



RF-LAMBDA

LEADER OF RF BROADBAND SOLUTIONS

RFPSHT0812N6B

6Bit Digital Non-Dispersive Phase Shifter 8-12GHz



Features

- Wide Band Operation 8-12GHz
- 360° Phase Shift, LSB = 5.625°
- Fast Switching Speed
- Temperature Range -45°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.

Electrical Specifications, TA = +25° C, Vdd = +5V, VCTL = 0/ +5V

Description	PN: RFPSHT0812N6B			
	Digital Step Phase Shifter			
Parameters	Min	Typ	Max	Units
Frequency Range	8		12	GHz
Phase Range		360		°
Control Bits		6		Bits
Control Step size		5.625		°
Insertion Loss		7.5	8.5	dB
Insertion Loss Temperature Coefficient		0.008		dB/°C
Phase Flatness		±4		°
Input VSWR		1.5	1.8	: 1
Output VSWR		1.5	1.8	: 1
Input 1 dB Compression Point (P1dB)		25		dBm
Input IP3		41		dBm
Weight	1.41			ounces
Impedance	50			Ω
Bias Current (+5V)	25			mA
Input / Output Connectors	SMA - Female			
Interface and Control Connector	MICRO-D9			
Finishing	Gold Plating			
Material	Aluminum			
Sealing	Hermetically Sealed (optional)			

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Absolute Maximum Ratings

Bias Voltage	+6V
TTL Control Voltage	0~0.8V / 2~5V
RF Input Power	+30dBm

Ordering Information

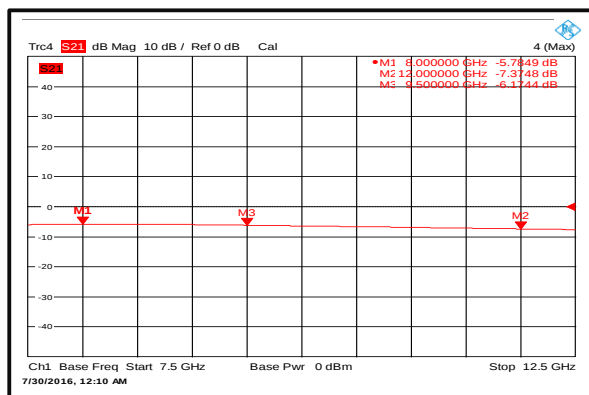
Part No.	ECCN	Description
RFPSHT0812N6B	EAR99	8-12GHz Digital Phase Shifter

Environmental Specifications

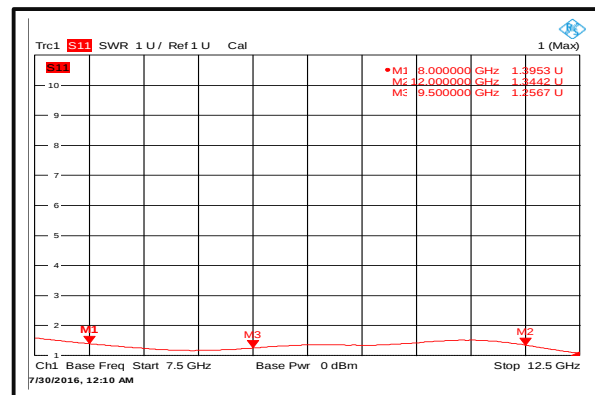
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40 deg c
Shock	20G for 11msec half sine wave, 3 axis both directions

Typical Performance Plots

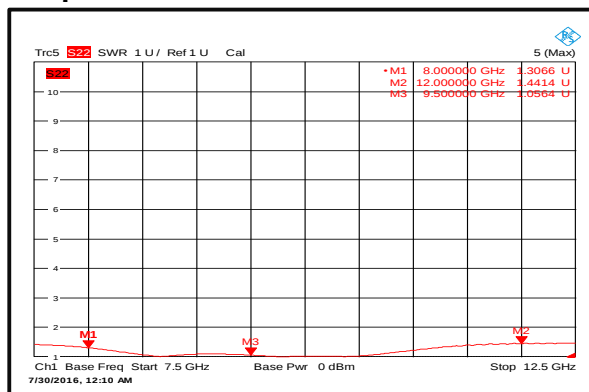
Insertion Loss



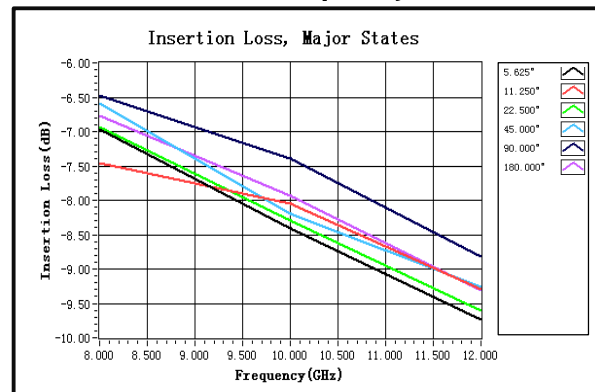
Input VSWR



Output VSWR



Insertion Loss vs. Frequency



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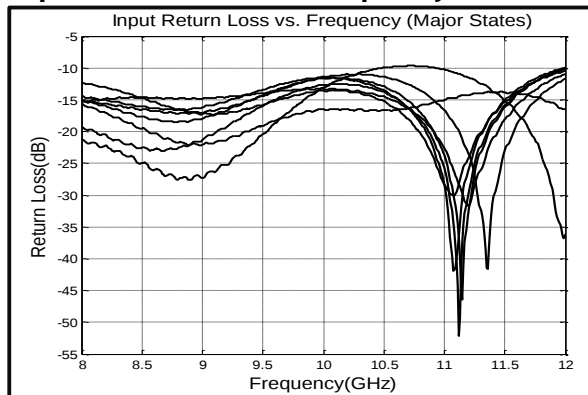


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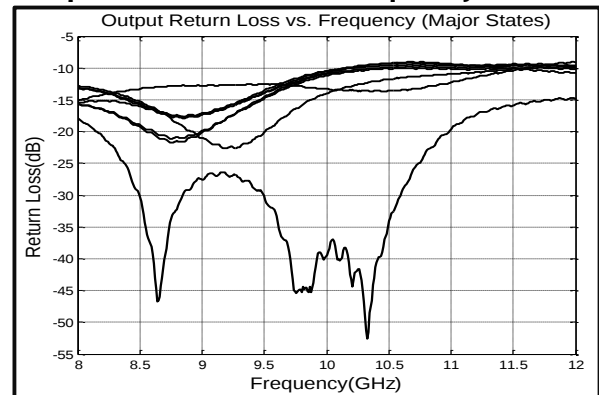
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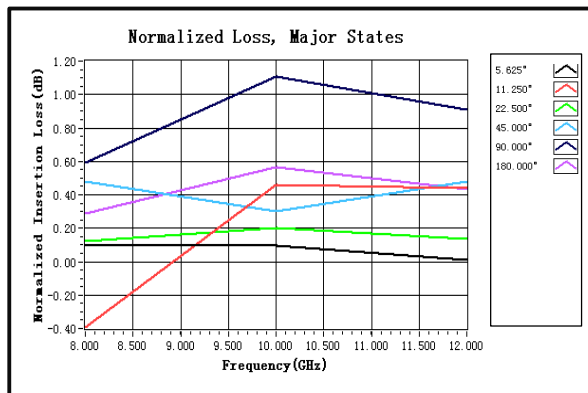
Input Return Loss vs. Frequency



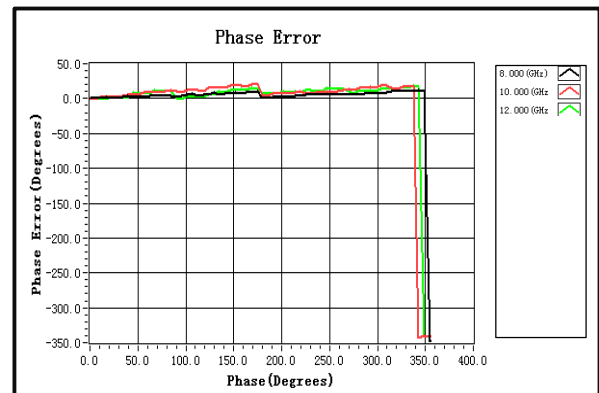
Output Return Loss vs. Frequency



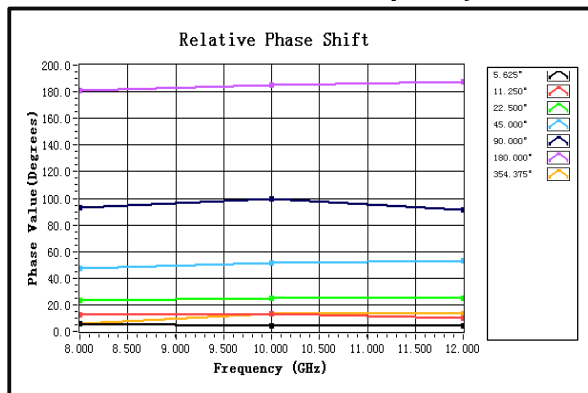
Normalized Loss . All States



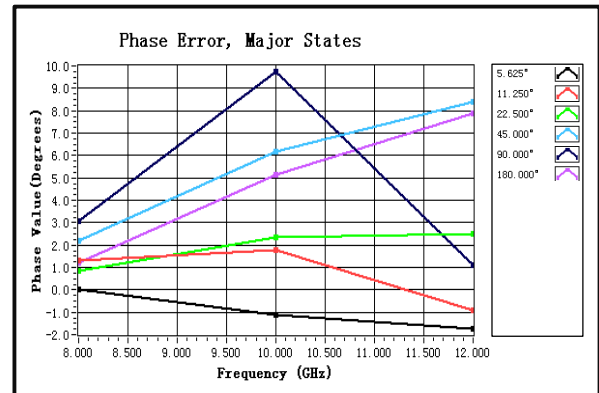
Phase Error vs. State



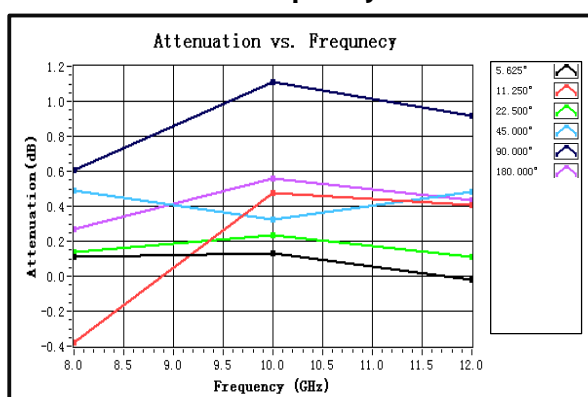
Relative Phase Shift vs. Frequency



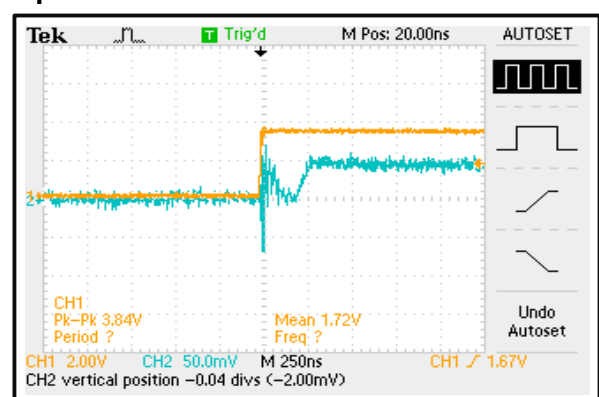
Phase Error vs. Frequency



Attenuation vs. Frequency



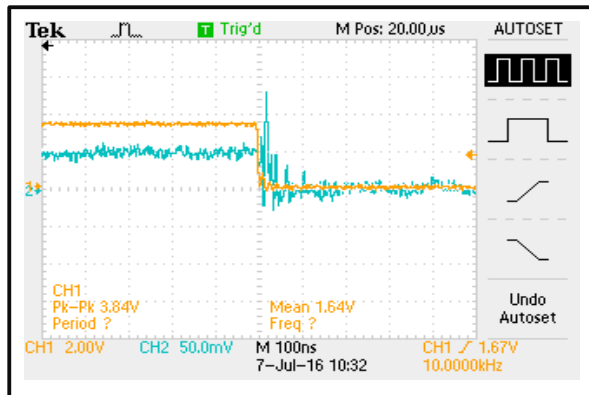
Speed



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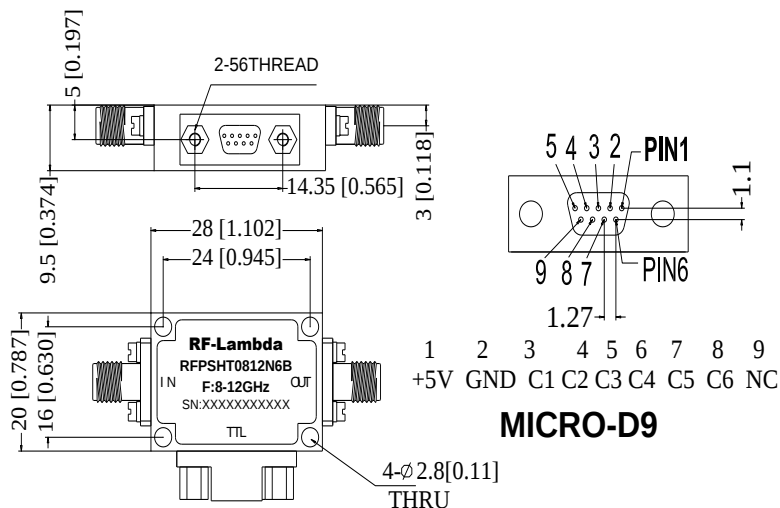


Speed



Outline Drawing:

All Dimensions in mm [inches]



Truth Table

Control Voltage Input						Phase Shift (Degrees)
C6	C5	C4	C3	C2	C1	
0	0	0	0	0	0	Reference
0	0	0	0	0	1	5.625
0	0	0	0	1	0	11.25
0	0	0	1	0	0	22.5
0	0	1	0	0	0	45
0	1	0	0	0	0	90
1	0	0	0	0	0	180
1	1	1	1	1	1	360



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