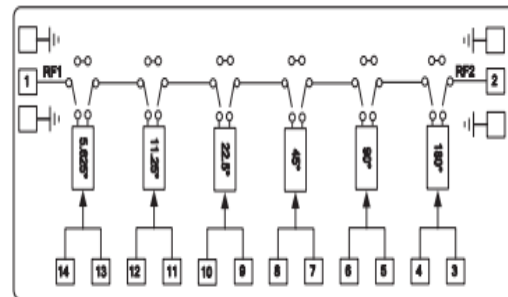


**Features**

- Phase Shift Range: 360 °
- Minimum phase shift: 5.625 °
- Phase Shift Accuracy RMS: 3°
- Insertion Loss: 10dB
- Phase-shifting Amplitude Modulation:  $\pm 0.5$ dB
- Impedance: 50 $\Omega$
- Die Size: 2.5 x 2.5 x 0.1 mm

**Typical Applications**

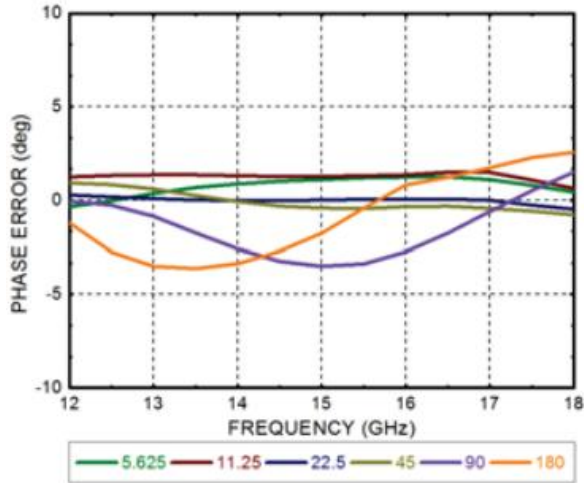
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

**Functional Block Diagram**

**Electrical Specifications**
**TA = +25°C, Vctl = 0/-5V**

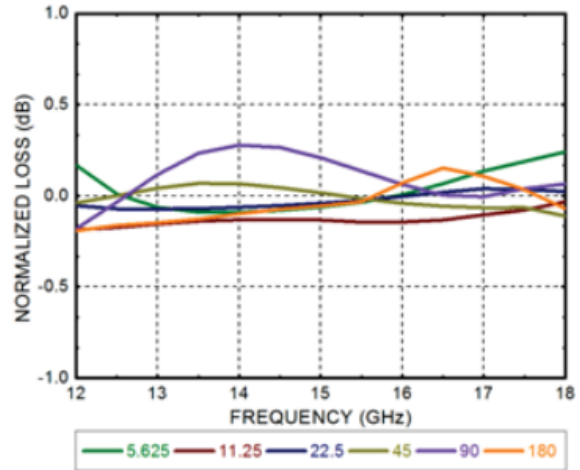
Parameters	Min.	Typ.	Max.	Units
Frequency	12-18			GHz
Insertion Loss		10		dB
Phase Shift Accuracy RMS		3		°
Phase-shifting Amplitude Modulation		$\pm 0.5$		dB
Return Loss		15		dB
Input 1dB Compression (P1dB)		24		dBm
Switching Speed		30		ns



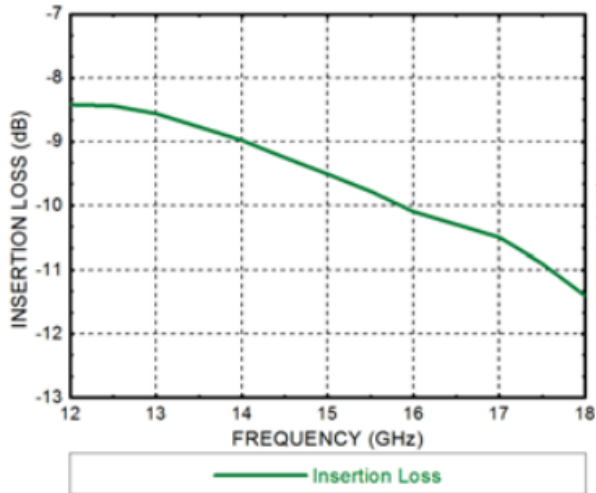
### Phase Shift Accuracy (Basic State)



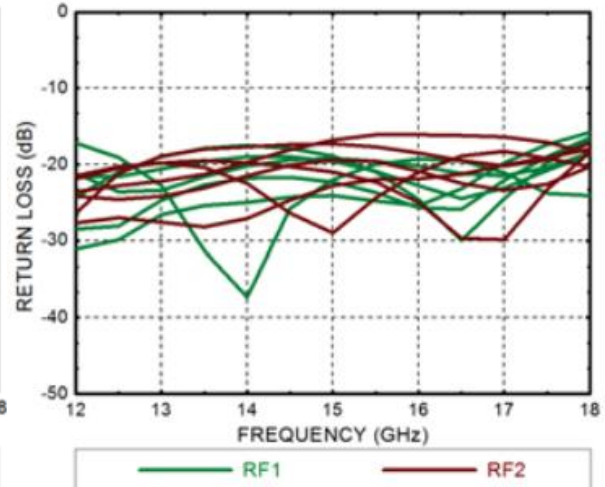
### Amplitude Modulation (Basic State)



### Insertion Loss

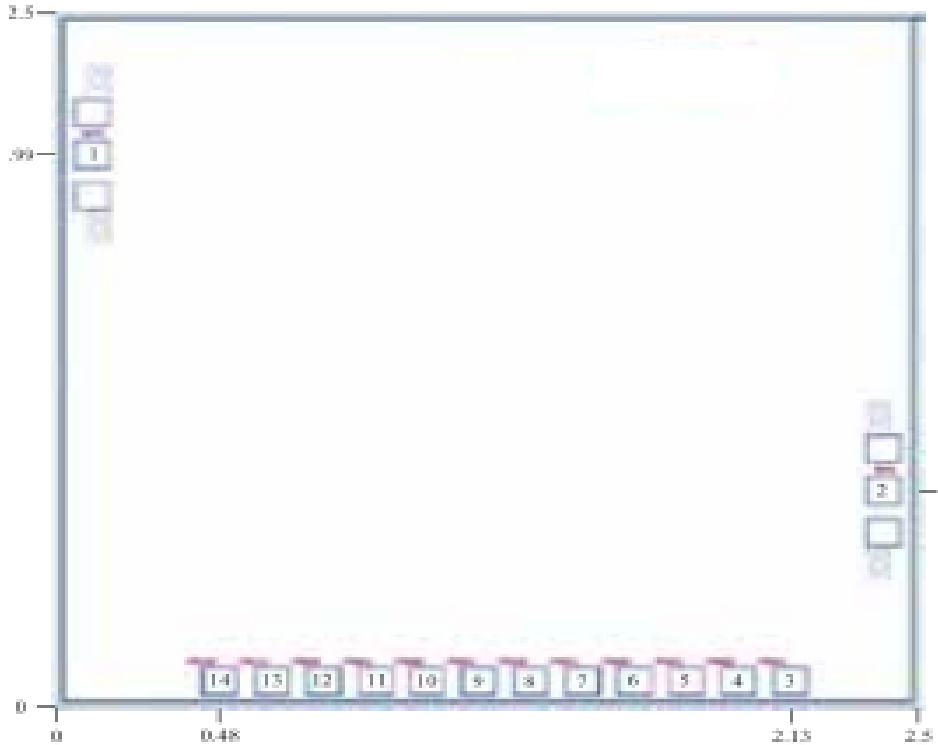


### Return Loss (Basic State)





### Outline Drawing: All Dimensions in mm

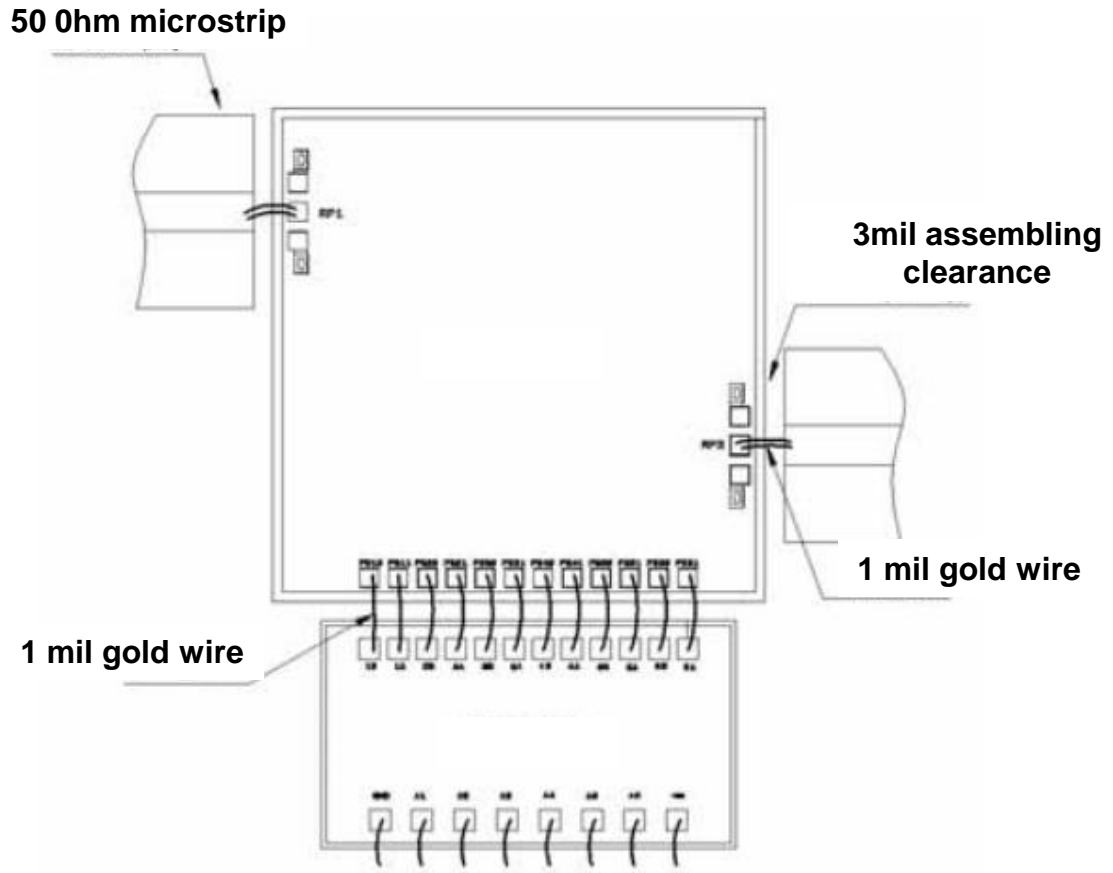


### Pad Description

PAD	Function	Description
1	RF1	This pad is RF port and matches to 50Ω Impedance
2	RF2	This pad is RF port and matches to 50Ω Impedance
3,4	180° Control	-5V, 0V is 180 ° "OFF"; 0V, -5V is 180 ° "ON"
5,6	90° Control	-5V, 0V is 90 ° "OFF";0V, -5V is 90 ° "ON"
7,8	45°Control	-5V, 0V is 45 ° "OFF";0V,-5V is 45 ° "ON"
9,10	22.5° Control	-5V, 0V is 22.5 ° "OFF";0V,-5V is 22.5 ° "ON"
11,12	11.25° Control	-5V, 0V is 11.25 ° "OFF";0V,-5V is 11.25 ° "ON"
13,14	5.625° Control	-5V, 0V is 5.625 ° "OFF";0V,-5V is 5.625° "ON"
Die Bottom	GND	Die bottom must be connected to RF/DC ground



### Assembly Drawing



#### Notes:

1. Die thickness: 100um
2. Typical bond pad is 100\*100  $\mu\text{m}^2$
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

#### Maximum Ratings:

1. RF input power: +24dBm
2. Storage temperature: -65°C to +175°C
3. Operating temperature: -55°C to +85°C