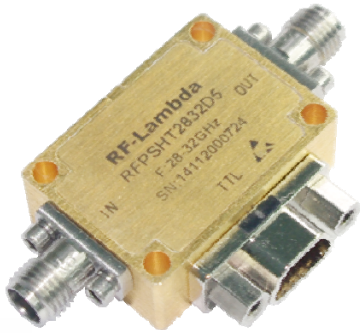




Digital 360° Phase Shifter 28-32GHz



Features

- Wide Band Operation 28-32GHz
- 5-Bit 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, VCTL = 0/ +5V

Description	PN:RFPSHT2832D5						
	Digital Phase Shifter						
Parameters	Min	Typ.	Max	Min	Typ.	Max	Units
Frequency Range	28		32				GHz
Phase Range		360					°
Insertion Loss		7.5	9.0				dB
Insertion Loss Temperature Coefficient		0.008					dB/°C
Phase Flatness		±5	±10				°
Input VSWR		1.5	2.0				
Output VSWR		1.5	2.0				
Input Power for 1 dB Compression		-					dBm
IP3		-					dBc
Switching Speed		-					ns
Weight	40						g
Impedance	50						Ω
Biasing (+5V)	1						mA
Input /Output Connector	2.92mm-F (Standard)						
Control PIN	-						
Finishing	Gold Plating						
Material	Brass						
Seal	Hermetically Sealed (optional)						

Digital Control Phase Shifter 28-32GHz



RF-LAMBDA

The power beyond expectations

RFPSHT2832D5

Absolute Maximum Ratings

Biasing	+5V/1mA
TTL Control Voltage	+5V/0V
RF Input power	+20dBm
Operating Temperature(C°)	-45 ~ +85
Storage Temperature(C°)	-50 ~ +125

Ordering Information

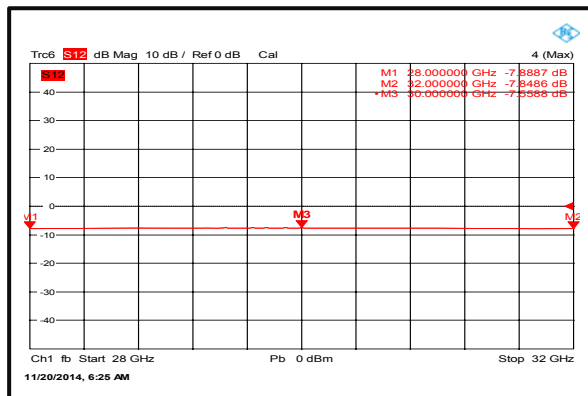
Part No	ECCN	Description
RFPSHT2 832D5	EAR99	28-32GHz Digital Phase Shifter

Environment specifications

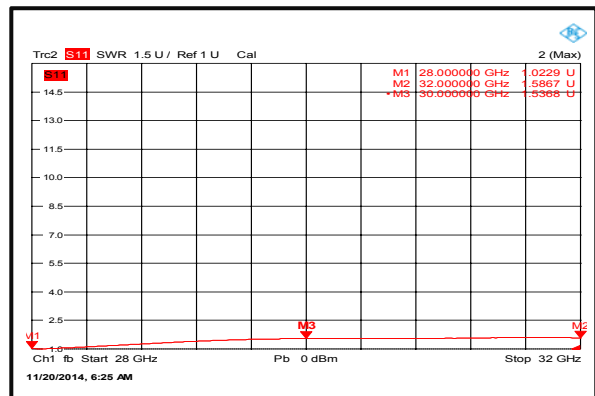
Operational Temperature (C°)	-45 ~ +85
Storage Temperature (C°)	-50 ~ +125
Altitude	30,000 ft. (Epoxy Seal Controlled environment) 60,000 ft 1.0psi min (Hermetically Seal Un-controlled environment) (Optional)
Vibration	25g rms (15 degree 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH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

performance plots

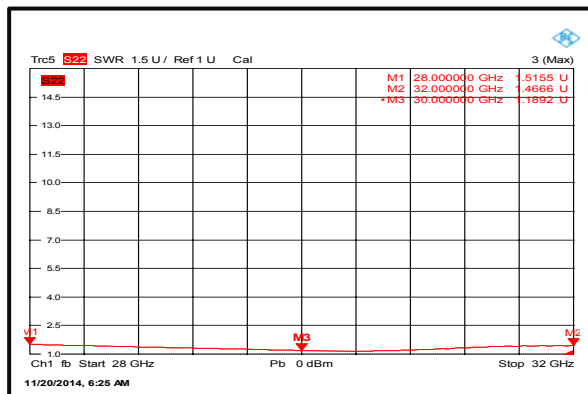
Insertion Loss



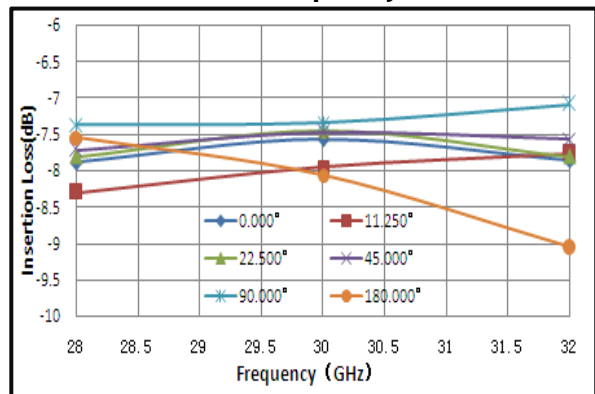
Input VSWR



Output VSWR



Insertion Loss vs. Frequency



Digital Control Phase Shifter 28-32GHz

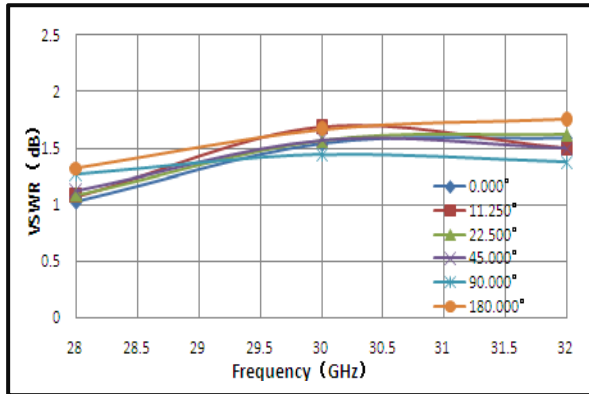


RF-LAMBDA

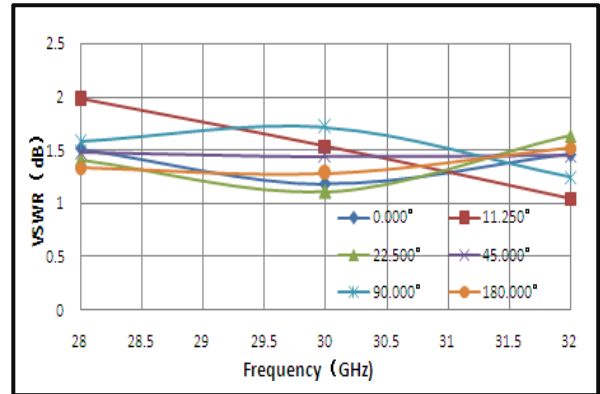
The power beyond expectations

RFPSHT2832D5

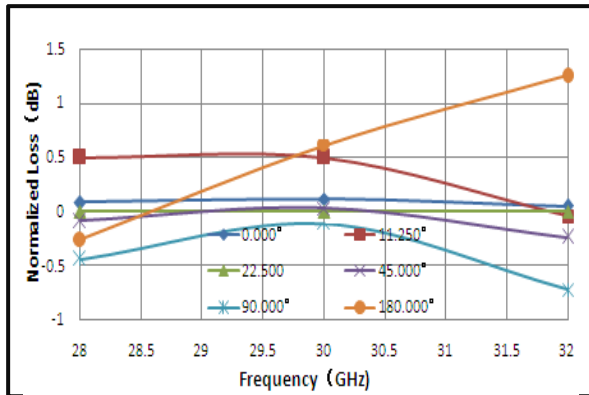
Input VSWR vs. Frequency



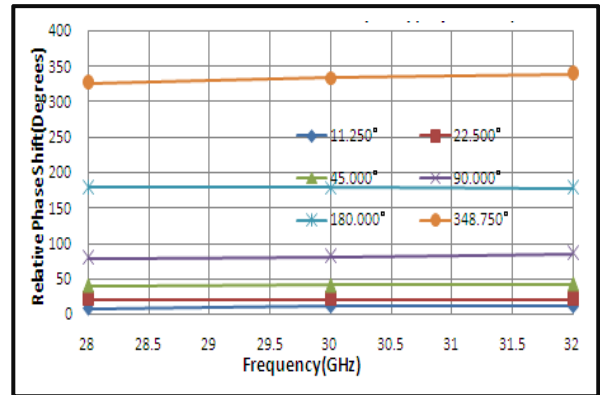
Output VSWR vs. Frequency



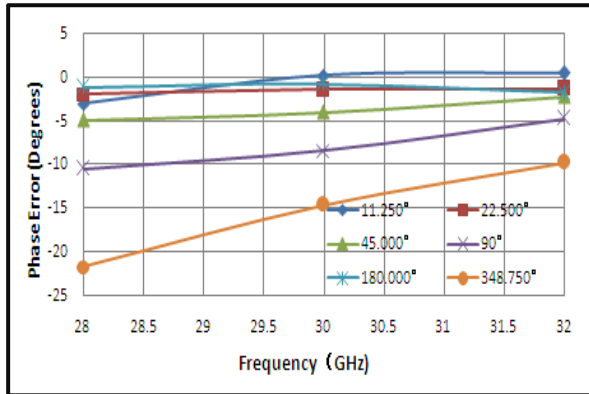
Normalized Loss . All States



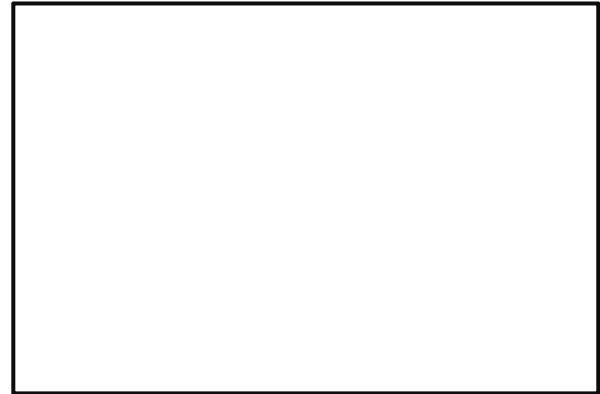
Relative Phase Shift vs. Frequency



Phase Error vs. Frequency



Phase Error vs. State



P1dB vs. Frequency



Output Third Order Intercept (IP3)



Digital Control Phase Shifter 28-32GHz



RF-LAMBDA

The power beyond expectations

RFPSHT2832D5

The datasheet for test 1dB



speed



Outline Drawing:

All Dimensions in mm (inches)

RF-Lambda
RFPST2832D5
F:28-32GHz
SN:XXXXXXXXXX
TTL

2-56THREAD

5 [0.197]

14.35 [0.565]

8 [0.315]

9.5 [0.374]

28 [1.102]

24 [0.945]

20 [0.787]

16 [0.630]

4-φ2.8 [φ0.110]

3 [0.118]

7.35 [0.29]

1.1

5 4 3 2 PIN1

9 8 7 PIN6

1.27

1 2 3 4 5 6 7 8 9

+5V GND C1 C2 C3 C4 C5 NC NC

MICRO-D9

Truth Table

Control Voltage Input						Phase Shift (Degree)
C6	C5	C4	C3	C2	C1	Reference
0	0	0	0	0	0	Reference
0	0	0	0	0	1	11.25
0	0	0	0	1	0	22.5
0	0	0	1	0	0	45
0	0	1	0	0	0	90
0	1	0	0	0	0	180
1	1	1	1	1	1	348.75

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