

Features

- Delay Range: 27.78ps-416.67ps
- Minimum Delay: 27.78 ps / 90 ° @ 9 GHz
- Delay Accuracy RMS: ±10ps
- Delay phase accuracy: ±40°
- Insertion Loss: 9dB
- Phase Shift Amplitude Modulation: ±0.8 dB
- Input/Output: 50 Ohm
- Die Size: 2.5x 2.5 x 0.075 mm

Typical Applications

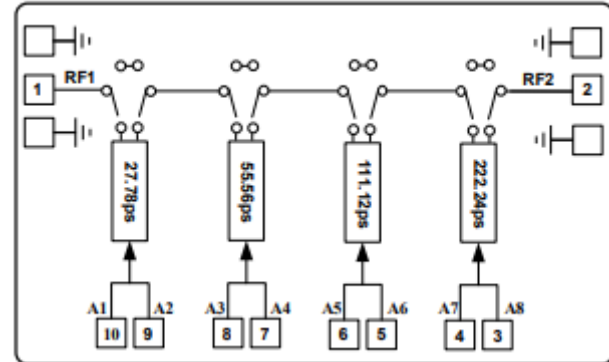
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

TA = +25°C, Vctl = 0/+5V

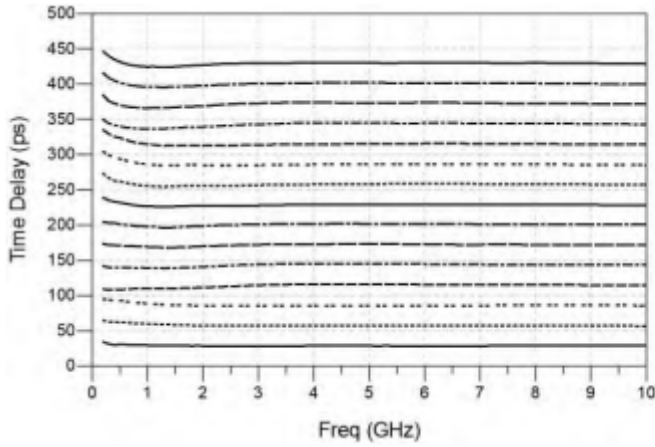
Parameters	Min.	Typ.	Max.	Units
Frequency		1-10		GHz
Insertion Loss		9		dB
Time Delay Accuracy RMS		±10		ps
Phase Shift Amplitude Modulation		±0.8		dB
Input and Output SWR		1.4		-
Input 1dB Compression		24		dBm
Switching Time		30		ns

Functional Block Diagram

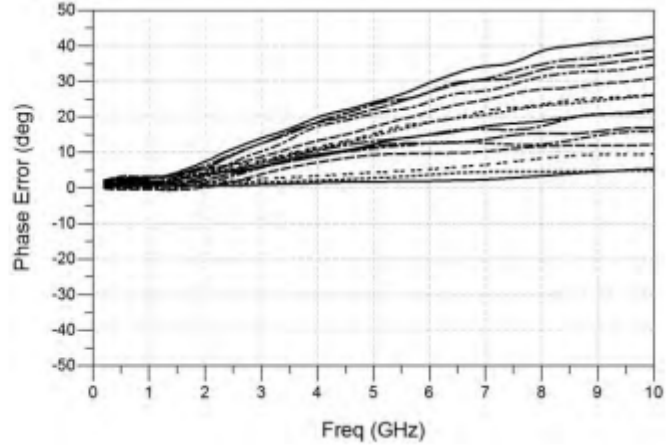




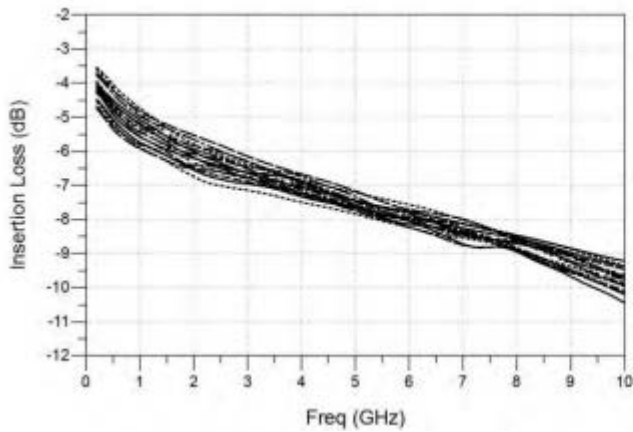
### Full States Time Delay



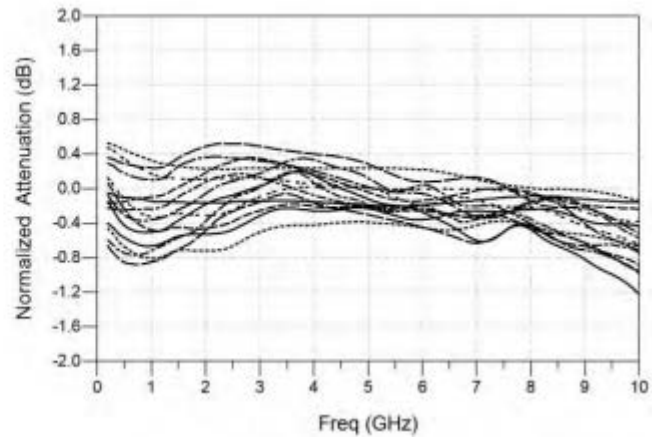
### Full State Time Delay Accuracy



### Full State Insertion Loss

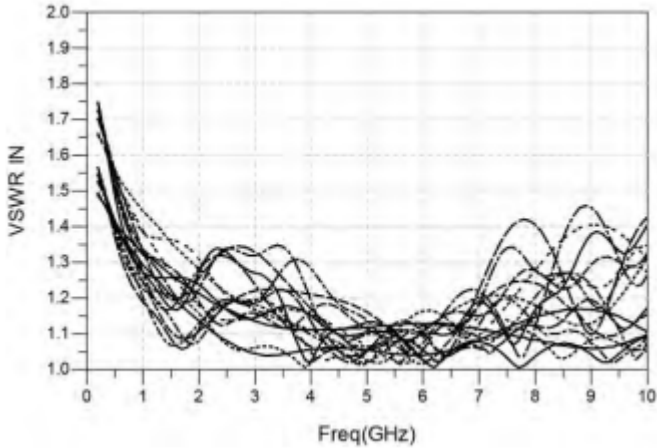


### Full State Amplitude Modulation

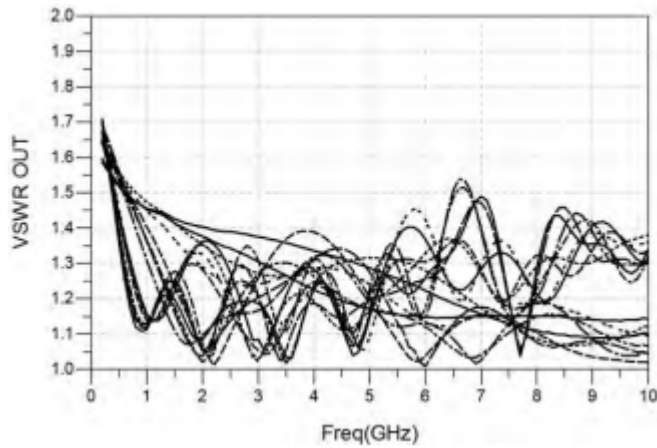




VSWR RF1

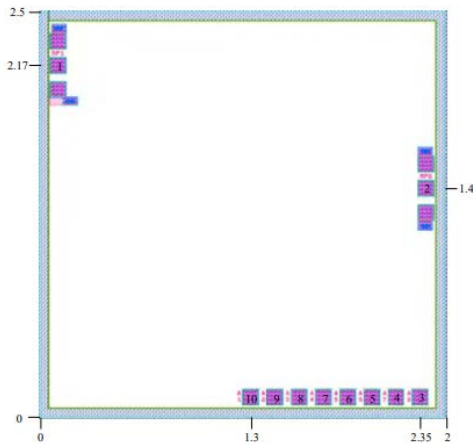


VSWR RF2



### Outline Drawing:

All Dimensions in mm



### Pad Description

Pad Number	Function	Description
1, 2	RF1, RF2	The pad is RF port and DC couples with 50 Ohm.
3, 4	A8, A7	When A7=0V, A8=-5V, 222.24ps OFF; When A7=-5V, A8=0V, 222.24ps ON.
5, 6	A6, A5	When A5=0V, A6=-5V, 111.12ps OFF; When A5=-5V, A6=0V, 111.12ps ON.
7, 8	A4, A3	When A3=0V, A4=-5V, 55.56ps OFF; When A3=-5V, A4=0V, 55.56ps ON.
9, 10	A2, A1	When A1=0V, A2=-5V, 27.78ps OFF; When A1=-5V, A2=0V, 27.78ps ON.
Die bottom	GND	Die bottom must be connected to RF/DC ground.

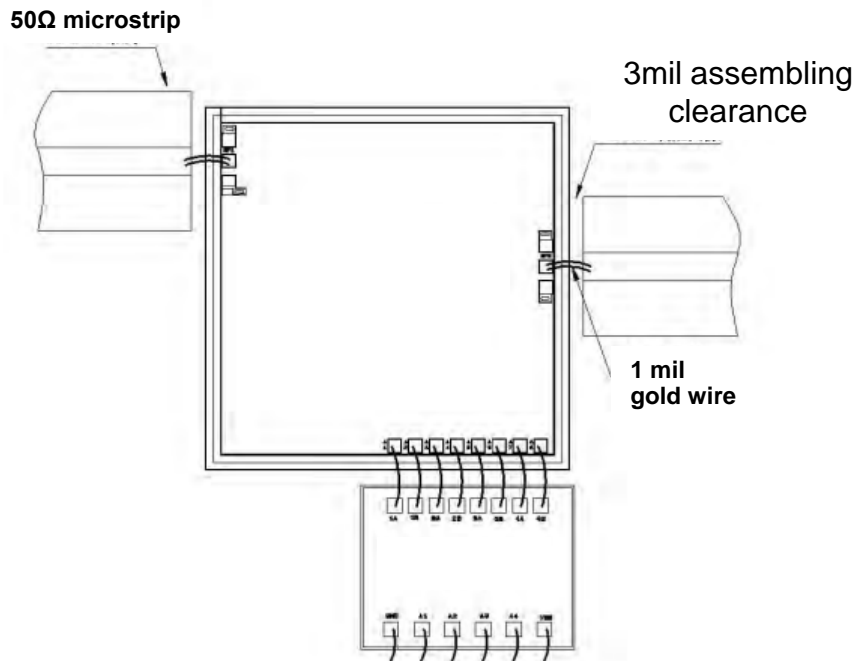


## True Value Table

State	27.78ps		55.56ps		111.12ps		222.24ps	
	A1	A2	A3	A4	A5	A6	A7	A8
Reference State	0	1	0	1	0	1	0	1
27.78ps	1	0	0	1	0	1	0	1
55.56ps	0	1	1	0	0	1	0	1
111.12ps	0	1	0	1	1	0	0	1
222.24ps	0	1	0	1	0	1	1	0

"0" level range: 0 ~ -0.2V; "1" level range : -3 ~ -6V;

## Assembly Drawing



No

1. Die thickness: 100μm
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 is grounded
6. No connection required for unlabeled bond pads

1. RF input power: +24dBm
2. Storage temperature: -65°C to +150°C
3. Operating temperature: -55°C to +85°C