



Digital Non-Dispersive 360° Phase Shifter 170-250MHz



Features

- Wide Band Operation 170-250MHz
- 360° Phase Shift
- 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, With Vdd = +5V, Vss = -5V & VCTL = 0/ +5V

Description	PN:RFPSHT0210N6			
	Digital Non-Dispersive Phase Shifter			
Parameters	Min	Typ.	Max	Units
Frequency Range	170~250			GHz
Phase Range		360		°
Insertion Loss		3.5	4	dB
Insertion Loss Temperature Coefficient		0.003		dB/°C
Phase Flatness		±12	±15	°
Input VSWR		1.7	2	ratio
Output VSWR		1.7	2	ratio
RF Input power (CW)			1	W
Power Dissipation (CW)		0.6		W
Input Power for 1 dB Compression		29		dBm
IM3		40		dBc
Weight	3.5			ounces
Impedance	50			Ω
Biasing (+5V/-5V)	240/180			mA
Input /Output Connector	SMA-Female (Standard)			
Control PIN	MICRO-D9 Female			
Finishing	Nickel Plating			
Material	Aluminum			
Seal	Hermetically Sealed (optional)			



Absolute Maximum Ratings

Biasing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V/2~5V
Operating Temperature(°C)	-45 ~ +85
Storage Temperature(°C)	-50 ~ +125

Ordering Information

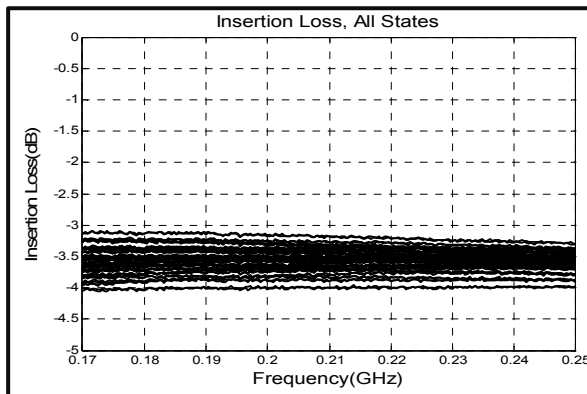
Part No	ECCN	Description
RFPSHT0210N6	EAR99	170-250MHz Digital Control Phase Shifter

Environment specifications

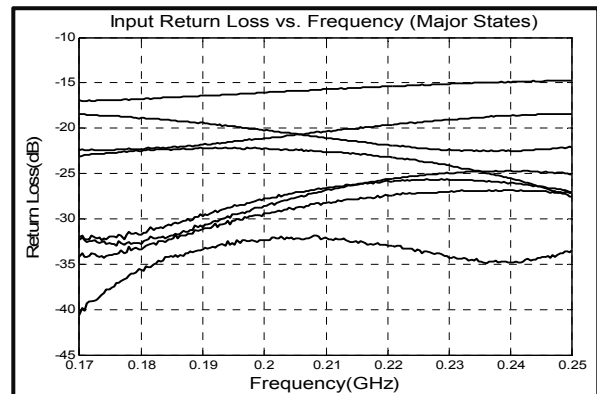
Operational Temperature (°C)	-45 ~ +85
Storage Temperature (°C)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH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

performance plots

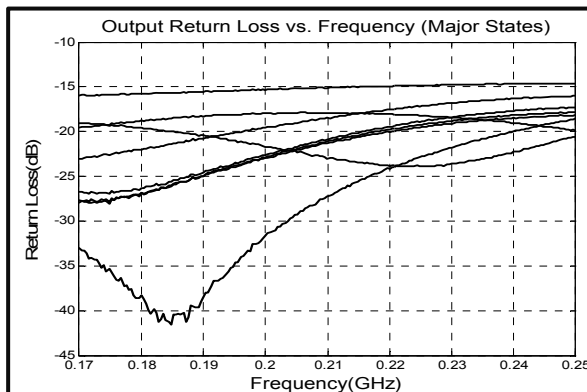
Insertion Loss



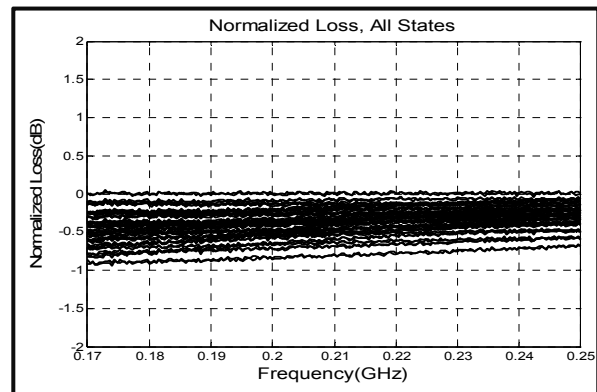
Input Return Loss vs. Frequency



Output Return Loss vs. Frequency



Normalized Loss . All States



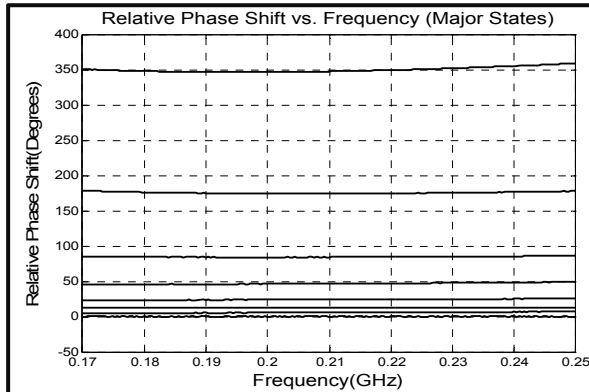


RF-LAMBDA

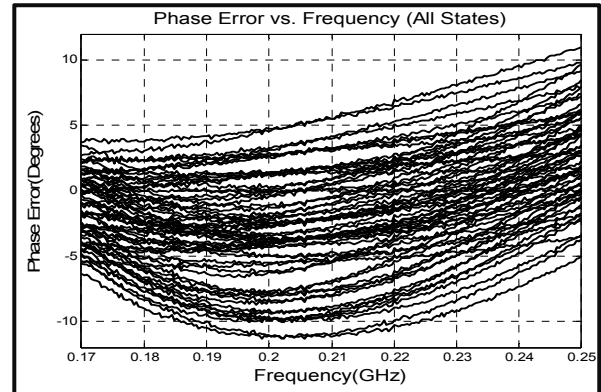
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RFPSHT0210N6

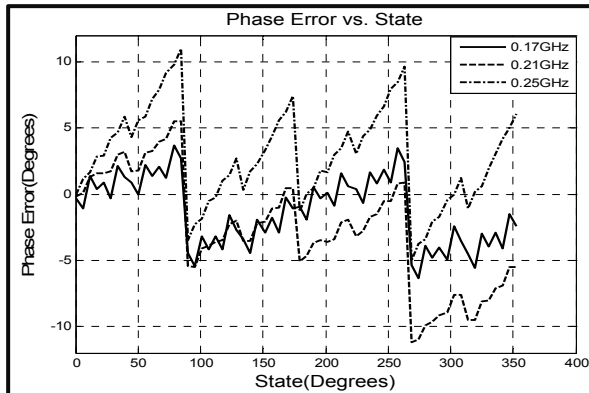
Relative Phase Shift vs. Frequency



Phase Error vs. Frequency



Phase Error vs. State

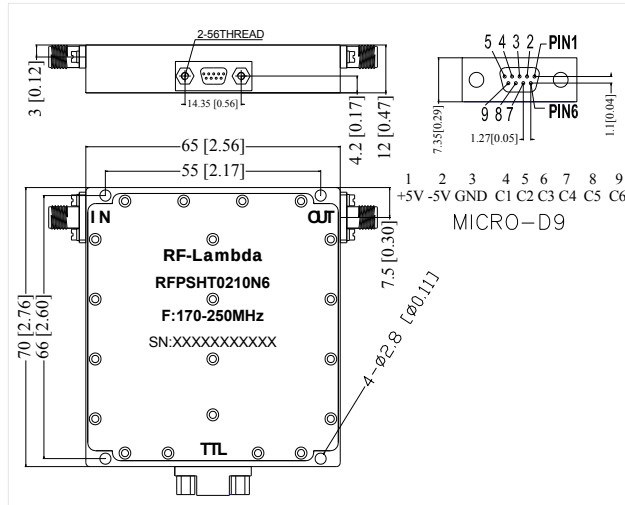


Output Third Order Intercept (IP3)



Outline Drawing:

All Dimensions in mm (inches)



Truth Table

Control Voltage Input						Phase Shift (Degree)
C6	C5	C4	C3	C2	C1	
0	0	0	0	0	0	Reference
0	0	0	0	0	1	5.6
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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