

SPDT Switch*DC~4GHz Wide Band Single Pole Double Throw Switch***Device Features and Description**

- 43.0dB Typical Isolation at 2GHz
- 0.6dB Typical Insertion Loss at 1GHz
- Small Size and Low Profile
- MSOP8 Surface Mount Package
- Lead-free/Green/RoHS compliant
- Application
;commercial, space, military wireless system

**Electrical specifications**

Parameters	Frequency	Unit	Min	Typ	Max	Remark
Insertion Loss	DC-1GHz	dB		0.6		
	DC-2GHz			0.7		
	DC-3GHz			0.8		
	DC-4GHz			0.9		
Isolation	DC-1GHz	dB		50.0/51.5		RF1/RF2
	DC-2GHz			43.5/45.0		
	DC-3GHz			33.0/34.0		
	DC-4GHz			27.0/27.5		
Return Loss / On State	DC-1GHz	dB		26.0		
	DC-2GHz			21.0		
	DC-3GHz			23.5		
	DC-4GHz			16.1		
Return Loss / Off State	0.5-4GHz	dB		17.0		
Input P1dB	0.5-1GHz	dBm		24.0		
	0.5-2GHz			23.0		
	0.5-3GHz			22.0		
	0.5-4GHz			22.0		
Input IP3 (Two-Tone Input Power is 5dBm/ Each Tone)	0.5-1GHz	dBm		47.0		
	0.5-2GHz			48.0		
	0.5-3GHz			47.0		
	0.5-4GHz			46.0		
Switching Speed	DC-4GHz	ns		40		tRISE, tFALL (10/90%RF) tON, tOFF (50% CTL to 10/90%RF)
				60		

All specifications apply with the following test conditions,

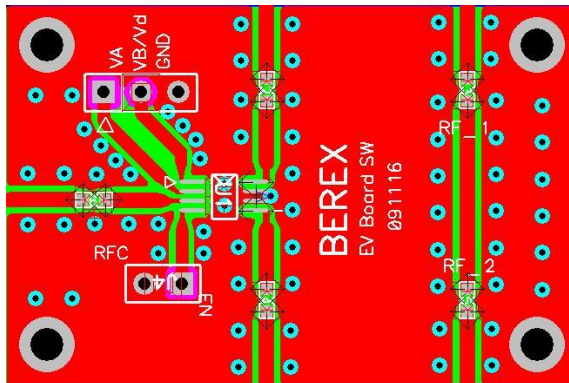
1. Device performance is measured on BeRex evaluation board at 25°C, 50 ohm system
2. Vctl=0/+5Vdc,
3. DC Blocks are required each port.

Absolute Maximum Ratings

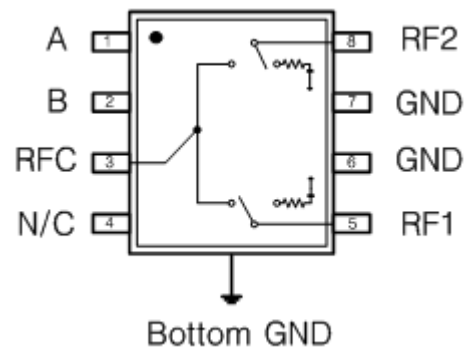
Parameters	Rating
Input Power	1W CW
Storage Temperature	-55 to +155°C
Operating Temperature	-40C to +85°C

Operation of this device above any of these parameters may result in permanent damage.

Evaluation Board Drawing



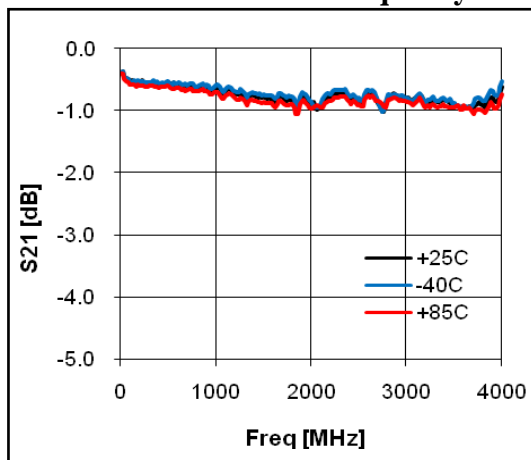
Function Block Diagram



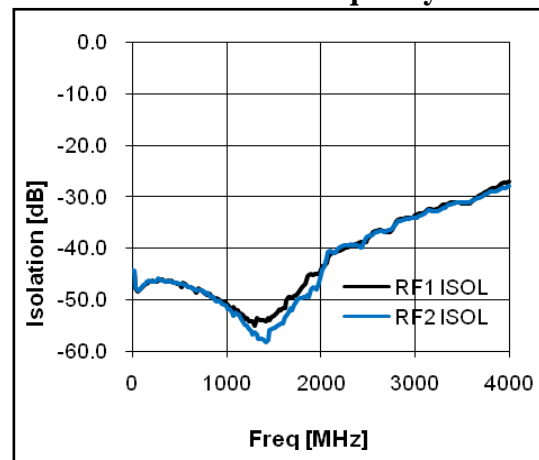
Pins 6,7, Bottom Plate must be DC and RF grounded.

Typical Test Data

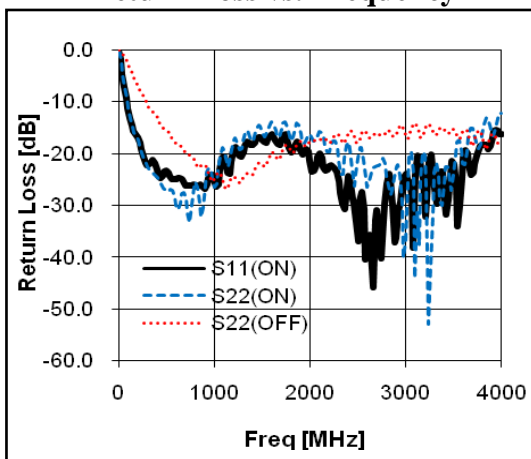
Insertion Loss vs. Frequency



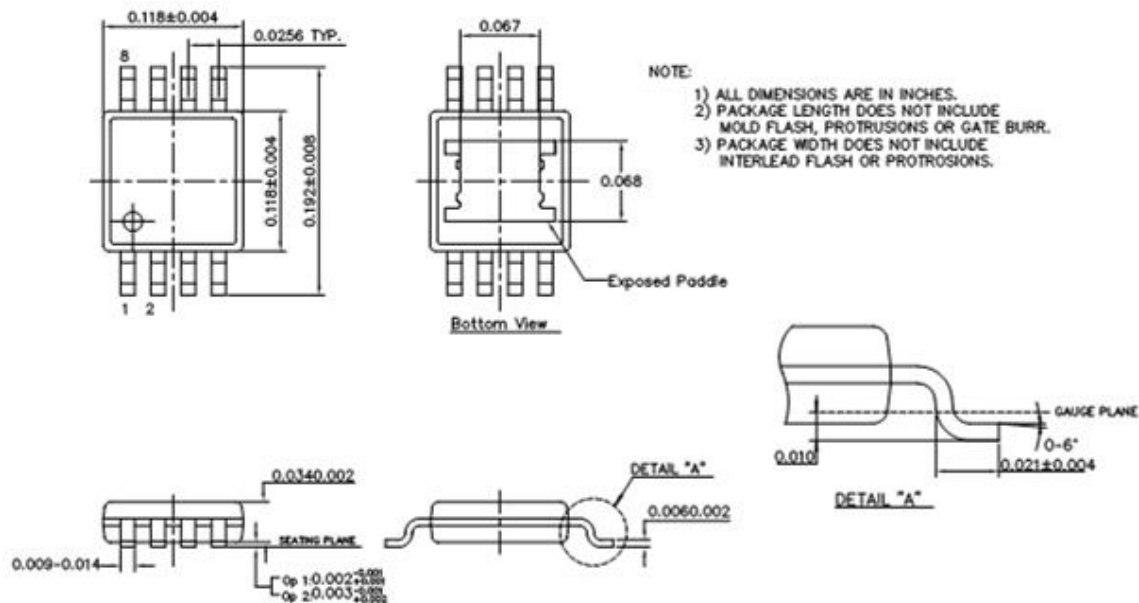
Isolation vs. Frequency



Return Loss vs. Frequency



Package Outline Dimension

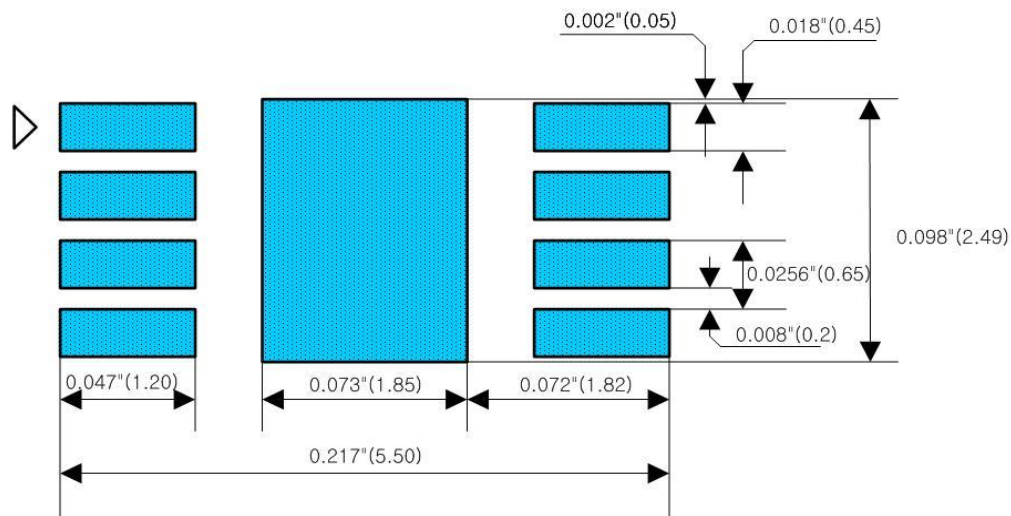


Truth Table

Control Voltage		Signal Path State	
A (Vdc)	B (Vdc)	RFC to RF1	RFC to RF2
0	+5	ON	OFF
+5	0	OFF	ON

Suggested PCB Land Pattern and PAD Layout

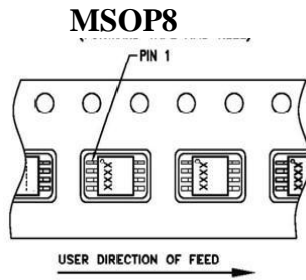
PCB Land Pattern



- Notes :
1. Connection to Bottom Ground with multiple via holes.
 2. Via holes as many as possible
 3. Dimensions are in inches (millimeters).

Visit <http://www.berex.com> for PCB layout

Tape & Reel



Packaging information:

Tape Width (mm): 12

Reel Size (inches): 7

Device Cavity Pitch (mm): 8

Devices Per Reel: 1000EA

Lead plating finish

100% Tin Matte finish.

(All BeRex products undergoes a 1 hour, 150 degree C, Anneal bake to eliminate thin whisker growth concerns)

MSL / ESD Rating

ESD Rating: Class 1C
Value: Passes <2000V
Test: Human Body Model (HBM)
Standard: JEDEC Standard JESD22-A114B

MSL Rating: Level 1 at +265°C convection reflow
Standard: JEDEC Standard J-STD-020

NATO CAGE code:

2	N	9	6	F
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NOTICE

BeRex Corporation reserves the right to make changes of product specification or to discontinue product at any time without notice.