Features

- Phase Shift Accuracy RMS: 1.8 °
- Insertion Loss: 9.7dB (Typ.)
- Insertion Loss Variation: 1.3dB
- Impedance: 50Ω
- Die Size: 3.37 x 1.36 x 0.1 mm

Typical Applications

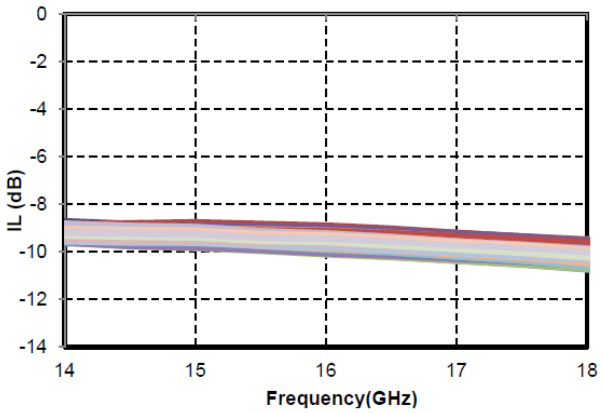
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

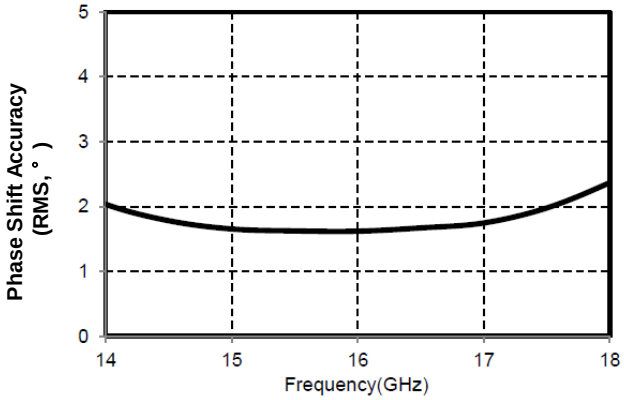
TA = +25ºC, Vctl = 0/-5V

Parameters	Min.	Typ.	Max.	Units
Frequency		14-18		GHz
Insertion Loss		9.7	11	dB
Insertion Loss Variation		0.9		dB
Phase Shift Accuracy RMS		1.8		°
Amplitude Variation		1.3		dB
Input Return Loss	15	21		dB
Output Return Loss	14	21		dB
Switching Speed		20		ns

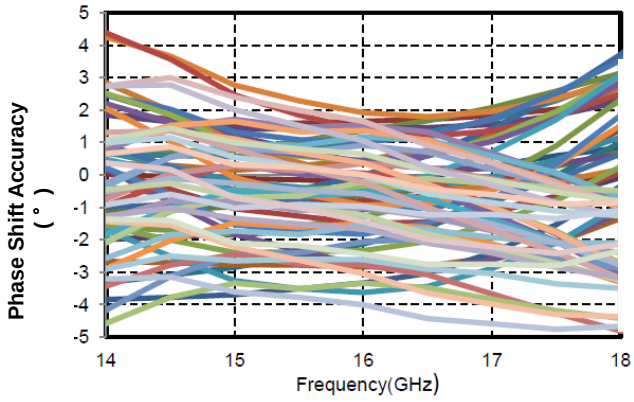
Insertion Loss



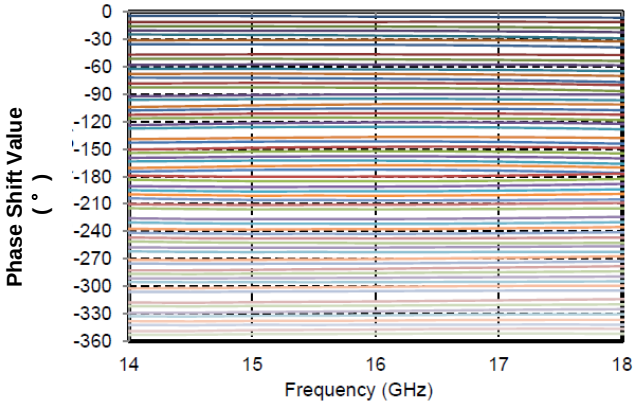
Phase Shift Accuracy (RMS)



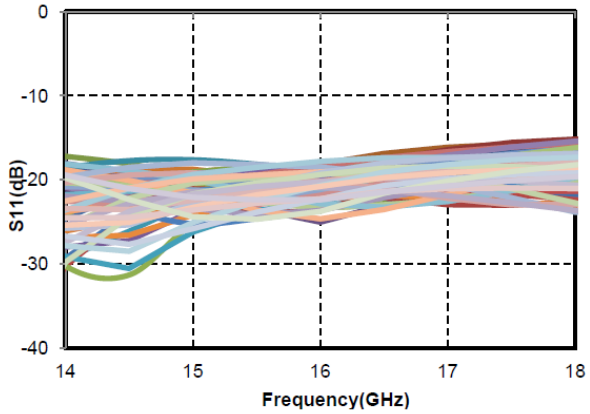
Phase Shift Accuracy



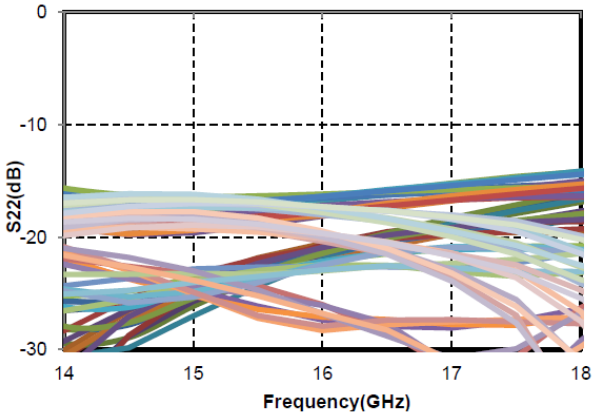
Phase Shift Value



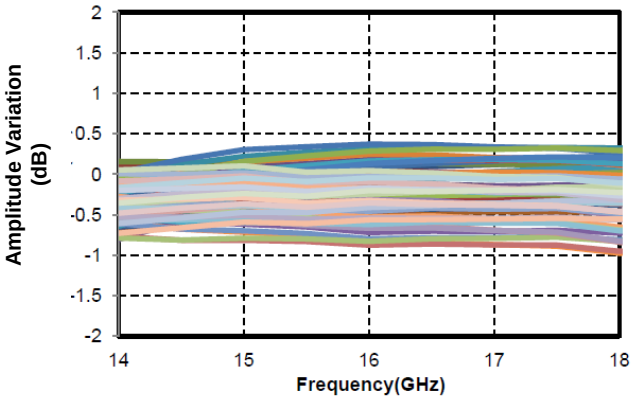
Input Return Loss



Output Return Loss

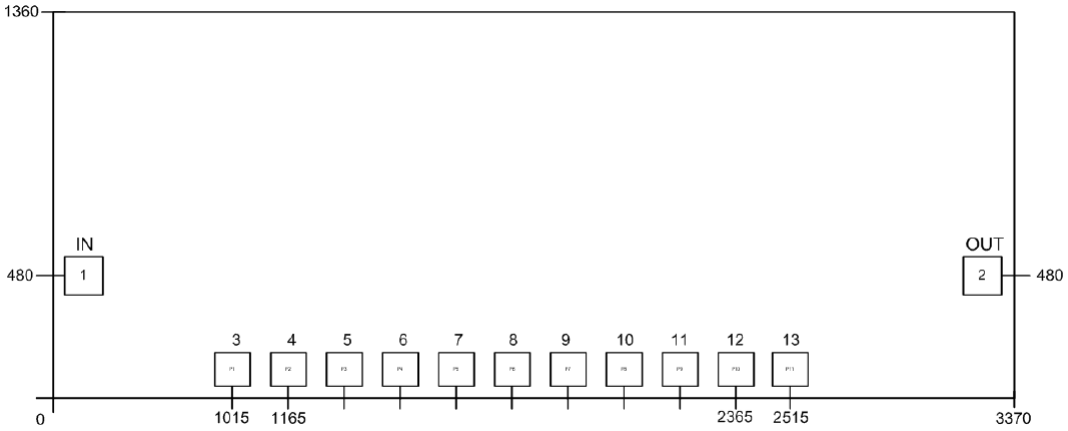


Amplitude Variation



Outline Drawing:

All Dimensions in um



Pad Description

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

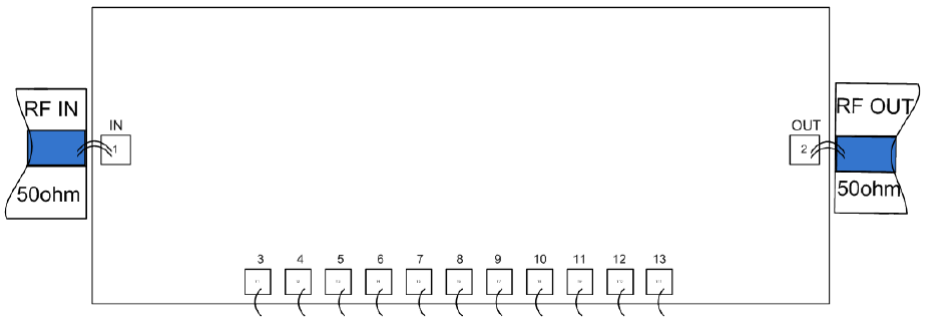
V1.0.0

GaAs pHEMT MMIC
6-Bit Digital Control Phase Shifter
14-18GHz

Truth Table

	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11
0	0	-5	-5	0	-5	0	0	-5	-5	-5	0
-5.625°	0	-5	-5	0	-5	0	0	-5	0	-5	0
-11.25°	0	-5	-5	0	0	-5	0	-5	-5	-5	0
-22.5°	0	-5	0	-5	-5	0	0	-5	-5	-5	0
-45°	-5	0	-5	0	-5	0	0	-5	-5	-5	0
-90°	0	-5	-5	0	-5	0	-5	0	-5	-5	0
-180°	0	-5	-5	0	-5	0	0	-5	-5	0	-5
-354.375°	-5	0	0	-5	0	-5	-5	0	0	0	-5

Assembly Drawing



Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^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: +23dBm
2. Control voltage range: -8V~0.5V
3. Storage temperature: -65℃ to +150℃
4. Operating temperature: -55℃ to +85℃