

**Features**

- Frequency: 8-12GHz
- Phase Shift Accuracy RMS: 1.7 °
- Insertion Loss: 7.2dB (Typ.)
- Insertion Loss Variation: 1.6dB
- Impedance: 50Ω
- Die Size: 4.2 x 1.73 x 0.1 mm

**Typical Applications**

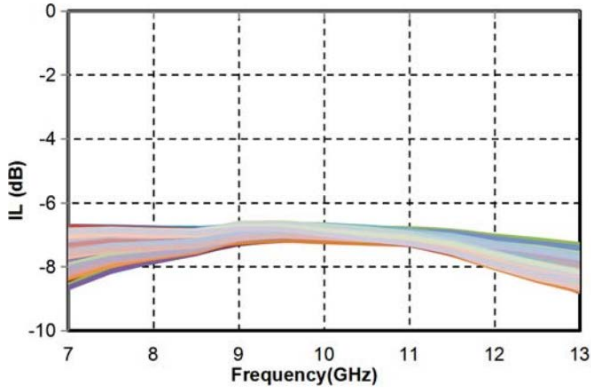
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

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

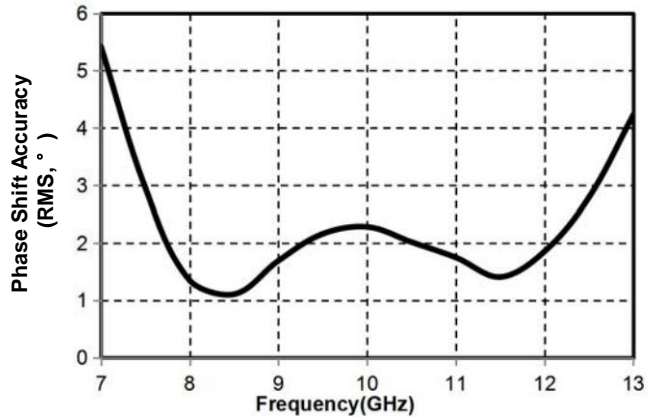
Parameters	Min.	Typ.	Max.	Units
<b>Frequency</b>		<b>8-12</b>		<b>GHz</b>
<b>Insertion Loss</b>		<b>7.2</b>	<b>8.0</b>	<b>dB</b>
<b>Insertion Loss Flatness</b>		<b>1.0</b>		<b>dB</b>
<b>Phase Shift Accuracy RMS</b>		<b>1.7</b>		<b>°</b>
<b>Amplitude Variation</b>		<b>1.6</b>		<b>dB</b>
<b>Input Return Loss</b>	<b>14</b>	<b>20</b>	<b>-</b>	<b>dB</b>
<b>Output Return Loss</b>	<b>11</b>	<b>19</b>	<b>-</b>	<b>dB</b>
<b>Switching Speed</b>		<b>20</b>		<b>ns</b>



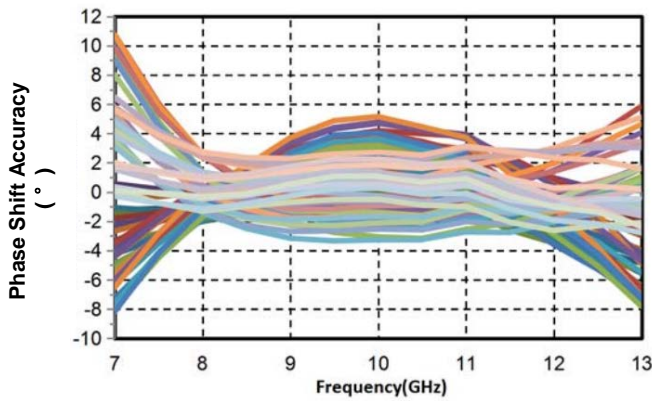
### Insertion Loss vs. Frequency



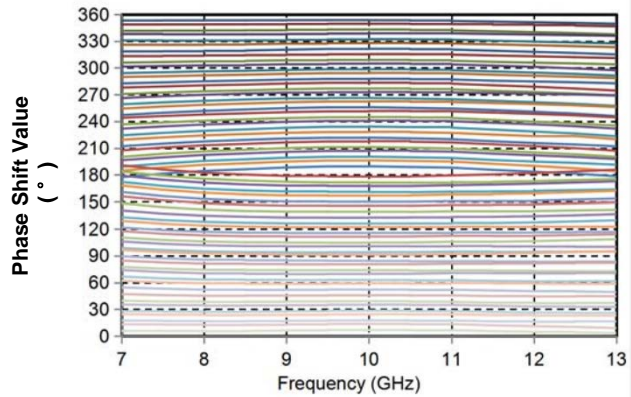
### Phase Shift Accuracy (RMS) vs. Frequency



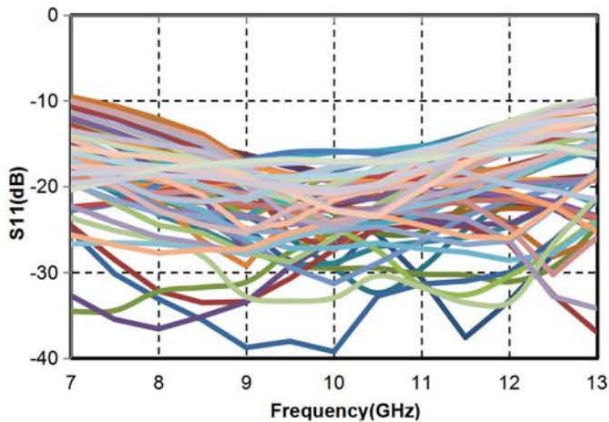
### Phase Shift Accuracy vs. Frequency



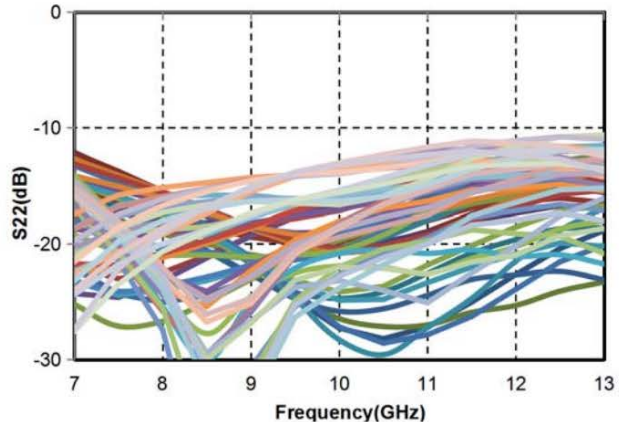
### Phase Shift Value vs. Frequency



### Input Return Loss vs. Frequency

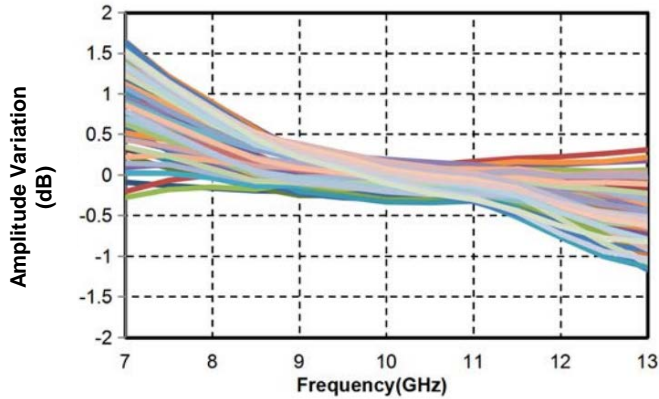


### Output Return Loss vs. Frequency



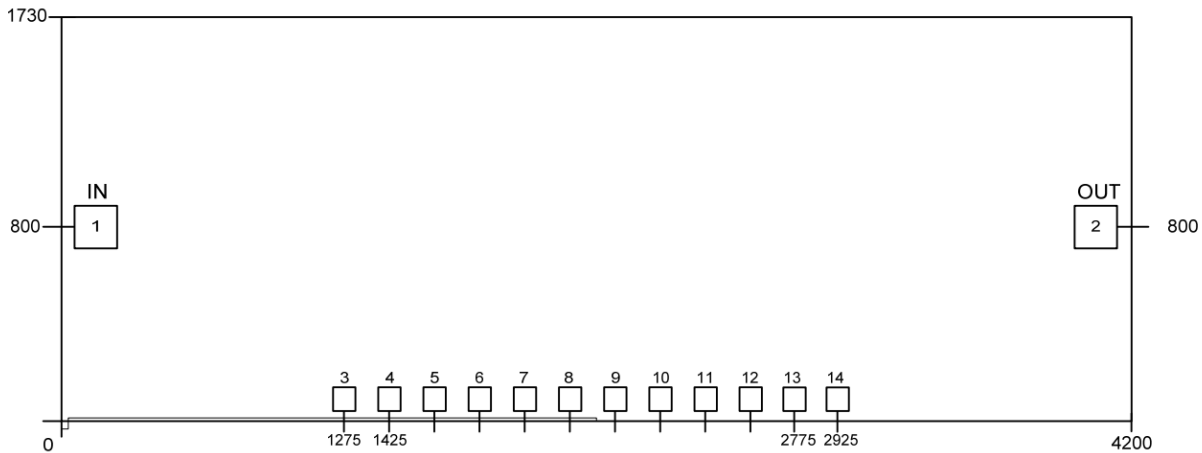


### Amplitude Variation



### Outline Drawing:

All Dimensions in  $\mu\text{m}$



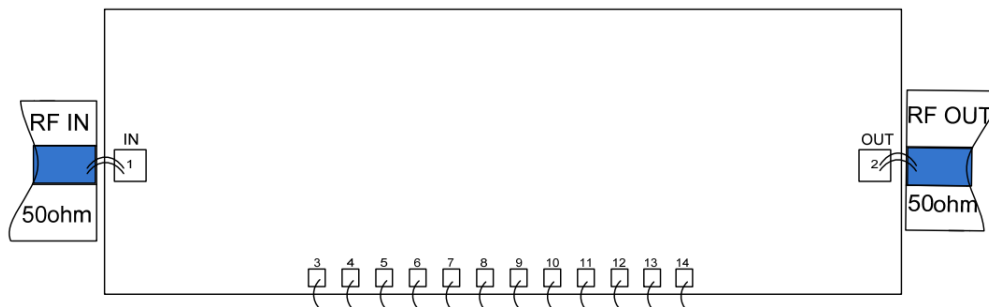
### Pad Description

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