NSVG1002MX

Product Preview

RF SP3T Switch MMIC

This device is single pole triple throw (SP3T) 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
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC−Q100 Qualified and PPAP Capable
- 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}	V_{CTL3}
IN − OUT1	High	Low	Low
IN − OUT2	Low	High	Low
IN − OUT3	Low	Low	High

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

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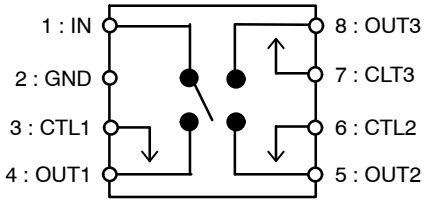
DFN8
MX SUFFIX
CASE 716AE

ELECTRICAL CONNECTION



MARKING DIAGRAM

AA = Specific Device Code
M = Month Code
▪ = Pb−Free Package

(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
NSVG1002MXT1G	DFN8 (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.

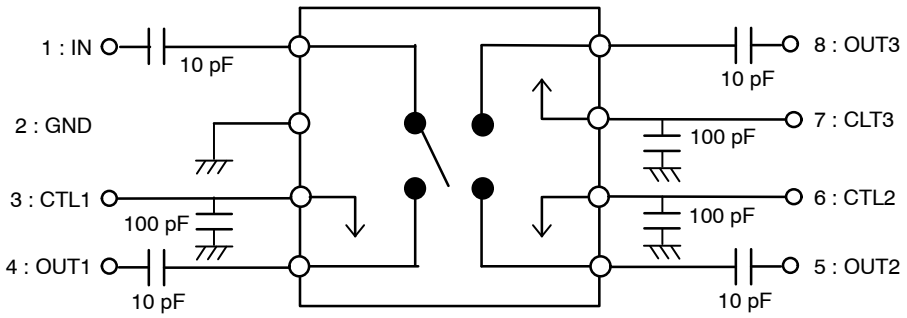
ELECTRICAL CHARACTERISTICS at Ta = 25°C (Note 1) Control Voltage : 0 / +3.0 V, DC Blocking capacitor 10.0 pF

Parameter	Symbol	Path	Condition	Value			Unit
				Min	Typ	Max	
Insertion Loss	IL	IN to OUT1, OUT2, OUT3	f = 2.5 GHz		0.45	0.65	dB
			f = 6.0 GHz		0.65	0.95	
Isolation	ISL	IN to OUT1, OUT2, OUT3	f = 2.5 GHz	23.0	28.0		dB
			f = 6.0 GHz	20.0	25.0		
Return Loss	RL		f = 2.5 GHz		30.0		dB
			f = 6.0 GHz		17.0		
1 dB Loss Compression Input Power	Pin 1 dB	IN to OUT1, OUT2, OUT3	f = 2.5 GHz		30.0		dBm
			f = 6.0 GHz		30.0		
Switching Time			f = 1GHz to 6GHz		100	250	ns
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.

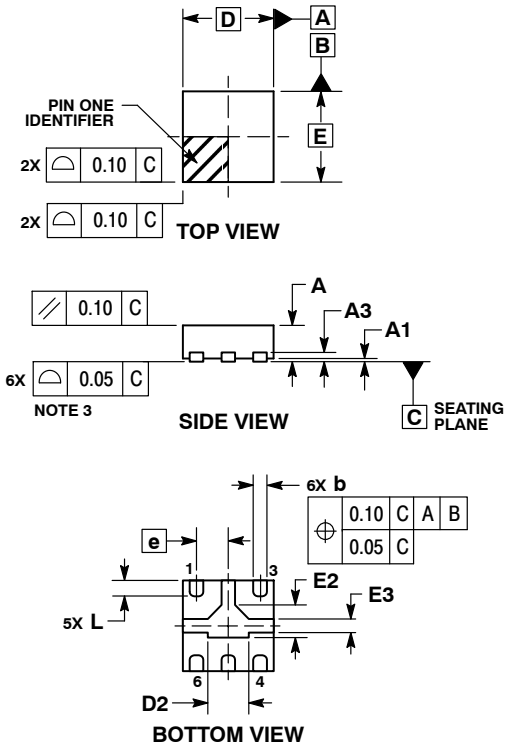
1. Pay attention to handling since it is liable to be affected by static electricity due to the high−frequency process adopted.

Test Circuit



PACKAGE DIMENSIONS

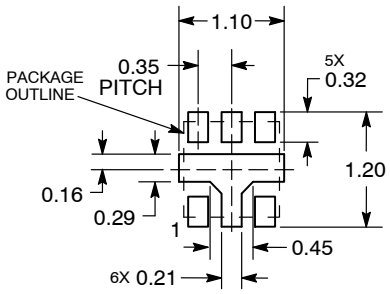
XDFN6 1.0x1.0, 0.35P
CASE 711AN
ISSUE A



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*



DIMENSIONS: MILLIMETERS

*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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PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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