

Features

- Phase Shift Accuracy RMS: 3.4 °
- Insertion Loss: 10dB (Typ.)
- Insertion Loss Variation: 1.5dB
- Impedance: 50Ω
- Die Size: 3.5 x 1.5 x 0.1 mm

Typical Applications

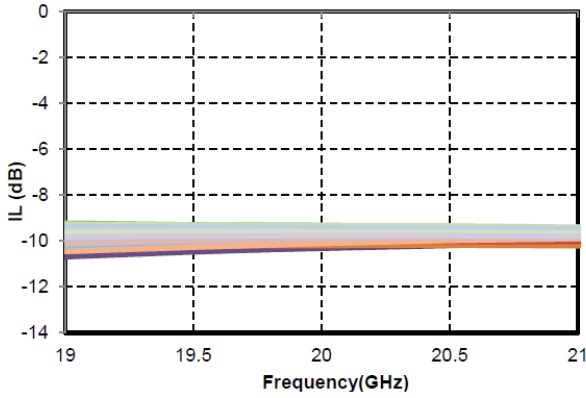
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

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

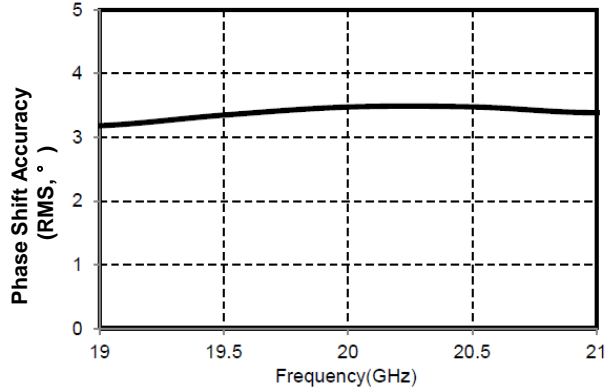
Parameters	Min.	Typ.	Max.	Units
Frequency		19-21		GHz
Insertion Loss		10	10.5	dB
Insertion Loss Variation		1.5		dB
Phase Shift Accuracy RMS		3.4		°
Amplitude Variation		1.5		dB
Input Return Loss	11	17		dB
Output Return Loss	14	21		dB
Switching Speed		20		ns



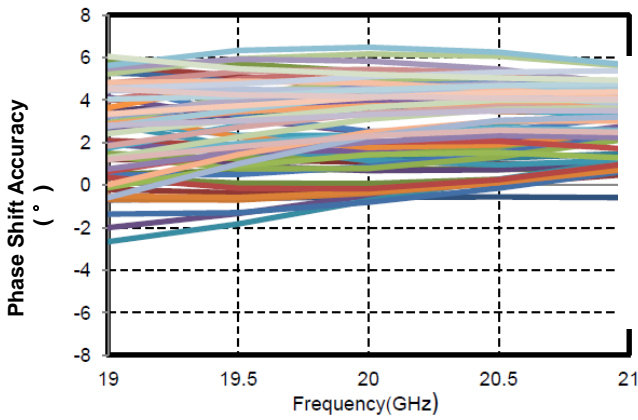
Insertion Loss



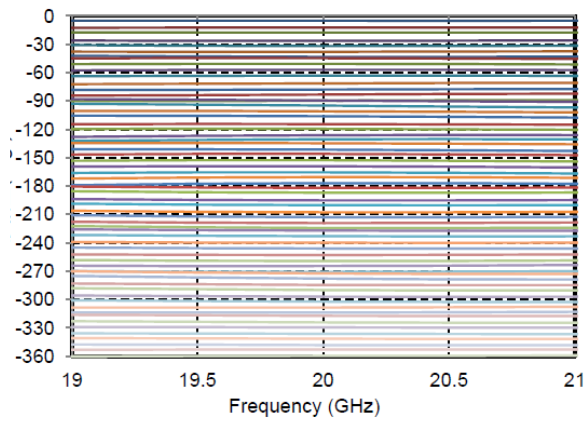
Phase Shift Accuracy (RMS)



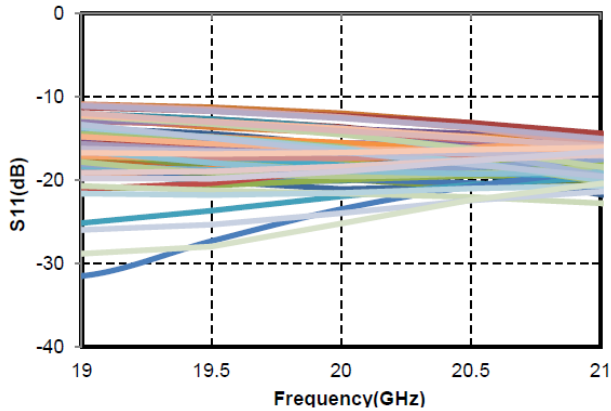
Phase Shift Accuracy



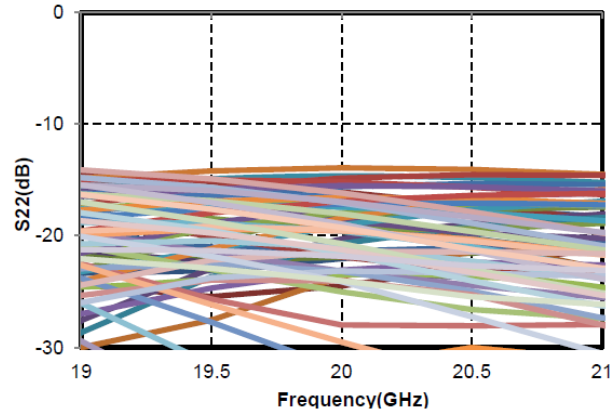
Phase Shift Value

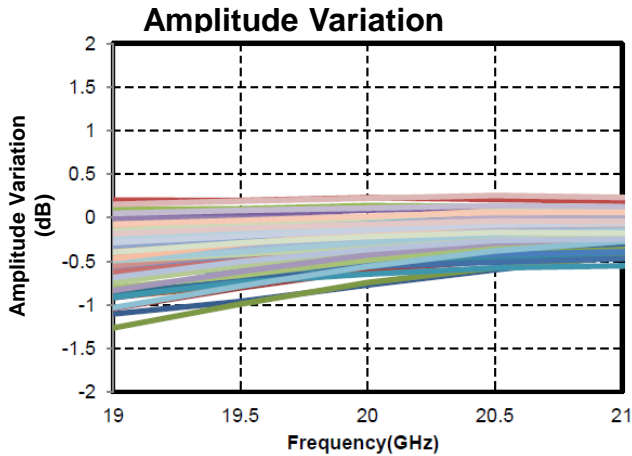


Input Return Loss



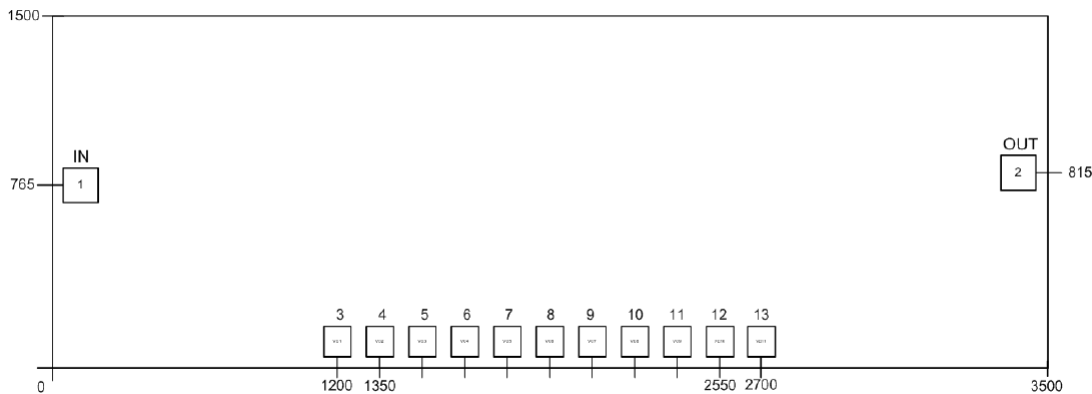
Output Return Loss





Outline Drawing:

All Dimensions in μm



Pad Description

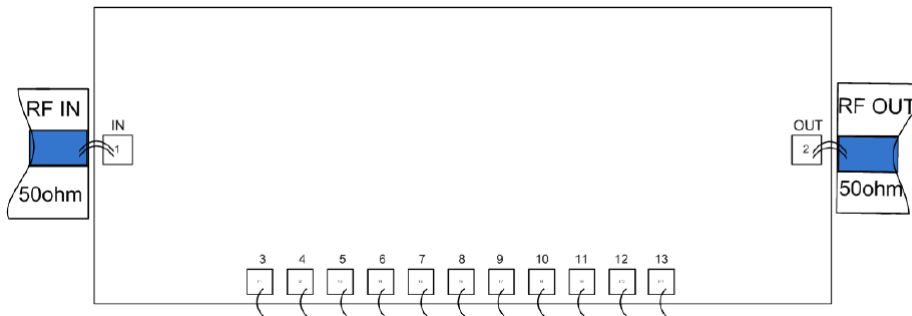
PAD	Function	Description
1	RF IN	RF Input Port
2	RF OUT	RF Output Port
3-13	CTRL	Control Port
GND	GND	Die bottom must be connected to RF/DC ground



Truth Table

	VC1	VC2	VC3	VC4	VC5	VC6	VC7	VC8	VC9	VC10	VC11
0	0	-5	-5	0	-5	-5	0	-5	0	0	-5
-5.625°	0	-5	0	0	-5	-5	0	-5	0	0	-5
-11.25°	0	-5	-5	0	-5	0	-5	-5	0	0	-5
-22.5°	0	-5	-5	0	-5	-5	0	0	-5	0	-5
-45°	-5	0	-5	0	-5	-5	0	-5	0	0	-5
-90°	0	-5	-5	-5	0	-5	0	-5	0	0	-5
-180°	0	-5	-5	0	-5	-5	0	-5	0	-5	0
-354.375°	-5	0	0	-5	0	0	-5	0	-5	-5	0

Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
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