ON Semiconductor

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PIN Diode
Single PIN Diode for Attenuator and RF Switch

NSDP301MX3

Low rs characteristics is enable to use high frequency applications. This PIN diode is designed to realize compact and efficient designs. NSDP301MX3 in a X3DFN2 miniature package enables designers to meet the challenging task of achieving higher efficiency and meeting reduced space requirements.

Features

- Low Series Resistance (rs = 1.3 Ω typ.)
- Small Interterminal Capacitance (C = 0.33 pF typ.)
- Less Parasitic Components
- Small−sized Package X3DFN2
- Pb−Free, Halogen Free and RoHS Compliance

Typical Applications

- RF Attenuator
- RF Switch

MAXIMUM RATINGS (T_A = 25°C)

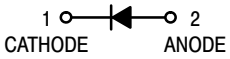
Parameter	Symbol	Value	Unit
Reverse Voltage	V_R	80	V
Forward Current	I_F	100	mA
Operating Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	°C

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.

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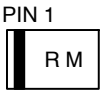
80 V, 100 mA
rs = 1.3 Ω typ.
PIN Diode





X3DFN2
CASE 152AF

MARKING DIAGRAM



R = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
NSDP301MX3T5G	X3DFN2 (Pb−Free)	10,000 / 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.

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

Parameter	Symbol	Conditions	Min	Typ	Max	Unit
Reverse Voltage	V_R	I_R = 1 μA	80			V
Reverse Current	I_R	V_R = 80 V			50	nA
Forward Voltage	V_F	I_F = 1 mA		0.78	0.81	V
Series Resistance	r_s	I_F = 10 mA, f = 100 MHz		1.3		Ω
Interterminal Capacitance	C	V_R = 0 V, f = 1 MHz		0.33		pF

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.

TYPICAL CHARACTERISTICS

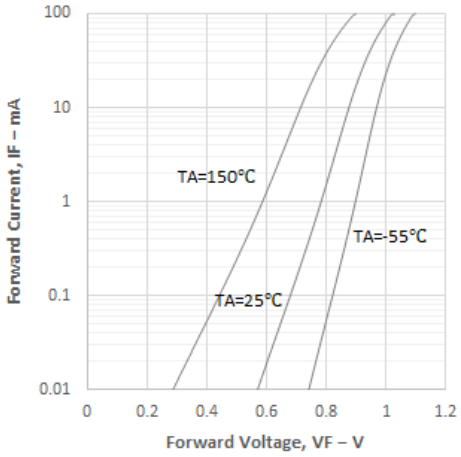


Figure 1. IF – VF

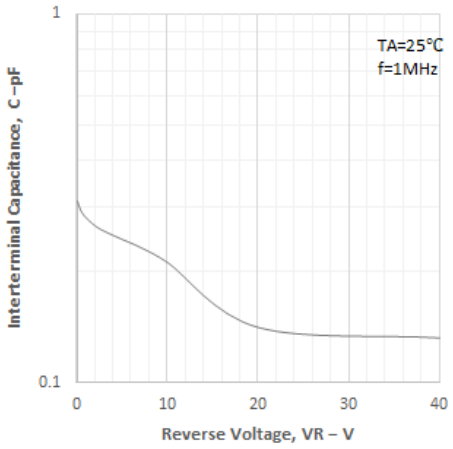


Figure 2. C – VR

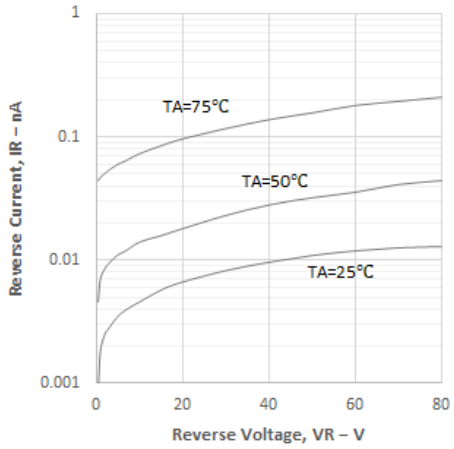


Figure 3. IR – VR

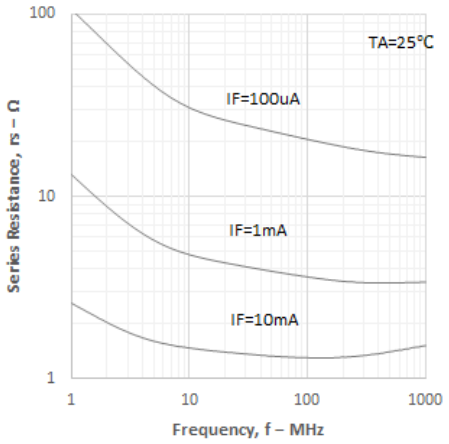


Figure 4. rs – f

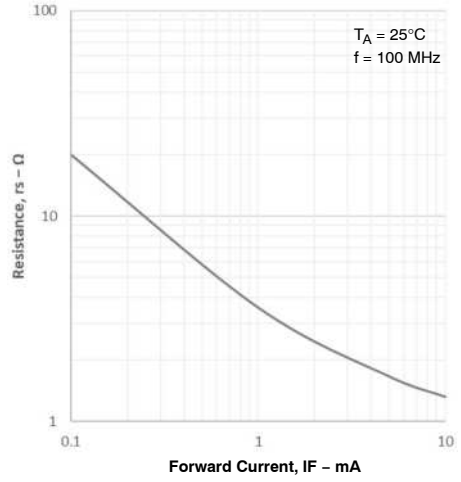
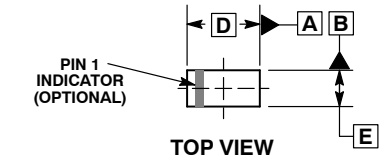


Figure 5. rs – IF

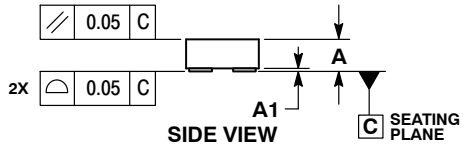
NSDP301MX3

PACKAGE DIMENSIONS

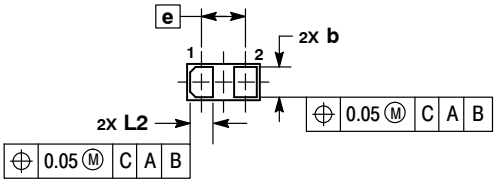
X3DFN2, 0.62x0.32, 0.355P, (0201)
CASE 152AF
ISSUE A



TOP VIEW



SIDE VIEW

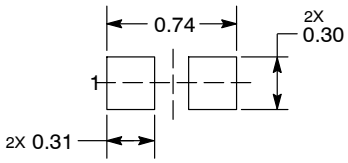


BOTTOM VIEW

NOTES:
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.

	MILLIMETERS	
DIM	MIN	MAX
A	0.25	0.33
A1	---	0.05
b	0.22	0.28
D	0.58	0.66
E	0.28	0.36
e	0.355 BSC	
L2	0.17	0.23

RECOMMENDED MOUNTING FOOTPRINT*



DIMENSIONS: MILLIMETERS

See Application Note AND8398/D for more mounting details

*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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