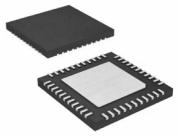
Features

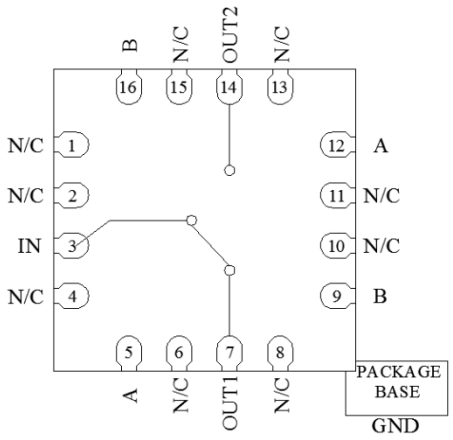
- FET SP2T Reflective design
- Frequency: DC-4GHz
- Isolation: 50dB Typical
- Insertion Loss: 0.6dB Typical
- Control Voltage:0/-5V
- Switching Speed: 30ns Typical
- Package Size : 3 x 3 x 0.75mm



Typical Applications

- Voltage control
- Fast Switching Speed
- Low Insertion Loss and High Isolation
- Customization available upon request

Functional Block Diagram

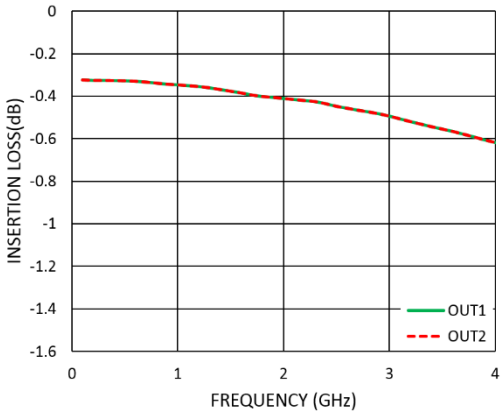


Electrical Specifications

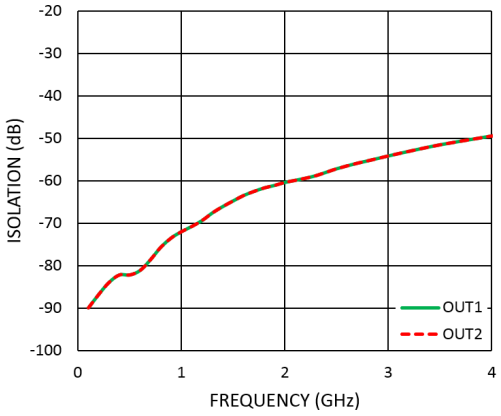
TA = +25°C, VCTL=0/-5V

Parameters	Min.	Typ.	Max.	Units
Frequency	DC		4	GHz
Insertion Loss		0.6	0.8	dB
Isolation	45	50		dB
Input Return Loss		-15		dB
Output Return Loss		-15		dB
P1dB - Output 1dB Compression		26		dBm
IIP3-Input Third Order Intercept		47		dBm
Switching Speed		30		ns

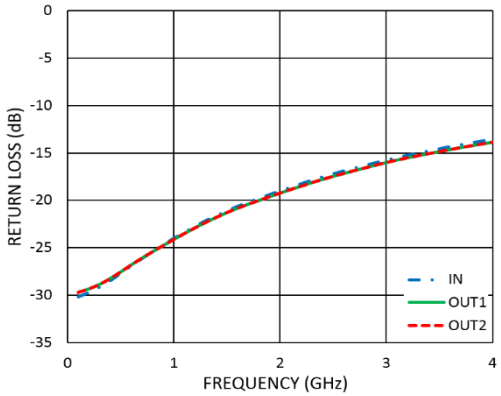
Insertion Loss vs. Frequency



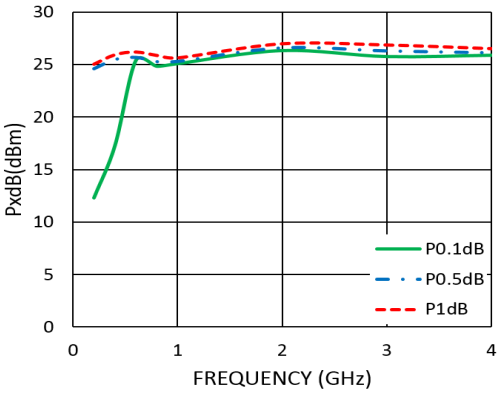
Isolation vs. Frequency



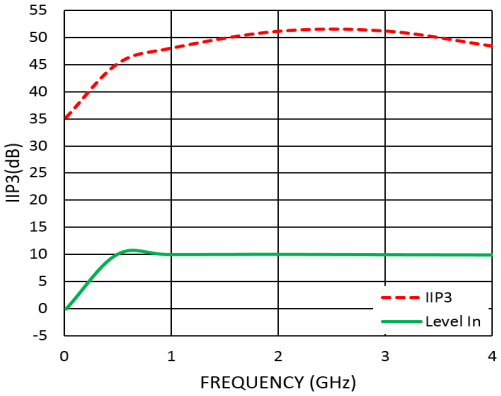
Return Loss vs. Frequency



PxdB vs. Frequency

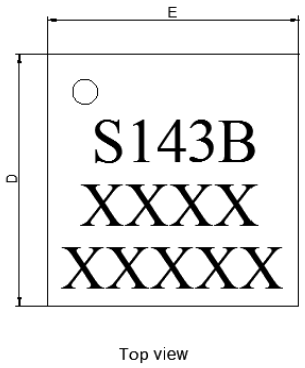


IIP3 vs. Frequency

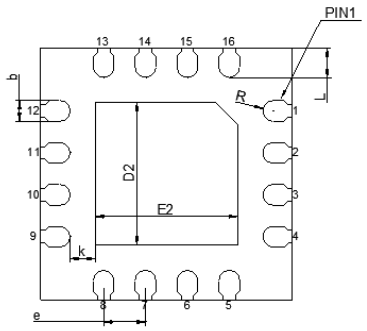


Outline Drawing:

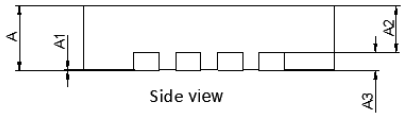
All Dimensions in mm



Top view



Bottom view



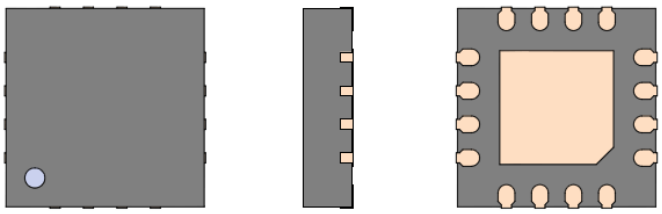
Side view

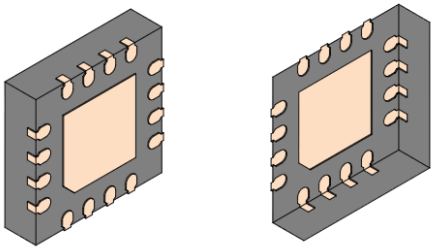
UNITS=MM

SYMBOL	MIN	NOM	MAX
A	0.7	0.75	0.8
A1	0	0.02	0.05
A2	0.36	0.45	0.54
A3	0.19	0.20	0.21
D	2.90	3.00	3.10
E	2.90	3.00	3.10
b	0.2	0.25	0.30
D2	1.60	1.70	1.80
E2	1.60	1.70	1.80
e		0.50	
K	0.30		
L	0.35	0.40	0.45
R	0.10		

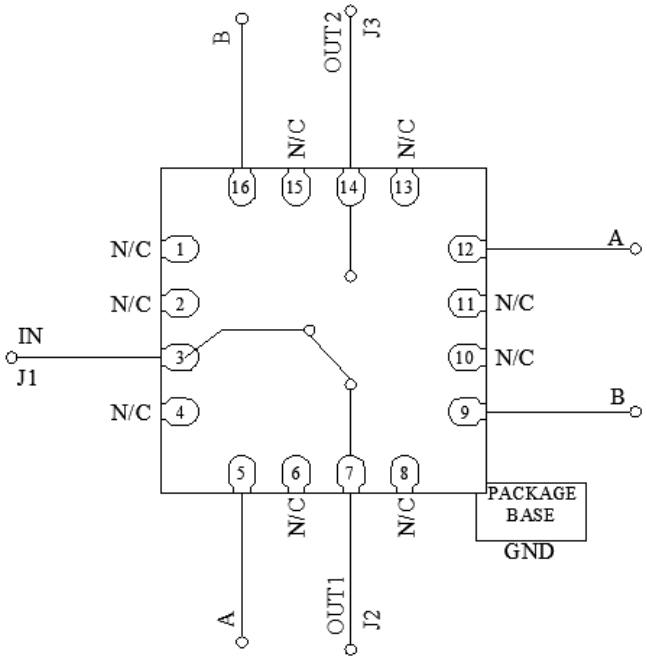
Notes:

1. **Package model : 16-Lead Lead Frame Chip Scale Package .**
2. **Dimensions are in millimeters.**
3. **Lead spacing tolerance is non-cumulative.**





Assembly Drawing



Pin Descriptions

No	Function	Description
1,2,4,6,8,10,11,12,15	NC	No connection. These pins may be connected to RF ground. Performance will not be affected.
3	IN	Signal input terminal, connected to 50Ω circuit.
7,14	OUT1,OUT2	Signal output terminal, connected to 50Ω circuit.
5,12	A	Control terminal, connected to 0 or -5V.
9,16	B	Control terminal, connected to 0 or -5V.
17	GND	Package bottom must be connected to RF/DC ground.

Truth Table

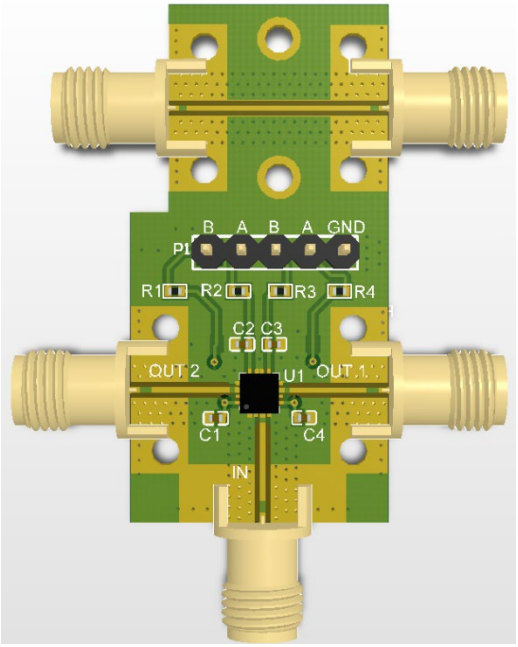
Control Voltage		State	
A	B	IN-OUT1	IN-OUT2
-5V	0V	ON	OFF
0V	-5V	OFF	ON

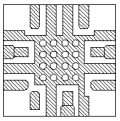
Absolute Maximum Ratings

RF Input Power (RFIN)	**+30dBm**
Control Voltage	**-8V to +1V**
Operating Temperature	**-55°C to +125 °C**
Storage Temperature	**-65°C to +150 °C**

ELECTROSTATIC SENSITIVE DEVICE
OBSERVE HANDLING PRECAUTIONS

Evaluation Board Layout Assembly and Mounting Pattern





Mounting Detail

Top dielectric material is ROGERS 4003C, 0.008 inch thickness with 0.5 oz copper.

The pad pattern shown above has been developed and tested for optimized assembly at Miller. The PCB land pattern has been developed to accommodate lead and package tolerances. Since surface mount processes vary from company to company, careful process development is recommended.

Ground / thermal vias are critical for the proper performance of this device. Vias should use a 0.008~0.01 in. diameter drill, filled with copper plating.

Bill of Materials

Reference Des.	Part No	Description	Manuf.
C1, C2,C3,C4	GRM1555C1E390JA01D	Cap, 0402, 39PF,+25V, ±5 %,	Murata
R1, R2,R3,R4	RC0402JR-0720RL	Res, 0402, 20Ω ,0.0625W	YAGEO

Solderability

1. Compatible with lead-free soldering process with 260℃ peak reflow temperature.
2. This package is non-hermetic, and therefore cannot be subjected to aqueous washing.
   The use of no-clean solder to avoid washing is highly recommended.

Recommended Soldering Temperature Profile