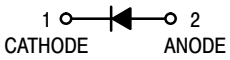
PIN Diode
Single PIN Diode for Attenuator and RF Switch

NSDP301MX2W, NSVDP301MX2W

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



X2DFNW2
CASE 711BG

Low rs characteristics is enable to use high frequency applications. This PIN diode is designed to realize compact and efficient designs. NSDP301MX2W in a X2DFNW2 miniature package enables designers to meet the challenging task of achieving higher efficiency and meeting reduced space requirements. In addition, wettable flank package improves the quality at mounted to PCB.

Features

- Low Series Resistance (r_s = 1.3 Ω typ.)
- Small Interterminal Capacitance (C = 0.33 pF typ.)
- Less Parasitic Components
- Small−sized Package
- Wettable Flank Package
- 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 and are RoHS Compliant

Typical Applications

- RF Attenuator
- RF Switch

MARKING DIAGRAM

RG = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
NSDP301MX2WT5G	X2DFNW2 (Pb−Free)	8000 / Tape & Reel
NSVDP301MX2WT5G	X2DFNW2 (Pb−Free)	8000 / 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.

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.

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.

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TYPICAL CHARACTERISTICS

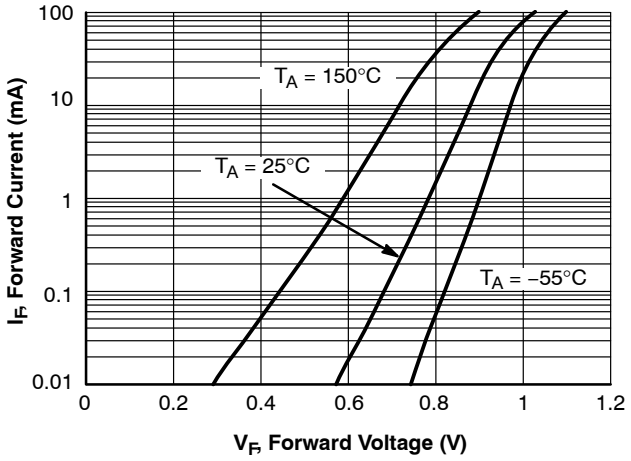


Figure 1. I_F – V_F

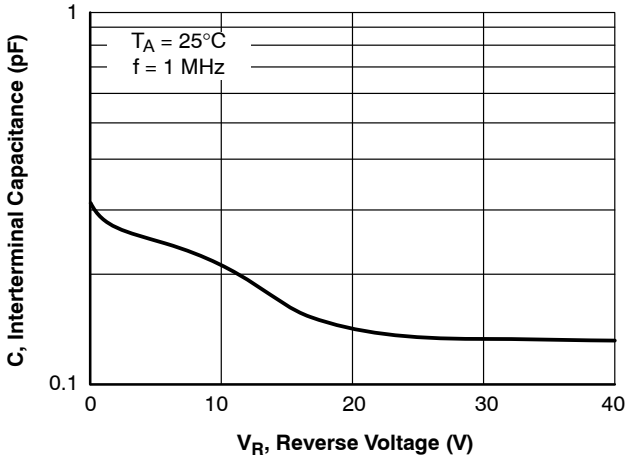


Figure 2. C – V_R

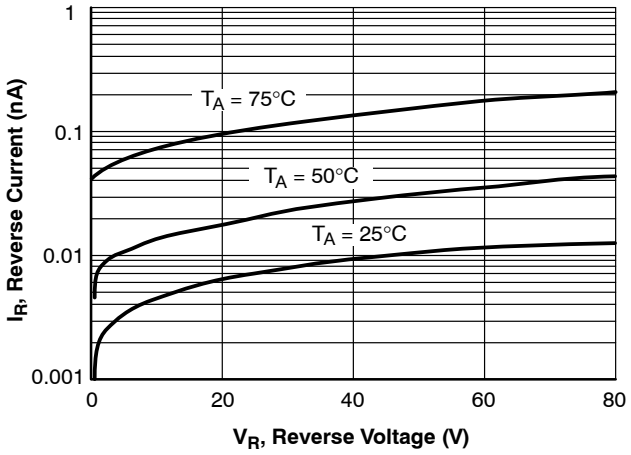


Figure 3. I_R – V_R

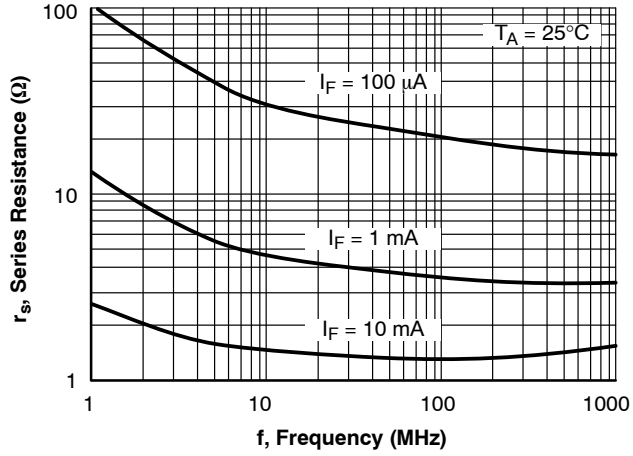


Figure 4. r_s – f

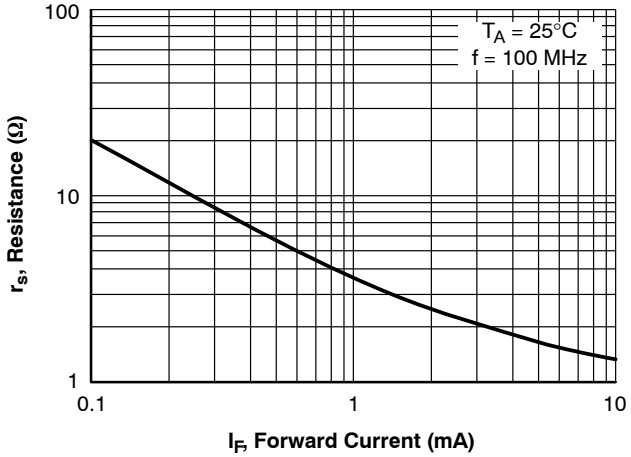


Figure 5. r_s – I_F

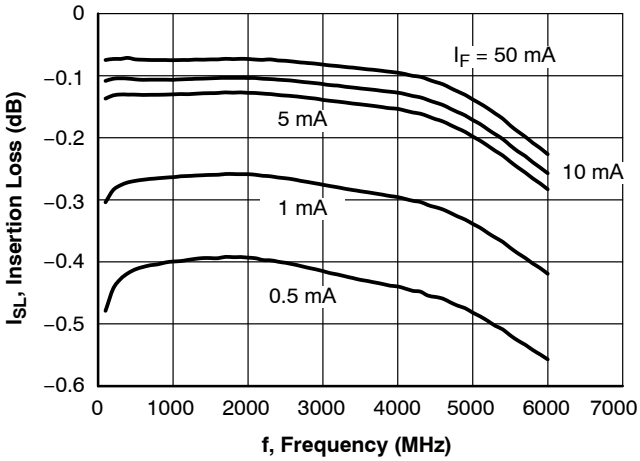


Figure 6. Insertion Loss

TYPICAL CHARACTERISTICS (Continued)

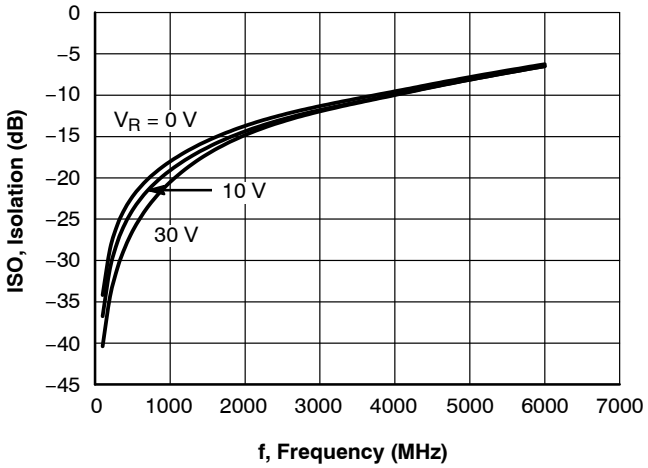


Figure 7. Isolation

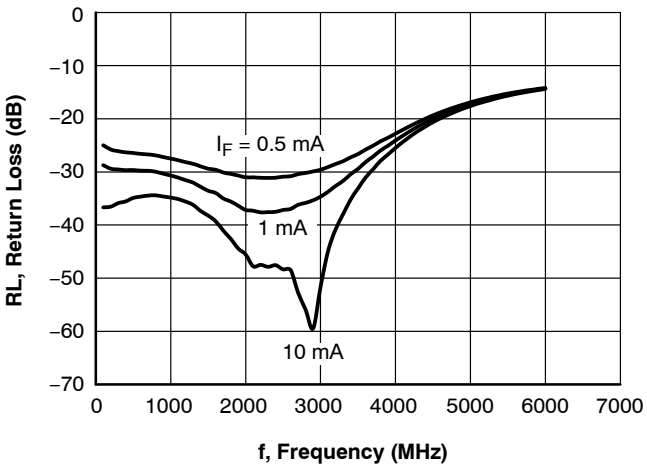
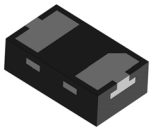
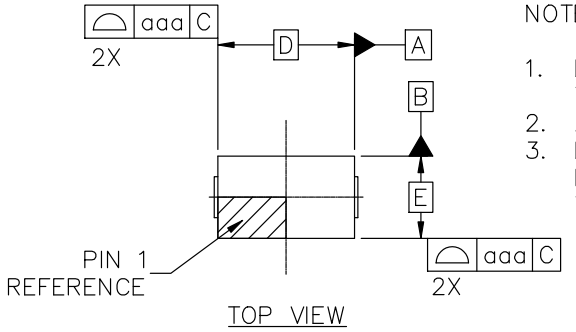


Figure 8. Return Loss

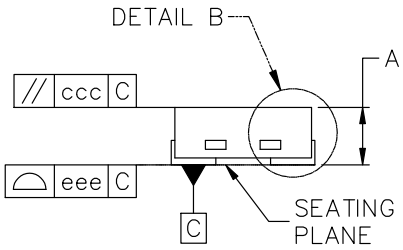


X2DFNW-2 1.00x0.60x0.37, 0.65P
CASE 711BG
ISSUE F

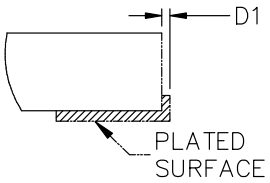
DATE 06 NOV 2025



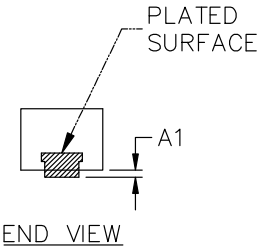
TOP VIEW



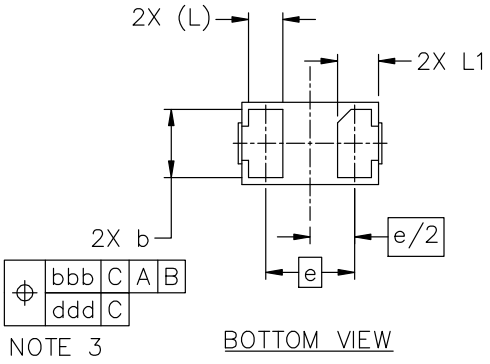
SIDE VIEW



DETAIL "B"
SCALE 2:1



END VIEW



BOTTOM VIEW

NOTES:

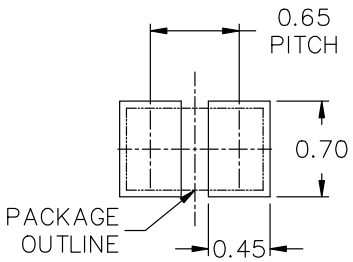
1. DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5−2018.
2. ALL DIMENSION ARE IN MILLIMETERS.
3. DIMENSION b APPLIES TO THE PLATED TERMINAL AND IS MEASURED BETWEEN 0.15 AND 0.30 FROM THE TERMINAL TIP.

MILLIMETERS			
DIM	MIN	NOM	MAX
A	0.34	0.37	0.40
A1	~	~	0.05
b	0.45	0.50	0.55
D		1.00 BSC	
D1	~	~	0.05
E		0.60 BSC	
e		0.65 BSC	
L		0.22 REF	
L1	0.24	0.28	0.34
TOLERANCE FORM & POSITION			
aaa		0.05	
bbb		0.10	
ccc		0.05	
ddd		0.05	
eee		0.05	

GENERIC MARKING DIAGRAM*

XX = Specific Device Code
M = Date Code

*This information is generic. Please refer to device data sheet for actual part marking. Pb−Free indicator, "G", may or not be present. Some products may not follow the Generic Marking.



RECOMMENDED MOUNTING FOOTPRINT*

* FOR ADDITIONAL INFORMATION ON OUR Pb−FREE STRATEGY AND SOLDERING DETAILS, PLEASE DOWNLOAD THE onsemi SOLDERING AND MOUNTING TECHNIQUES REFERENCE MANUAL, SOLDERRM/D.

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DESCRIPTION:	**X2DFNW-2 1.00x0.60x0.37, 0.65P**		**PAGE 1 OF 1**

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