

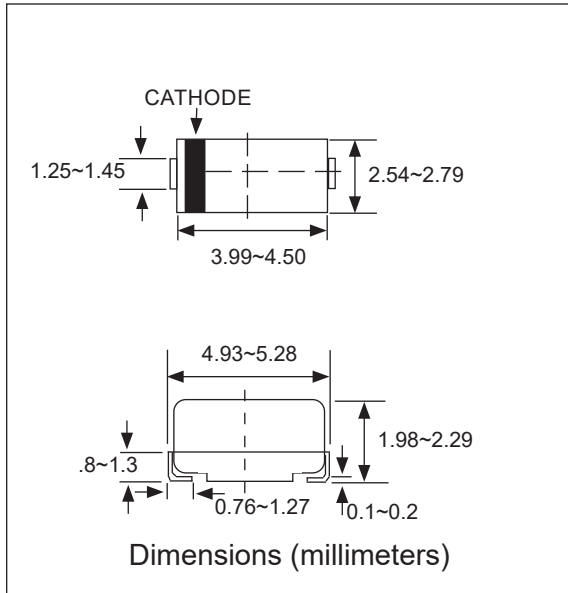
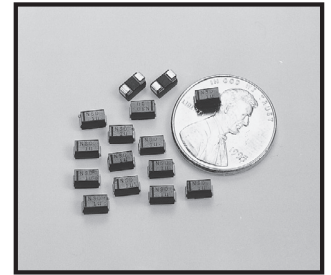
FEATURES

- VOLTAGE: 20 TO 100 VOLTS, CURRENT: 1.0 & 2.0 AMPERE
- FLAT PACK - LOW PROFILE, FOR SURFACE MOUNT APPLICATIONS
- FAST RESPONSE AND LOW FORWARD VOLTAGE
- MEETS FLAMMABILITY REQUIREMENTS OF UL94V-0
- HIGH TEMPERATURE SOLDERING (250°C/10 SECONDS)
- EASY PICK AND PLACE

**RoHS
Compliant**

includes all homogeneous materials

*See Part Number System for Details



MECHANICAL DATA:

SIZE: SMA/DO-214AC

CASE: Molded epoxy

TERMINALS: Solder plated Copper alloy

POLARITY: Indicated by cathode band

STANDARD PACKAGING: 12mm tape (EIA-RS-481)

WEIGHT: 0.064 gram

PART NUMBERING SYSTEM

NSD 14 TR 5K E
 Series Voltage & Current Designator (See ratings tables) Tape and Reel Reel qty: (5K & 7.5K) RoHS Compliant

MAXIMUM RATINGS (At T_A=25°C unless otherwise noted)

Ratings	Symbol	NSD12	NSD13	NSD14	NSD15	NSD16	NSD18	NSD19	NSD100	UNITS	
Maximum Recurrent Peak Reverse Voltage	VRRM	20	30	40	50	60	80	90	100	Volts	
Maximum RMS Voltage	VRMS	14	21	28	35	42	56	64	71	Volts	
Maximum DC Blocking Voltage	VDC	20	30	40	50	60	80	90	100	Volts	
Maximum Average Forward Rectified Current	Io	1.0								Amps	
Peak Forward Surge Current 8.3ms single half sine-wave supreimposed on rated load (JEDEC method)	IFSM	30								Amps	
Maximum Thermal Resistance	(Note 2) RqJL	25								°C/W	
Typical Junction Capacitance (Note 1)	CJ	110			80		70			pF	
Operating and Storage Temperature Range	TJ, TSTG	-55 ~ +150									°C
Typical Reverse Recovery Time	TRR	15								nS	

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

Characteristics	Symbol	NSD12	NSD13	NSD14	NSD15	NSD16	NSD18	NSD19	NSD100	UNITS
Maximum Forward Voltage at 1.0A DC	V _F	0.50		0.65		0.85				Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage (Note 3)	IR	0.5		10.0						mAmps
										mAmps

- NOTES:
1. Measured at 1.0MHz and applied average voltage of 4.0VDC.
 2. Thermal resistance junction to terminal, 5mm² (0.013 mm Thick) copper land patterns.
 3. Pulse width 300uS, 2% duty cycle.

RATING AND CHARACTERISTIC CURVES (NSD12 THRU NSD100)

FIG. 1 - FORWARD CURRENT DERATING CURVE

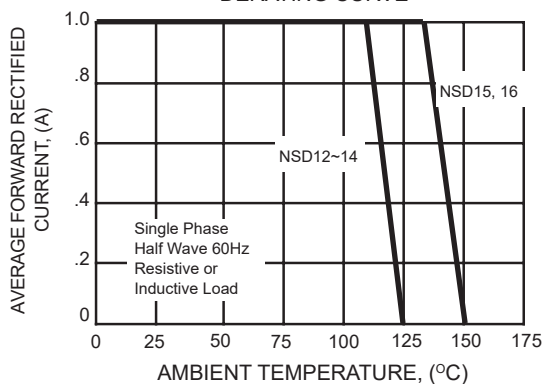
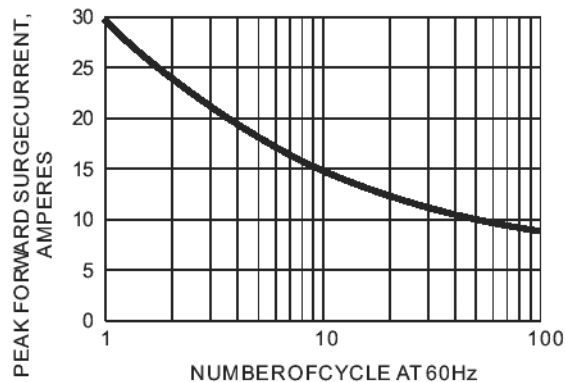
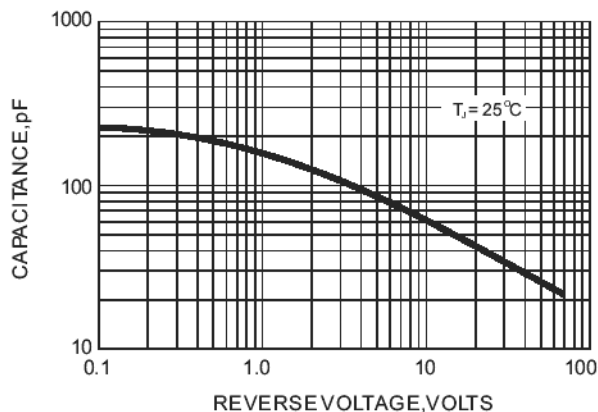
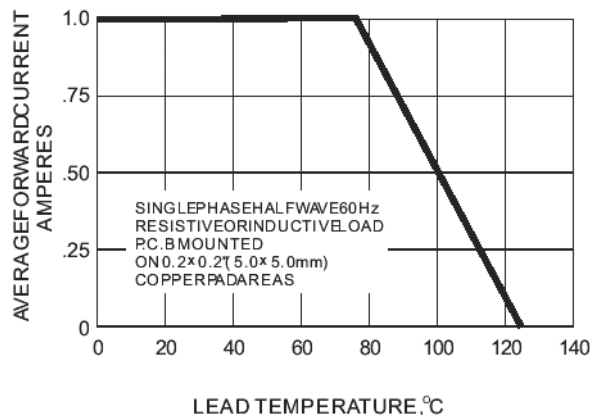
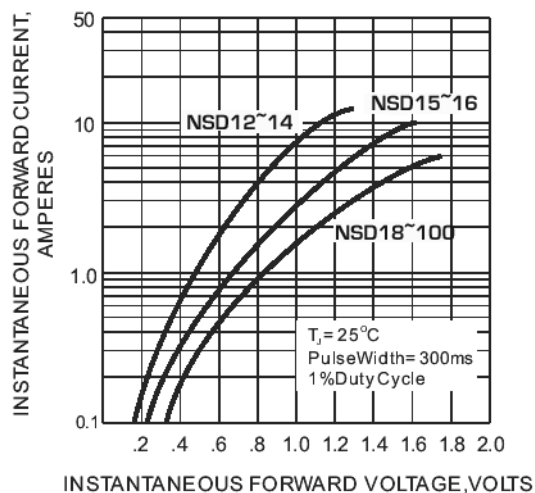
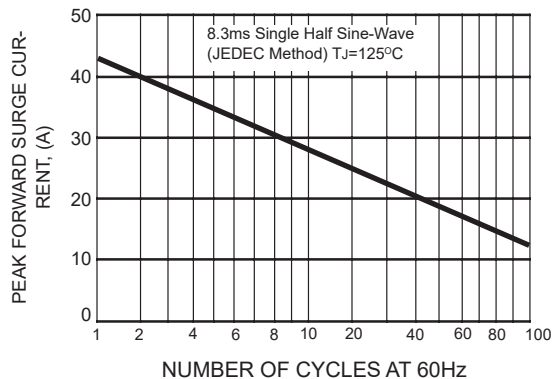


FIG. 2 - MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT



MAXIMUM RATINGS (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Ratings	Symbol	NSD22	NSD23	NSD24	NSD25	NSD26	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	20	30	40	50	60	Volts
Maximum RMS Voltage	VRMS	14	21	28	35	42	Volts
Maximum DC Blocking Voltage	VDC	20	30	40	50	60	Volts
Maximum Average Forward Rectified Current	I_o	2.0					Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	50					Amps
Typical Thermal Resistance	Rth-JA Rth-JL	75.0 17.0					$^\circ\text{C/W}$
Typical Junction Capacitance (Note 1)	CJ	220			180		pF
Operating and Storage Temperature Range	TJ/TSTG	-65 to +125/-65 to +150			-65 to +150		$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS (At $T_A=25^\circ\text{C}$ unless otherwise noted)

Characteristics	Symbol	NSD22	NSD23	NSD24	NSD25	NSD26	UNITS
Maximum Forward Voltage at 2.0A DC	VF	0.50			0.70		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	IR	0.5			10.0		mAmps
	@ $T_A=25^\circ\text{C}$						
	@ $T_A=100^\circ\text{C}$	20.0					mAmps

NOTE: 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC.

Fig. 1 - Derated Curve for Output Rectifier Current

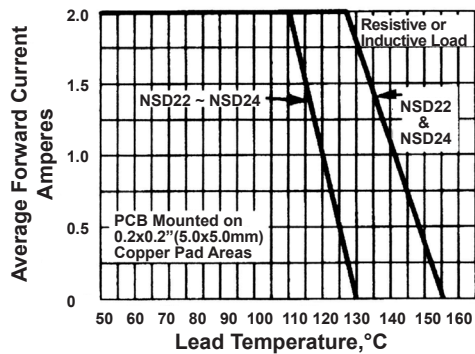


Fig. 2 - Typical Junction Capacitance

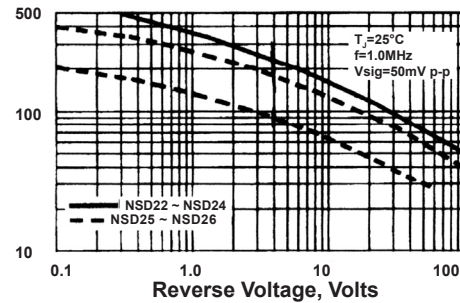


Fig. 3 - Typical Reverse Current Characteristics

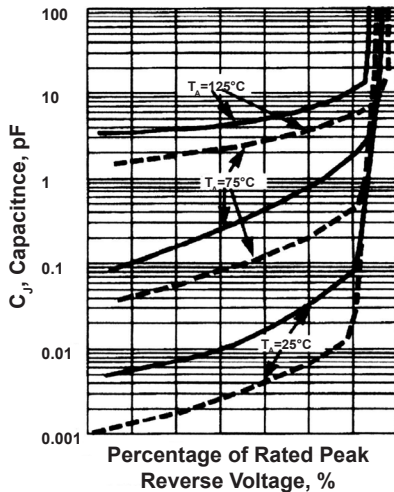


Fig. 4 - Maximum Non-Repetitive Peak Forward Surge Current

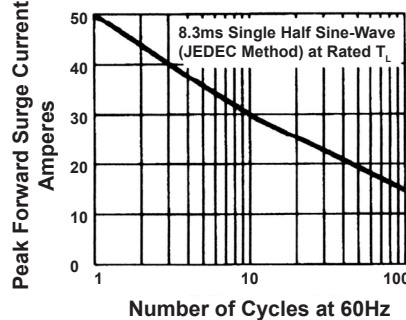
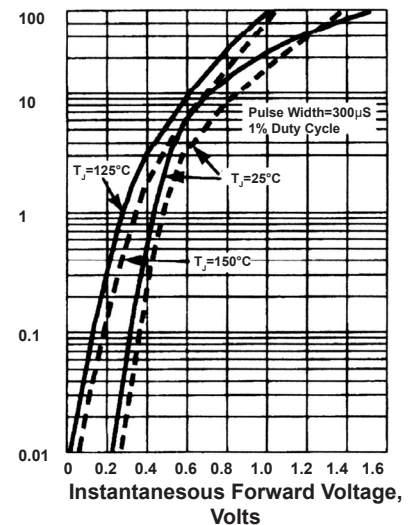


Fig. 5 - Typical Instantaneous Forward Characteristics



MAXIMUM RATINGS (At $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Ratings	Symbol	NSD32	NSD33	NSD34	NSD35	NSD36	UNITS
Maximum Recurrent Peak Reverse Voltage	VRRM	20	30	40	50	60	Volts
Maximum RMS Voltage	VRMS	14	21	28	35	42	Volts
Maximum DC Blocking Voltage	VDC	20	30	40	50	60	Volts
Maximum Average Forward Rectified Current	I_o	3.0					Amps
Peak Forward Surge Current 8.3 ms single half sine-wave superimposed on rated load (JEDEC method)	IFSM	80					Amps
Typical Thermal Resistance	R_{th-JA} R_{th-JL}	55.0 17.0					$^{\circ}\text{C/W}$
Typical Junction Capacitance (Note 1)	CJ						pF
Operating and Storage Temperature Range	TJ/TSTG	-55 to +125/-55 to +150			-55 to +150		$^{\circ}\text{C}$

ELECTRICAL CHARACTERISTICS (At $T_A=25^{\circ}\text{C}$ unless otherwise noted)

Characteristics	Symbol	NSD32	NSD33	NSD34	NSD35	NSD36	UNITS
Maximum Forward Voltage at 3.0A DC	VF	0.50			0.60		Volts
Maximum DC Reverse Current at Rated DC Blocking Voltage	I_R	0.5			10.0		mAmps
	@ $T_A=25^{\circ}\text{C}$						
	@ $T_A=100^{\circ}\text{C}$	20.0			10.0		mAmps

NOTE: 1. Measured at 1.0 MHz and applied average voltage of 4.0VDC.

Fig. 1 - Derated Curve for Output Rectifier Current

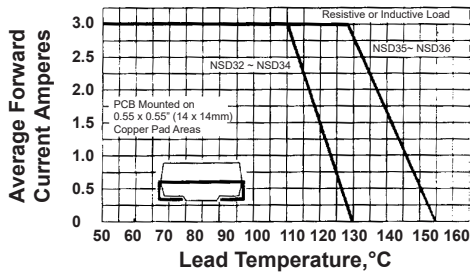


Fig. 2 - Maximum Non-Repetitive Peak Forward Surge Current

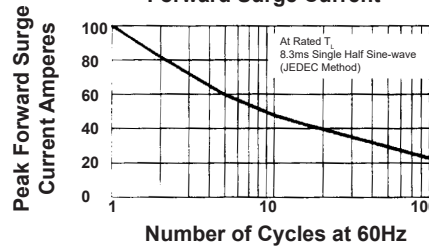


Fig. 3 - Typical Junction Capacitance

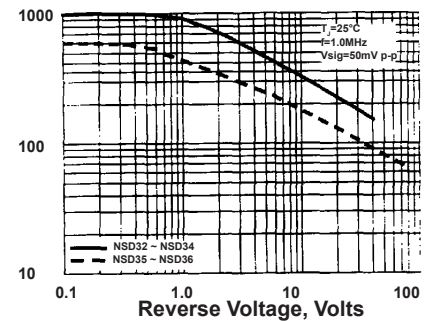


Fig. 4 - Typical Instantaneous Forward Characteristics

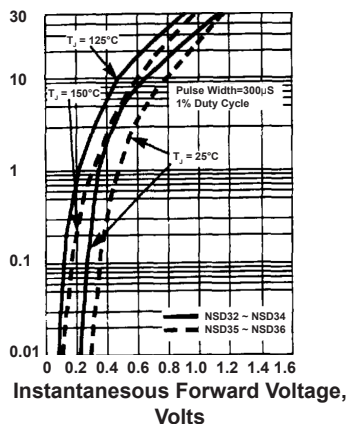


Fig. 5 - Typical Reverse Current Characteristics

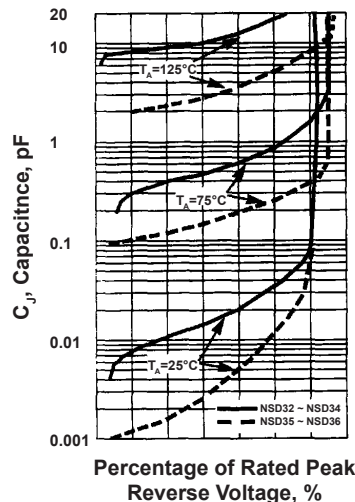
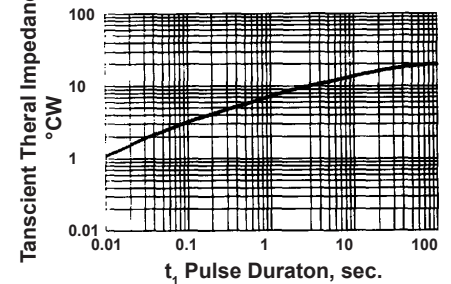
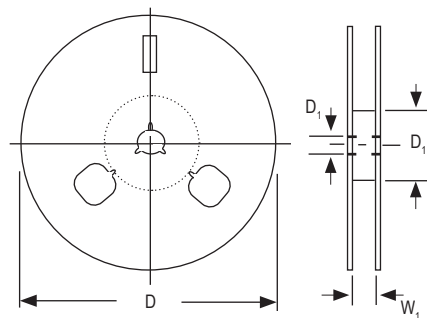
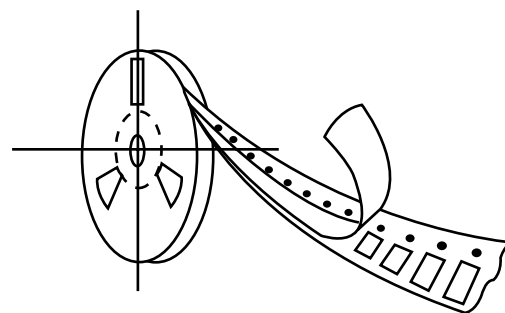
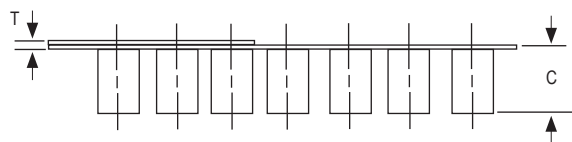
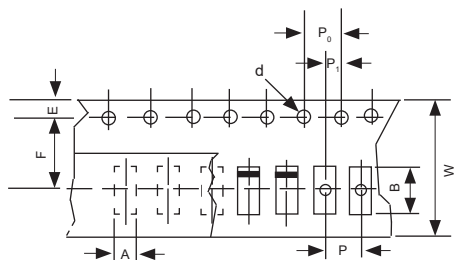


Fig. 6 - Maximum Non-Repetitive Peak Forward Surge Current



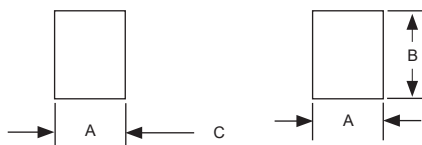
TAPING AND MOUNTING SPECIFICATIONS



RECOMMENDED LAND PATTERN

REEL QUANTITIES

Reel Size	Reel Quantity
13 inch (330mm)	5,000 & 7,500 pcs



Dimensions	(mm)
A	1.2-1.8
B	1.5-2.2
C	2.7 max.

Item	Symbol	Specifications (mm)	Specifications (inch)
Carrier Width	A	3.2 max.	.126 max.
Carrier Length	B	7.8 max.	.307 max.
Carrier Depth	C	4.5 max.	.177 max.
Sprocket Hole	d	1.5 ± 0.1	.059 ± .004
Reel Outside Diameter	D	178 ± 2.0	7.00 ± .079
Reel Inner Diameter	D1	50 min.	1.969 min.
Feed Hole Diameter	D2	13.0 ± 0.5	.512 ± .020
Sprocket Hole Position	E	1.75 ± 0.1	.069 ± .004
Punch Hole Position	F	5.5 ± 0.1	.217 ± .004
Punch Hole Pitch	P	4.0 ± 0.1	.157 ± .004
Sprocket Hole Pitch	P0	4.0 ± 0.1	.157 ± .004
Embossment Center	P1	2.0 ± 0.05	.079 ± .002
Overall Tape Thickness	T	1.1 max.	.043 max.
Tape Width	W	12.0 ± 0.3	.472 ± .012
Reel Width	W1	18.4 max.	.724 max.

NOTE: Devices are packed in accordance with EIA standard RS-481-A and specifications given above.