

**Features**

- Frequency: 8-11GHz
- Phase Shift Accuracy RMS: 1.6 °
- Insertion Loss: 7.2dB (Typ.)
- Insertion Loss Variation: 1.4dB
- Impedance: 50Ω
- Die Size: 4.4 x 1.56 x 0.1 mm

**Typical Applications**

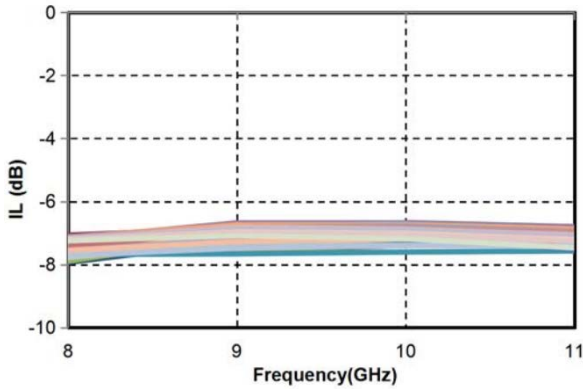
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

**Electrical Specifications**
**TA = +25°C**

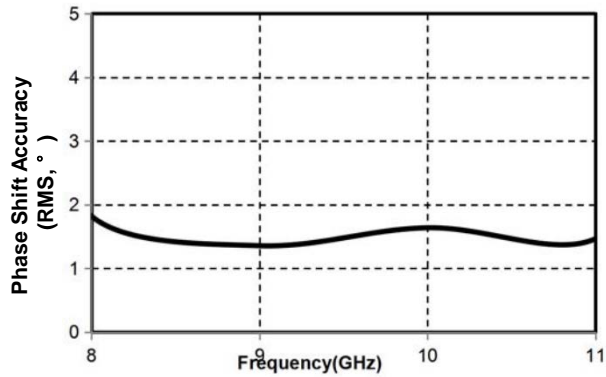
Parameters	Min.	Typ.	Max.	Units
Frequency		8-11		GHz
Insertion Loss		7.2	8.0	dB
Insertion Loss Flatness		1.0		dB
Phase Shift Accuracy RMS		1.6		°
Amplitude Variation		1.4		dB
Input Return Loss	12	22	-	dB
Output Return Loss	13.5	18	-	dB
Switching Speed		20		ns



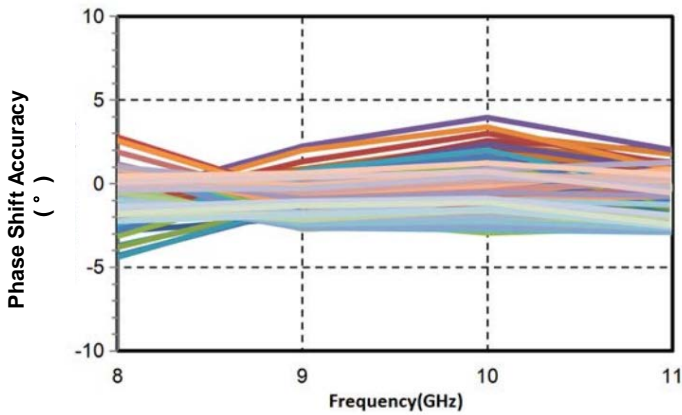
### Insertion Loss vs. Frequency



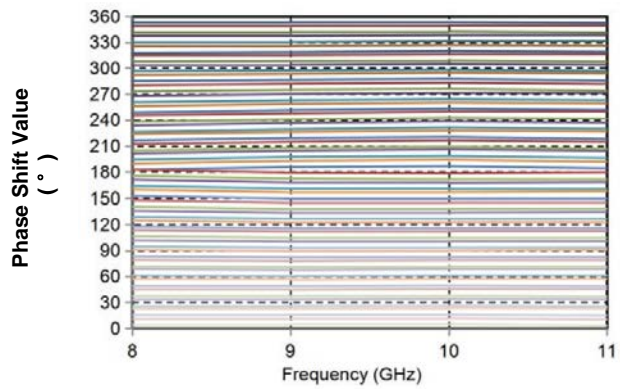
### Phase Shift Accuracy (RMS) vs. Frequency



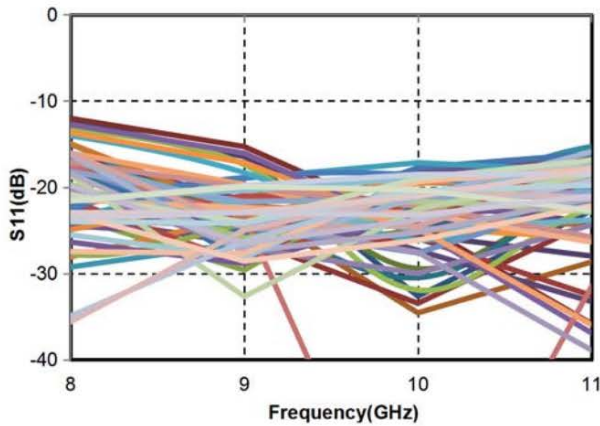
### Phase Shift Accuracy vs. Frequency



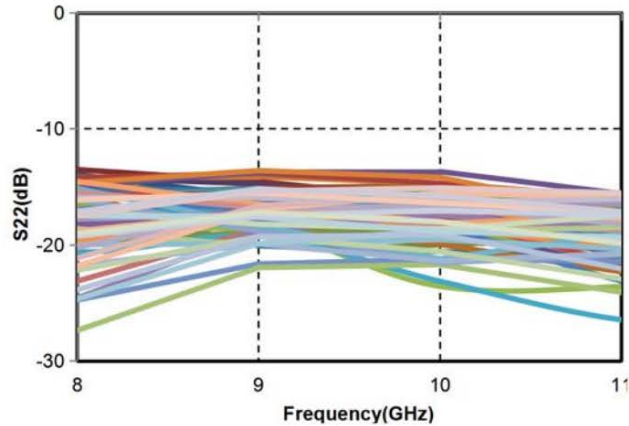
### Phase Shift Value vs. Frequency



### Input Return Loss vs. Frequency

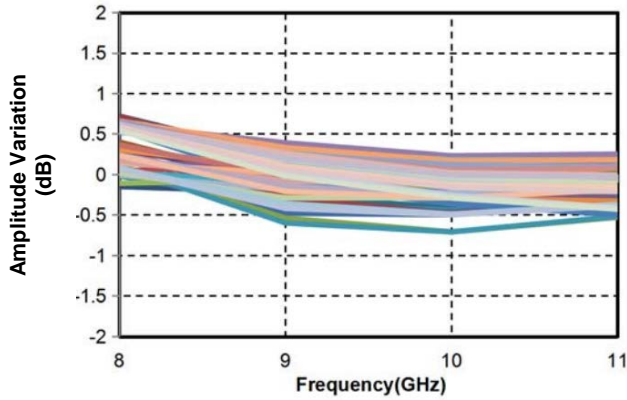


### Output Return Loss vs. Frequency



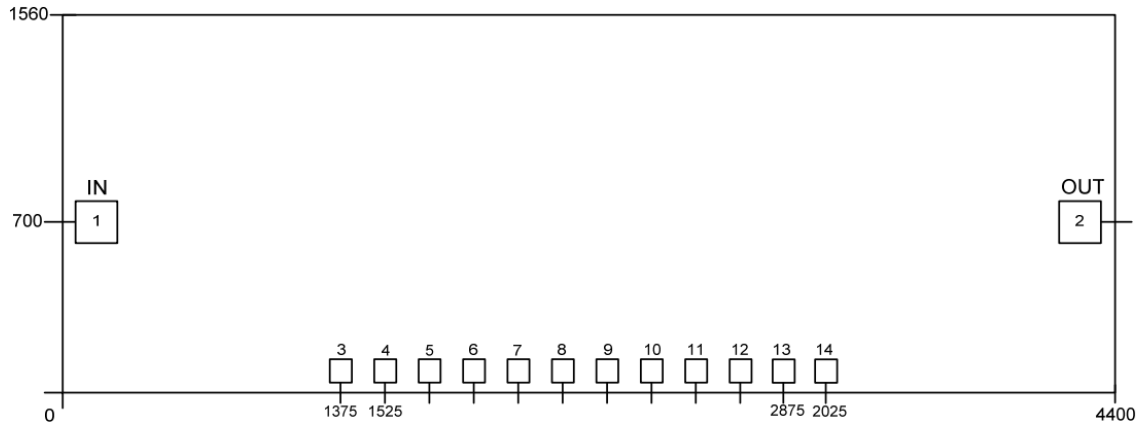


### Amplitude Variation



### Outline Drawing:

All Dimensions in um



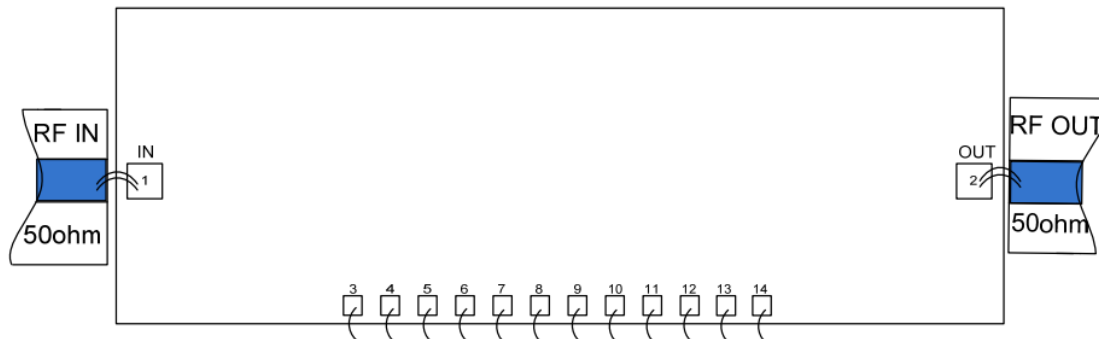
### Pad Description

PAD	Function	Description
1	RF IN	RF Input Port
2	RF OUT	RF Output Port
3-14	CTRL	Control Port
GND	GND	Die bottom must be connected to RF/DC ground



### Truth Table

	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12	P13	P14
	C1_0	C1_5	C2_0	C2_5	C3_0	C3_5	C4_0	C4_5	C5_0	C5_5	C6_0	C6_5
0	0	-5	0	-5	0	-5	0	-5	0	-5	0	-5
-5.625°	-5	0	0	-5	0	-5	0	-5	0	-5	0	-5
-11.25°	0	-5	-5	0	0	-5	0	-5	0	-5	0	-5
-22.5°	0	-5	0	-5	-5	0	0	-5	0	-5	0	-5
-45°	0	-5	0	-5	0	-5	-5	0	0	-5	0	-5
-90°	0	-5	0	-5	0	-5	0	-5	-5	0	0	-5
-180°	0	-5	0	-5	0	-5	0	-5	0	-5	-5	0
-354.375°	-5	0	-5	0	-5	-5	-5	0	-5	0	-5	0



**Notes:**

1. Die thickness: 100um
2. Typical bond pad is 100\*100 μm<sup>2</sup>
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: +23dBm
2. Control voltage range: -8V~0.5V
3. Storage temperature: -65°C to +150°C
4. Operating temperature: -55°C to +85°C