



### Digital Non-Dispersive 360° Phase Shifter 18 - 26GHz



#### Features

- Wide Band Operation 18-26GHz
- 6-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, Vdd = +12V, VCTL = 0 / +5V

Description	PN:RFPSHT1826N6			
	Digital Phase Shifter			
Parameter	Min	Typ	Max	Units
Frequency Range	18		26	GHz
Phase Range		360		°
Control Bits			6	Bit
Control Step Size		5.625		°
Insertion Loss		14	16	dB
Insertion Loss Temperature Coefficient		0.008		dB/°C
Phase Flatness		±5	±25	°
Input VSWR		2.5	3.5	:1
Output VSWR		2.5	3.5	:1
Input 1dB Compression Point (P1dB)			23	dBm
Weight	1.76			Ounces
Impedance	50			Ω
Bias Current (+12V)	20			mA
Input / Output Connectors	2.92-Female			
Interface and Control Connector	MICRO-D15 (Female)			
Finish	Nickel plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			

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**Absolute Maximum Ratings**

Biasing	+5V±10%/-5V±10%
TTL Control Voltage	0~0.8V/2.8~5V

**Ordering Information**

Part No.	ECCN	Description
RFPSHT1826N6	EAR99	18-26GHz Digital Phase Shifter

**Environmental Specifications and Test Standards**

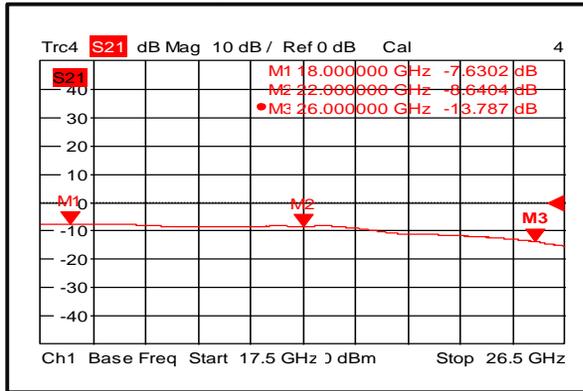
Parameter	Standard	Description
Operational Temperature	MIL-STD-39016	-45°C~+85°C
Storage Temperature		-55°C~+125°C
Thermal Shock		1 Hour@ -45°C → 1 Hour @ +85°C (5 Cycles)
Random Vibration		Acceleration Spectral Density 6 (m/s) Total 92.6 RMS
Electrical & Temperature Burn In		Temperature +85°C for 72 Hours
Shock		1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)	
Hermetically Sealed (Optional)	MIL-STD-883	MIL-STD-883 (For Hermetically Sealed Units)

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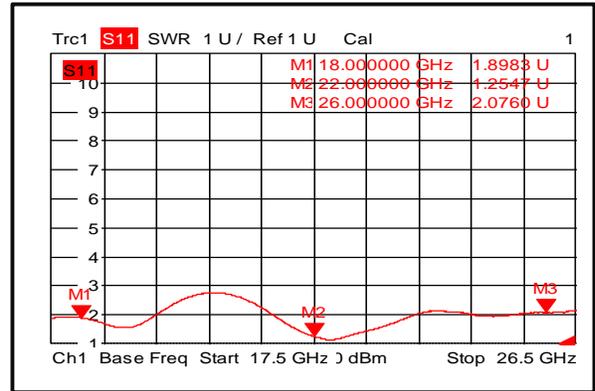


### Typical Performance Plots

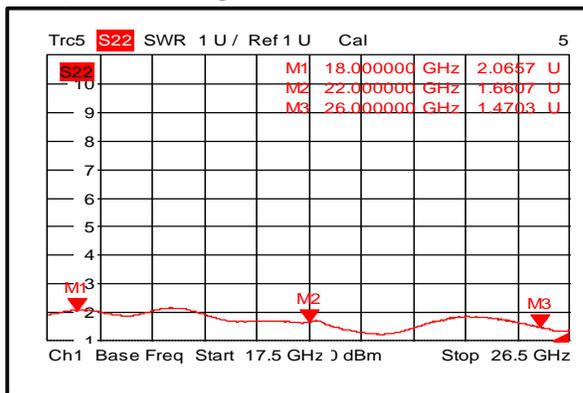
#### Insertion Loss@+25°C



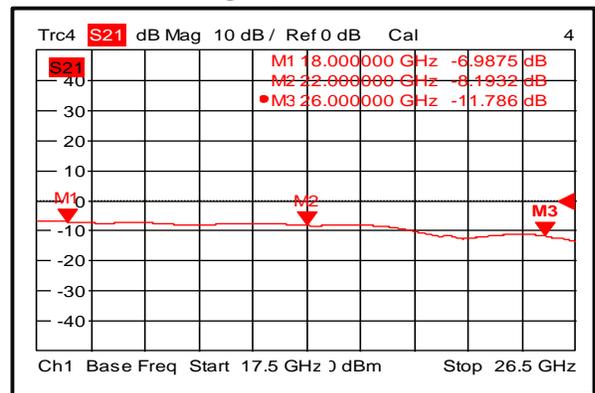
#### Input VSWR @+25°C



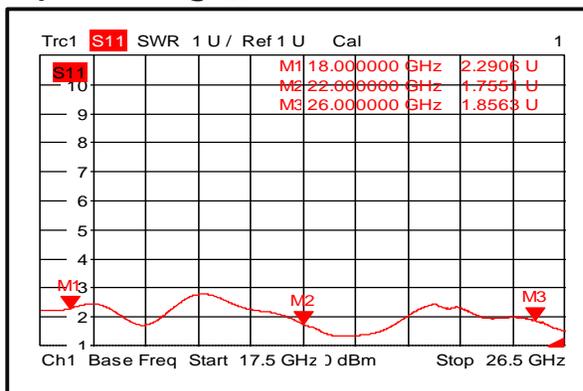
#### Output VSWR @+25°C



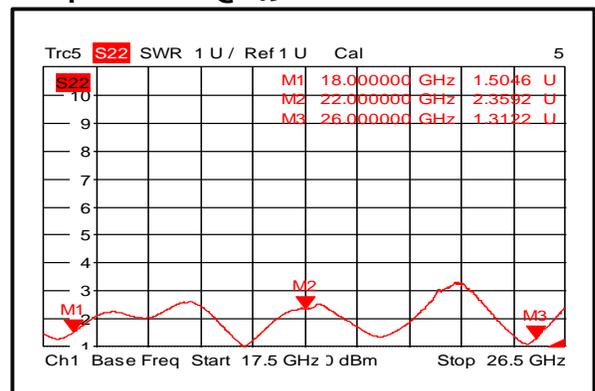
#### Insertion Loss @-45°C



#### Input VSWR @-45°C

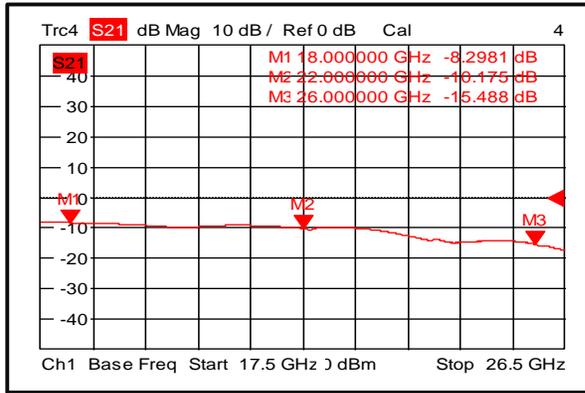


#### Output VSWR @-45°C

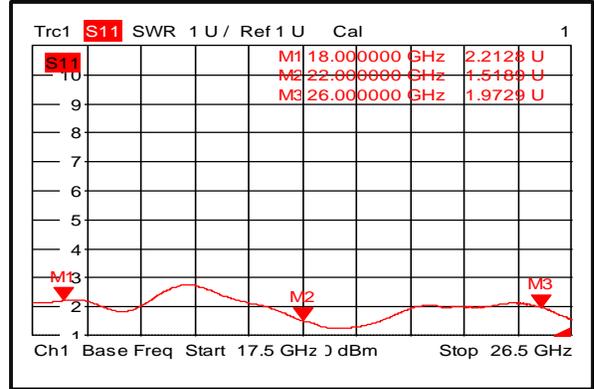




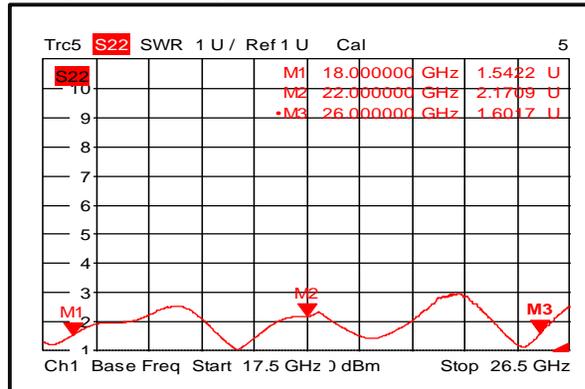
**Insertion Loss @+85°C**



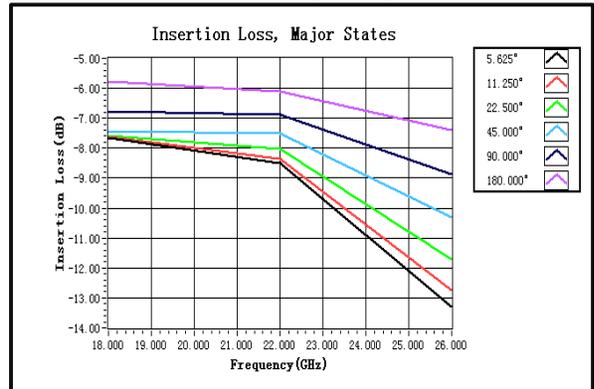
**Input VSWR @+85°C**



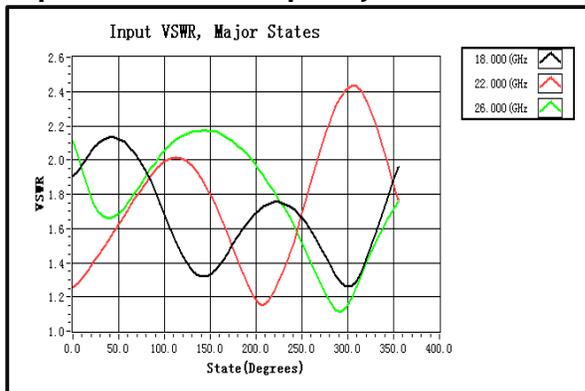
**Output VSWR @+85°C**



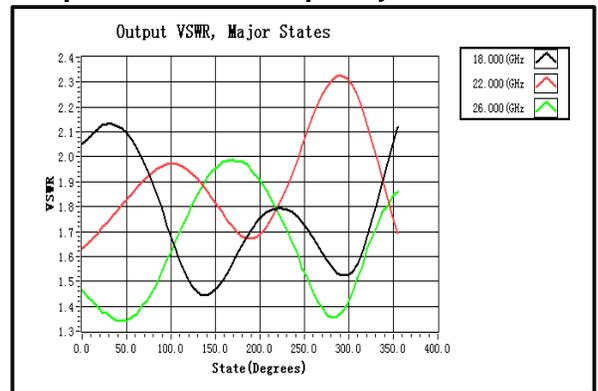
**Insertion Loss vs. Frequency**



**Input VSWR vs. Frequency**

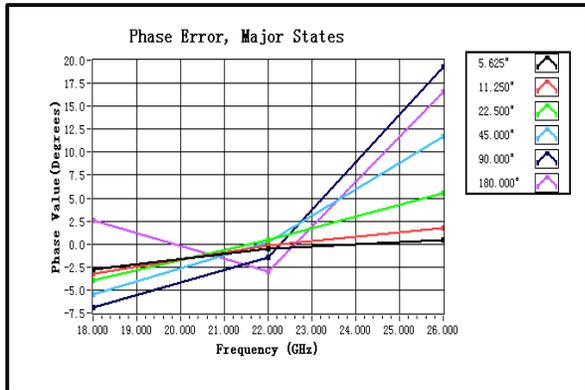


**Output VSWR vs. Frequency**

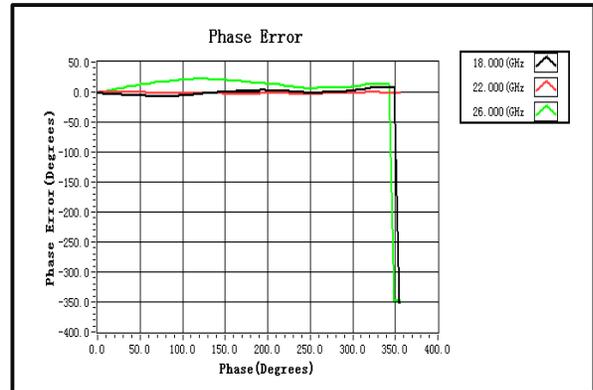




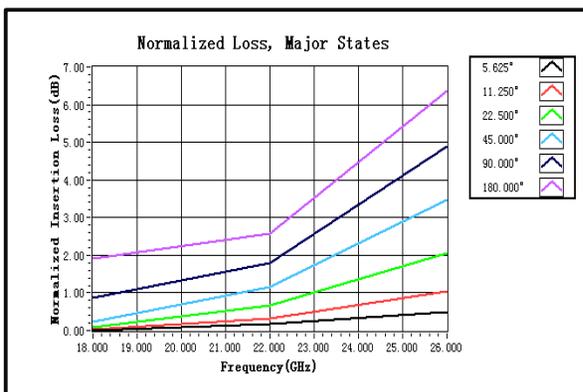
**Phase Error vs. Frequency**



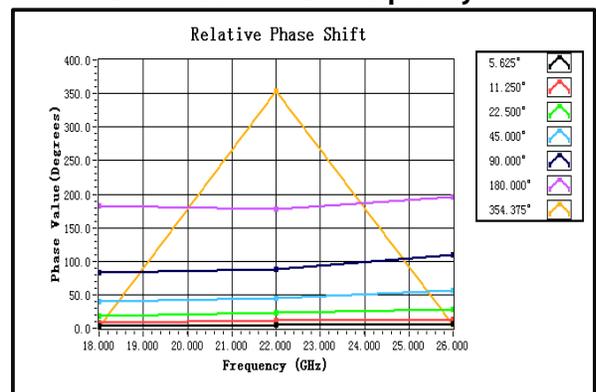
**Phase Error vs. State**



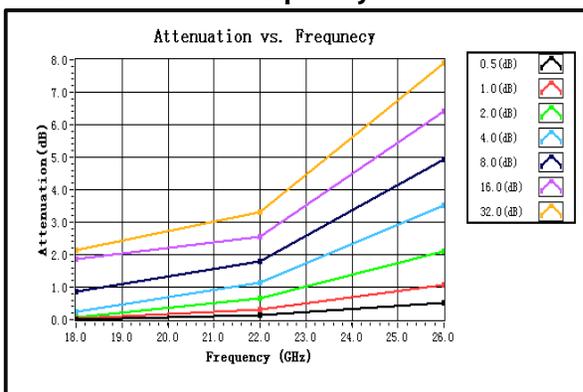
**Normalized Loss. All States**



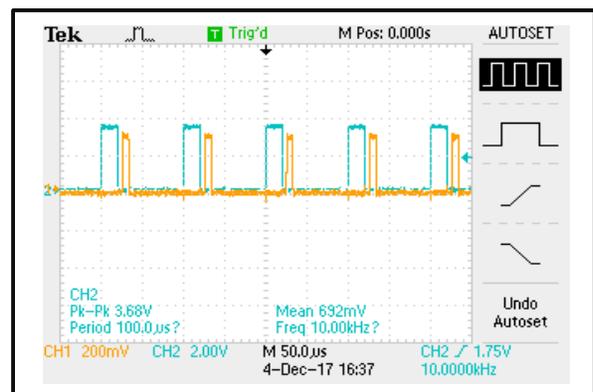
**Relative Phase Shift vs. Frequency**



**Attenuation vs. Frequency**



**Speed**

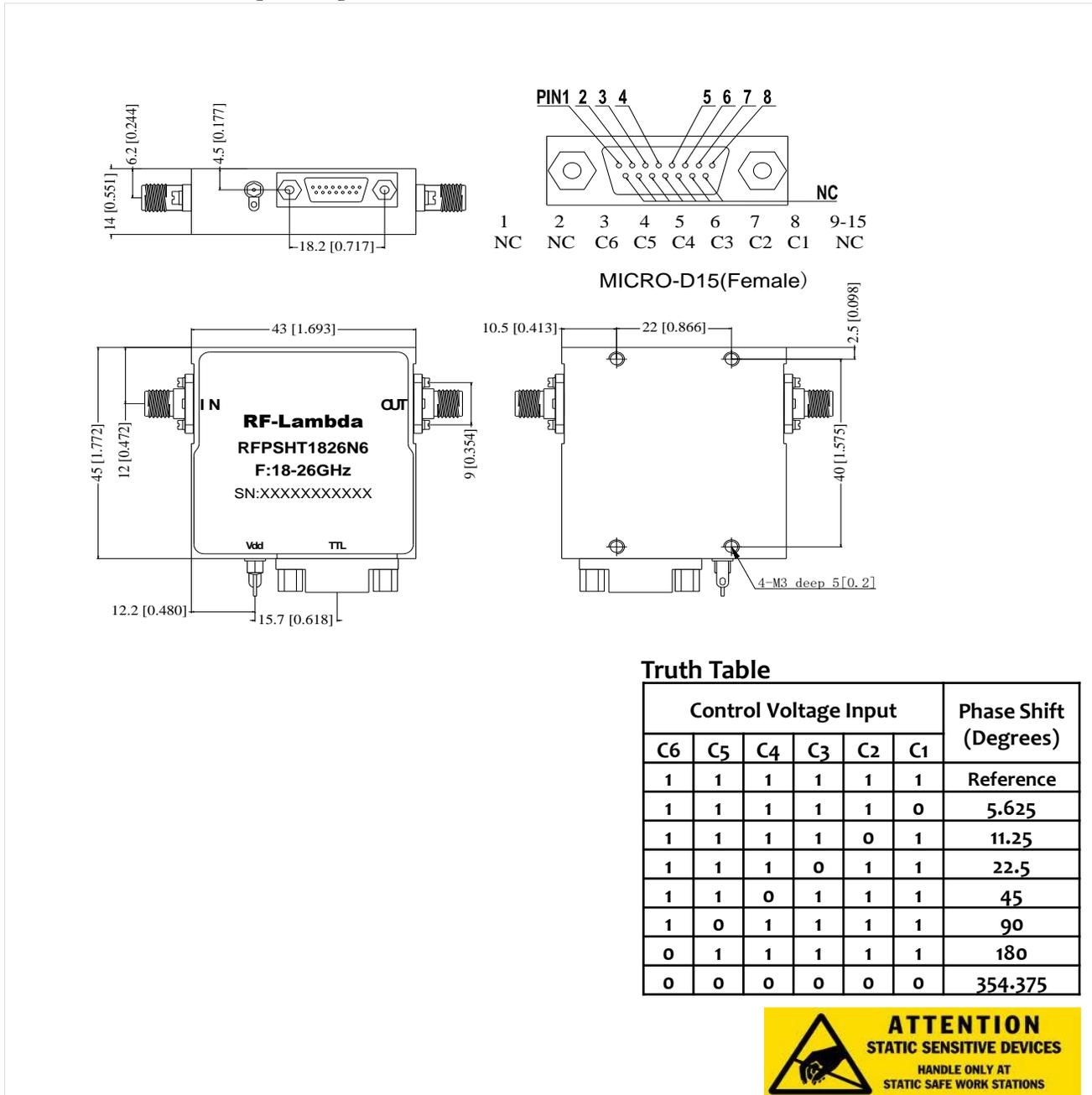


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**Outline Drawing:**

All Dimensions in mm [inches]



**Truth Table**

Control Voltage Input						Phase Shift (Degrees)
C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	Reference
1	1	1	1	1	0	5.625
1	1	1	1	0	1	11.25
1	1	1	0	1	1	22.5
1	1	0	1	1	1	45
1	0	1	1	1	1	90
0	1	1	1	1	1	180
0	0	0	0	0	0	354-375



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