Features

- Frequency: 28-32GHz
- Phase Shift Accuracy RMS: 2.6 °
- Insertion Loss: 7.1dB (Typ.)
- Insertion Loss Variation: ±0.4dB
- Impedance: 50Ω
- Die Size: 3.52 x 1.54 x 0.1 mm

Typical Applications

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

Electrical Specifications

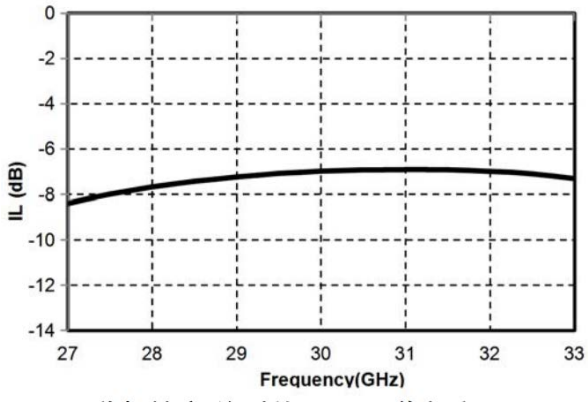
TA = +25ºC

Parameters	Min.	Typ.	Max.	Units
Frequency		**28-32**		**GHz**
Insertion Loss	**-**	**7.1**	**7.7**	**dB**
Insertion Loss Variation	**-**	**±0.4**	**-**	**dB**
Phase Shift Accuracy RMS	**-**	**2.6**	**-**	**°**
Input Return Loss	**10.5**	**17**	**-**	**dB**
Output Return Loss	**10**	**15**	**-**	**dB**
Input P-1@Ground state		**18**		**dBm**
Switching Speed	**-**	**20**		**ns**

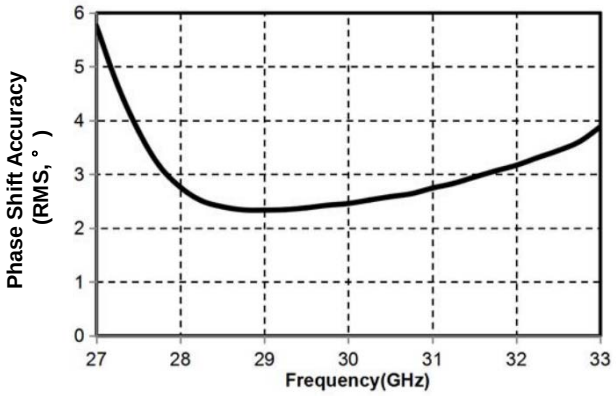
V1.0.0

GaAs pHEMT MMIC
6-Bit Digital Control Phase Shifter
28-32GHz

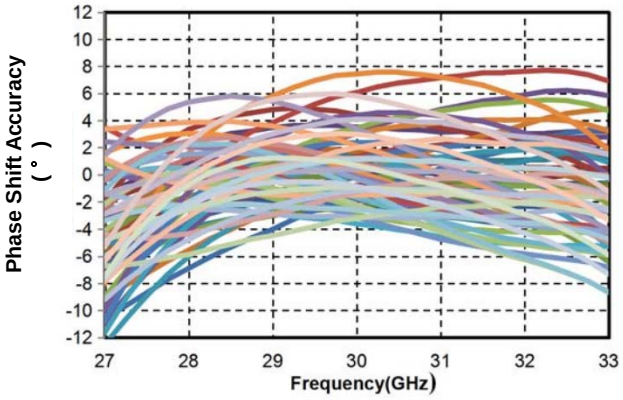
Insertion Loss vs. Frequency



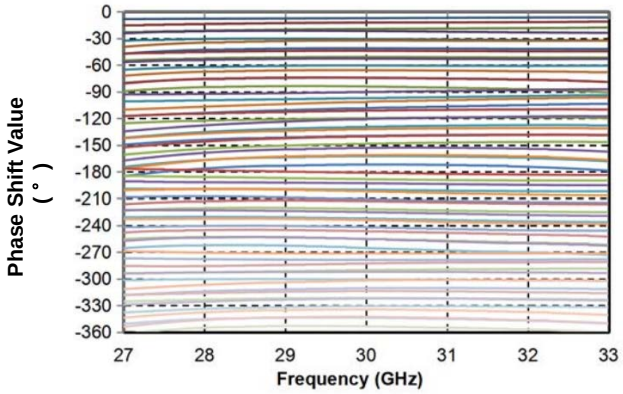
Phase Shift Accuracy (RMS) vs. Frequency



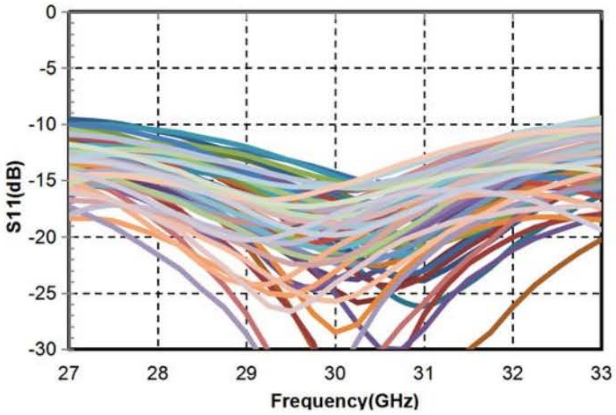
Phase Shift Accuracy vs. Frequency



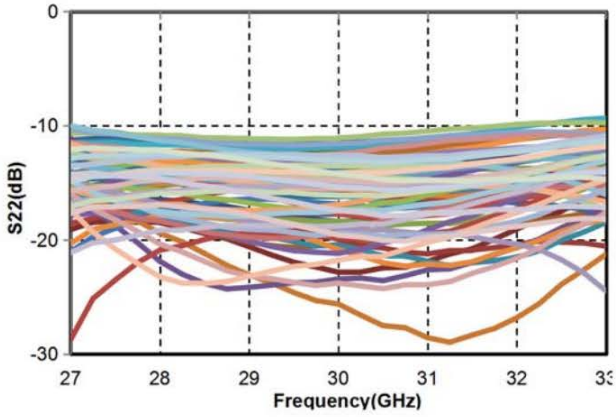
Phase Shift Value vs. Frequency



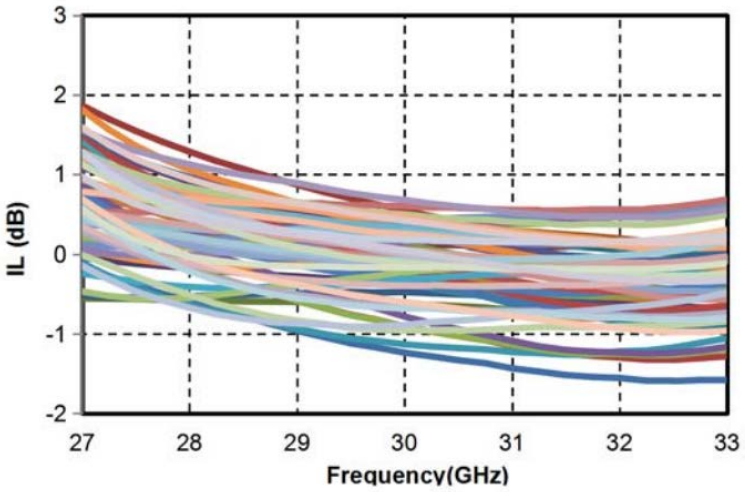
Input Return Loss vs. Frequency



Output Return Loss vs. Frequency

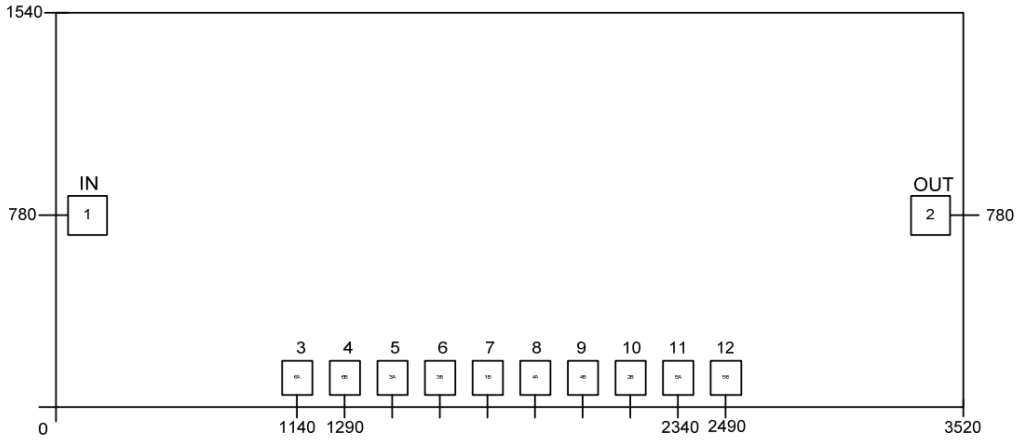


Total State Insertion Loss vs. Frequency



Outline Drawing:

All Dimensions in um



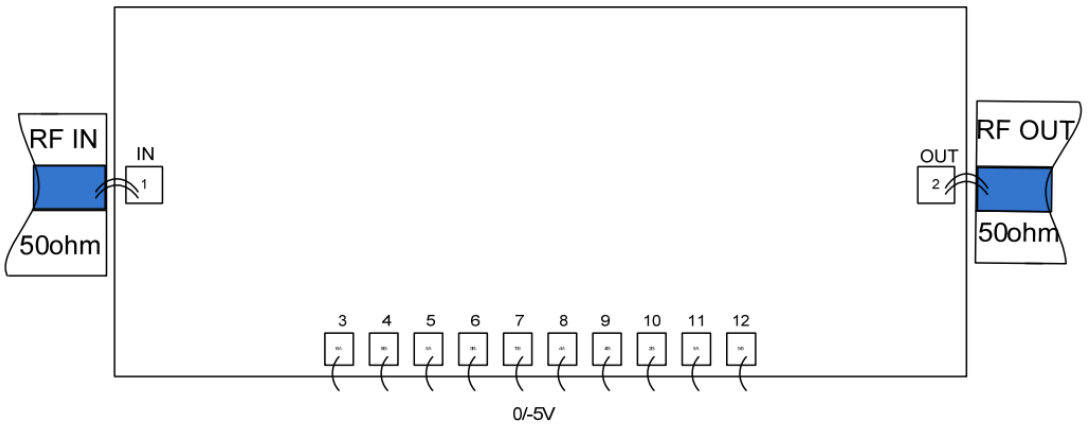
Pad Description

PAD	Function	Description
1	RF IN	RF Input Port
2	RF OUT	RF Output Port
3-12	CTRL	Control Port
GND	GND	Die bottom must be connected to RF/DC ground

Truth Table

Phase	1B	2B	3A	3B	4A	4B	5A	5B	6A	6B
0	-5	-5	0	-5	0	-5	0	-5	-5	0
5.60	0	-5	0	-5	0	-5	0	-5	-5	0
11.25	-5	0	0	-5	0	-5	0	-5	-5	0
22.50	-5	-5	-5	0	0	-5	0	-5	-5	0
45	-5	-5	0	-5	-5	0	0	-5	-5	0
90	-5	-5	0	-5	0	-5	-5	0	-5	0
180	-5	-5	0	-5	0	-5	0	-5	0	-5

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℃ to +150℃
4. Operating temperature: -55℃ to +85℃