NSD070AL

Switching Diode

Features

- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q101 Qualified and PPAP Capable
- These Devices are Pb−Free, Halogen Free/BFR Free and are RoHS Compliant

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	70	V
Forward Current (DC)	I_F	200	mA
Non−Repetitive Peak Forward Current t = 1.0 s	I_{FSM}	500	mA

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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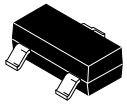
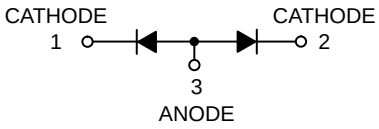
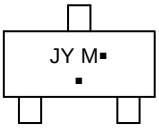


CASE 318
SOT−23



MARKING DIAGRAM



JY = Specific Device Code
M = Date Code*
▪ = Pb−Free Package

(Note: Microdot may be in either location)

*Date Code orientation and/or overbar may vary depending upon manufacturing location.

ORDERING INFORMATION

Device	Package	Shipping†
NSD070ALT1G	SOT−23 (Pb−Free)	3,000 / Tape & Reel
NSVD070ALT1G	SOT−23 (Pb−Free)	3,000 / 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.

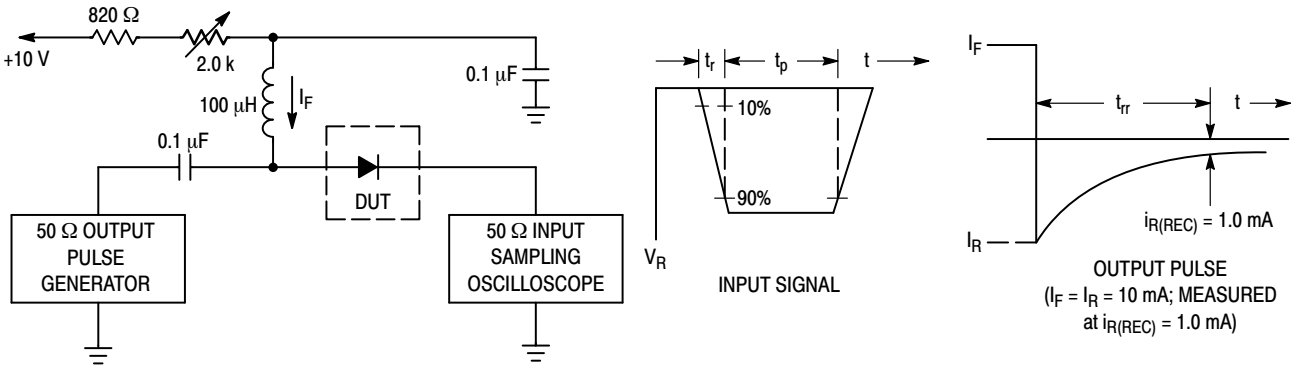
THERMAL CHARACTERISTICS

Characteristic	Symbol	Min	Typ	Max	Unit
Thermal Resistance Junction−to−Ambient (Note 1) Total Device Dissipation @ T_A = 25°C	 $R_{\theta JA}$ P_D	 − −	 − −	 556 225	 °C/W mW
Junction and Storage Temperature Range	T_J, T_{stg}	−	−	−65 to +150	°C

1. FR−4 = 1.0 × 0.75 × 0.062 in.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Typ	Max	Unit
OFF CHARACTERISTICS					
Reverse Breakdown Voltage (V_R = 70 Vdc)	$V_{(BR)}$	 70	 −	 −	V
Reverse Voltage Leakage Current (V_R = 70 Vdc) (V_R = 70 Vdc, T_J = 150°C)	I_R	 − −	 − −	 5.0 80	nA
Diode Capacitance (V_R = 0 V, f = 1.0 MHz)	C_D	 −	 1.0	 2.0	pF
Forward Voltage (I_F = 1.0 mA) (I_F = 10 mA) (I_F = 50 mA) (I_F = 150 mA)	V_F	 − − − −	 − − − −	 900 1000 1100 1250	mV
Reverse Recovery Time (I_F = I_R = 10 mA) (Figure 1)	t_{rr}	 −	 −	 3.0	μs



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

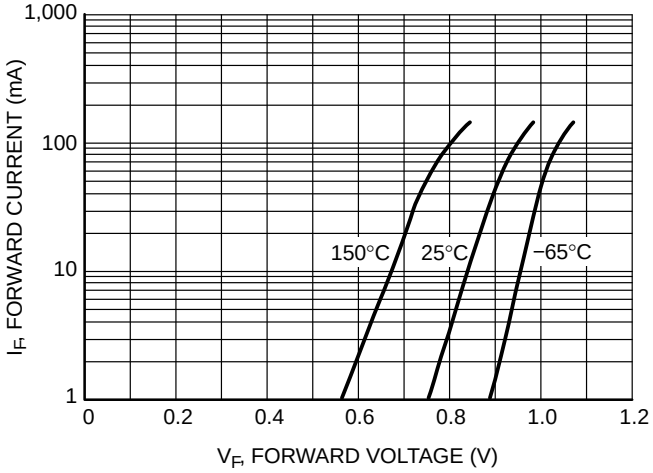


Figure 2. Forward Voltage

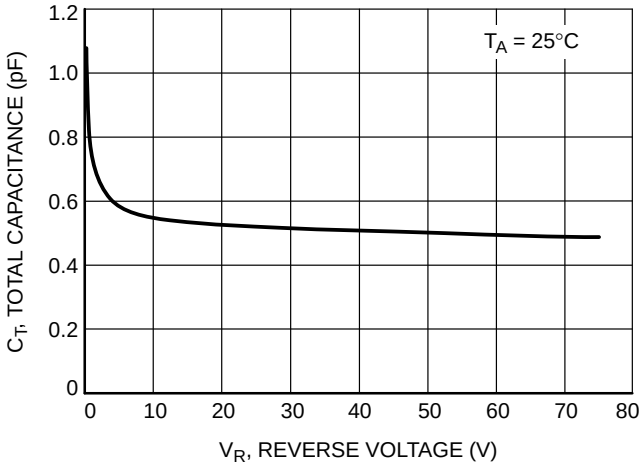
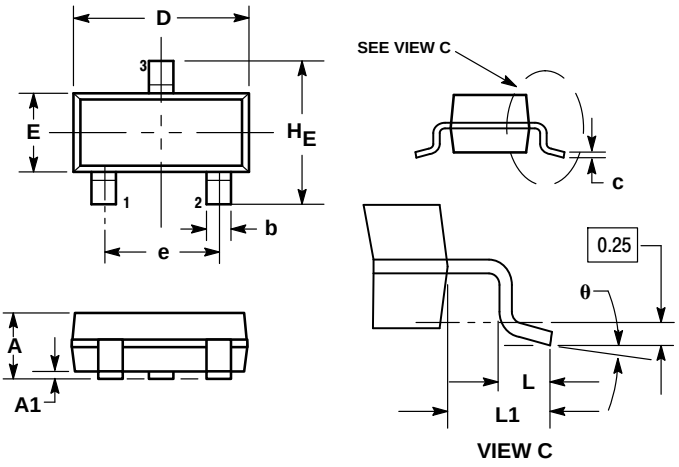


Figure 3. Capacitance

NSD070AL

PACKAGE DIMENSIONS

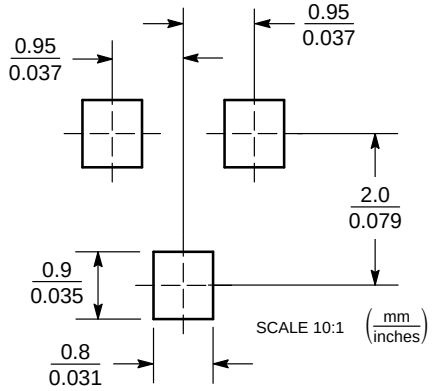
SOT−23 (TO−236)
CASE 318−08
ISSUE AP



NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

	MILLIMETERS			INCHES		
DIM	**MIN**	**NOM**	**MAX**	**MIN**	**NOM**	**MAX**
A	0.89	1.00	1.11	0.035	0.040	0.044
A1	0.01	0.06	0.10	0.001	0.002	0.004
b	0.37	0.44	0.50	0.015	0.018	0.020
c	0.09	0.13	0.18	0.003	0.005	0.007
D	2.80	2.90	3.04	0.110	0.114	0.120
E	1.20	1.30	1.40	0.047	0.051	0.055
e	1.78	1.90	2.04	0.070	0.075	0.081
L	0.10	0.20	0.30	0.004	0.008	0.012
L1	0.35	0.54	0.69	0.014	0.021	0.029
H_E	2.10	2.40	2.64	0.083	0.094	0.104
θ	0°	−−−	10°	0°	−−−	10°

SOLDERING FOOTPRINT



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