

NSG1001MX

Product Preview RF SPDT Switch MMIC

This device is single pole dual throw (SPDT) type RF antenna switch MMIC. It has low insertion loss and high isolation. This is designed for wireless communication applications such as WLAN.

It adopts a small surface mount package and it is also suitable for portable devices such as smart phones.

Features

- Low Insertion Loss
- High Isolation
- Middle Power
- Small-sized Package
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

Typical Applications

- IEEE802.11 a/b/g/n/ac WLAN, Bluetooth® Systems
- LTE
- Wireless Communication Applications

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

Parameter	Symbol	Value	Unit
Control Voltage	V _{CTL}	6	V
Power Dissipation	P _D	150	mW
Storage Temperature Range	T _{stg}	-55 to +150	°C
Operating Temperature Range	T _{opr}	-40 to +105	°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.

TRUTH TABLE

On Path	V _{CTL1}	V _{CTL2}
IN – OUT1	Low	High
IN – OUT2	High	Low



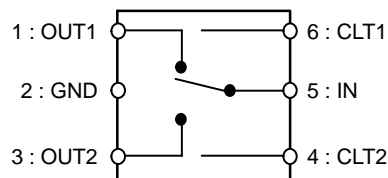
ON Semiconductor®

www.onsemi.com



XDFN6
MX SUFFIX
CASE 711AN

ELECTRICAL CONNECTION



MARKING DIAGRAM



A = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
NSG1001MXT1G	XDFN6 (Pb-Free)	3000 / 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.

This document contains information on a product under development. ON Semiconductor reserves the right to change or discontinue this product without notice.

NSG1001MX

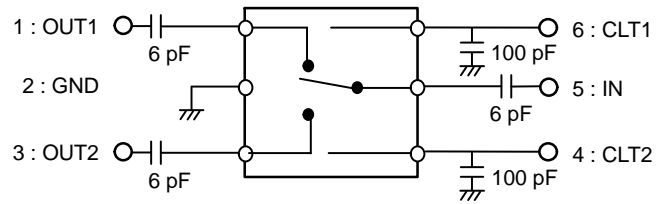
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 1) Control Voltage : 0 / +3.0 V, DC Blocking capacitor 6.0 pF

Parameter	Symbol	Path	Condition	Value			Unit
				Min	Typ	Max	
Insertion Loss	IL	IN to OUT1, OUT2	f = 2.5 GHz		0.37	0.5	dB
			f = 6.0 GHz		0.47	0.65	
Isolation	ISL	IN to OUT1, OUT2	f = 2.5 GHz	25.0	28.0		dB
			f = 6.0 GHz	28.0	33.0		
Return Loss	RL		f = 2.5 GHz		25.0		dB
			f = 6.0 GHz		23.0		
1 dB Loss Compression Input Power	Pin 1 dB	IN to OUT1, OUT2	f = 2.5 GHz		32.0		dBm
			f = 6.0 GHz		32.0		
Switching Control Current	I _{CTL}		No Signal		0.1		μA

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.

1. Pay attention to handling since it is liable to be affected by static electricity due to the high-frequency process adopted.

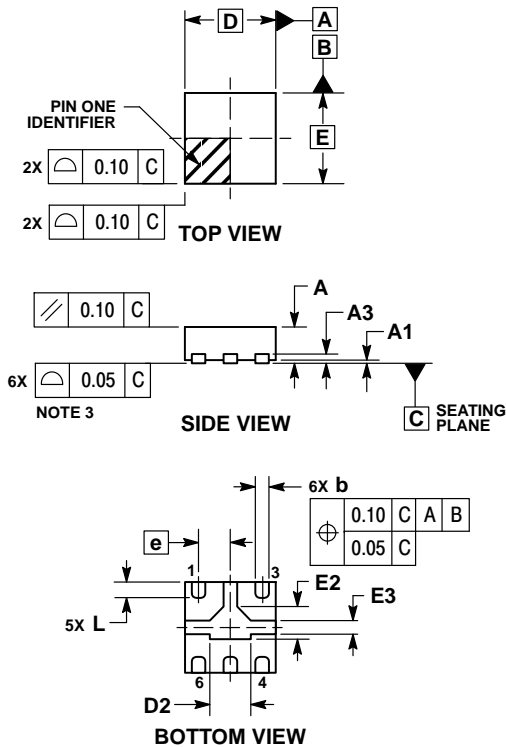
Test Circuit



NSG1001MX

PACKAGE DIMENSIONS

XDFN6 1.0x1.0, 0.35P
CASE 711AN
ISSUE O

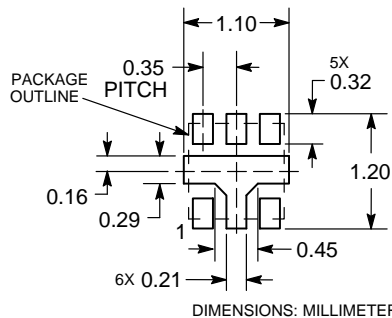


NOTES:

1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. COPLANARITY APPLIES TO THE EXPOSED PAD AS WELL AS THE TERMINALS.

MILLIMETERS		
DIM	MIN	MAX
A	0.32	0.40
A1	0.00	0.05
A3	0.102	REF
b	0.10	0.22
D	1.00	BSC
E	1.00	BSC
e	0.35	BSC
D2	0.35	0.45
E2	0.29	0.43
E3	0.16	0.30
L	0.13	0.25

RECOMMENDED MOUNTING 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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