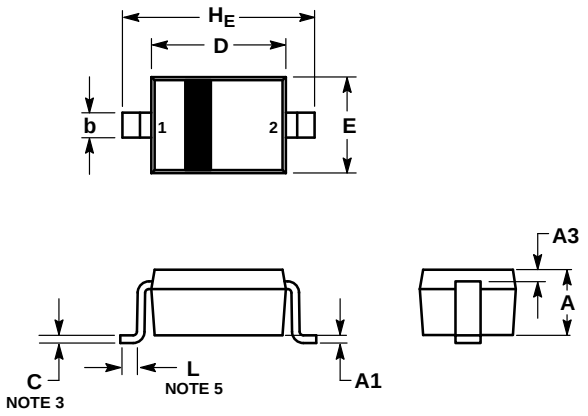


Figure 4. Total Capacitance

PACKAGE DIMENSIONS

SOD−323
CASE 477−02
ISSUE H

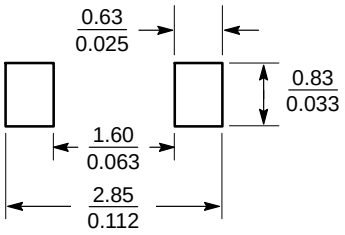


NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
H_E	2.30	2.50	2.70	0.090	0.098	0.105

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

SOLDERING 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.

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