



Digital 360° Phase Shifter 170-50MHz

Features

- Wide Band Operation 170-250MHz
- 6-Bit Phase Shift
- Temperature Range -40°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.



Parameters	Min.	Typ.	Max.	Units
Frequency Range	170		250	MHz
Phase Range		360		°
Control Bits			6	Bit
Control Step size		5.625		°
Insertion Loss		4	5.5	dB
Insertion Loss Temperature Coefficient		0.008		dB/ °C
Phase Flatness		±10	±25	°
Input VSWR		1.5	1.7	: 1
Output VSWR		1.7	1.8	: 1
Input 1 dB Compression Point(P1dB)		27		dBm
Weight		1.76		Ounces
Impedance		50		Ω
Bias Current (+12V)		20		mA
Input / Output Connectors	SMA-Female			
Interface and Control Connector	MICRO-D15 (Female)			
Finish	Nickel plated			
Material	Aluminum			
Sealing	Hermetically Sealed (Optional)			



Absolute Maximum Ratings

Vdd	+15V
RF Input power	+27dBm

Environmental Specifications

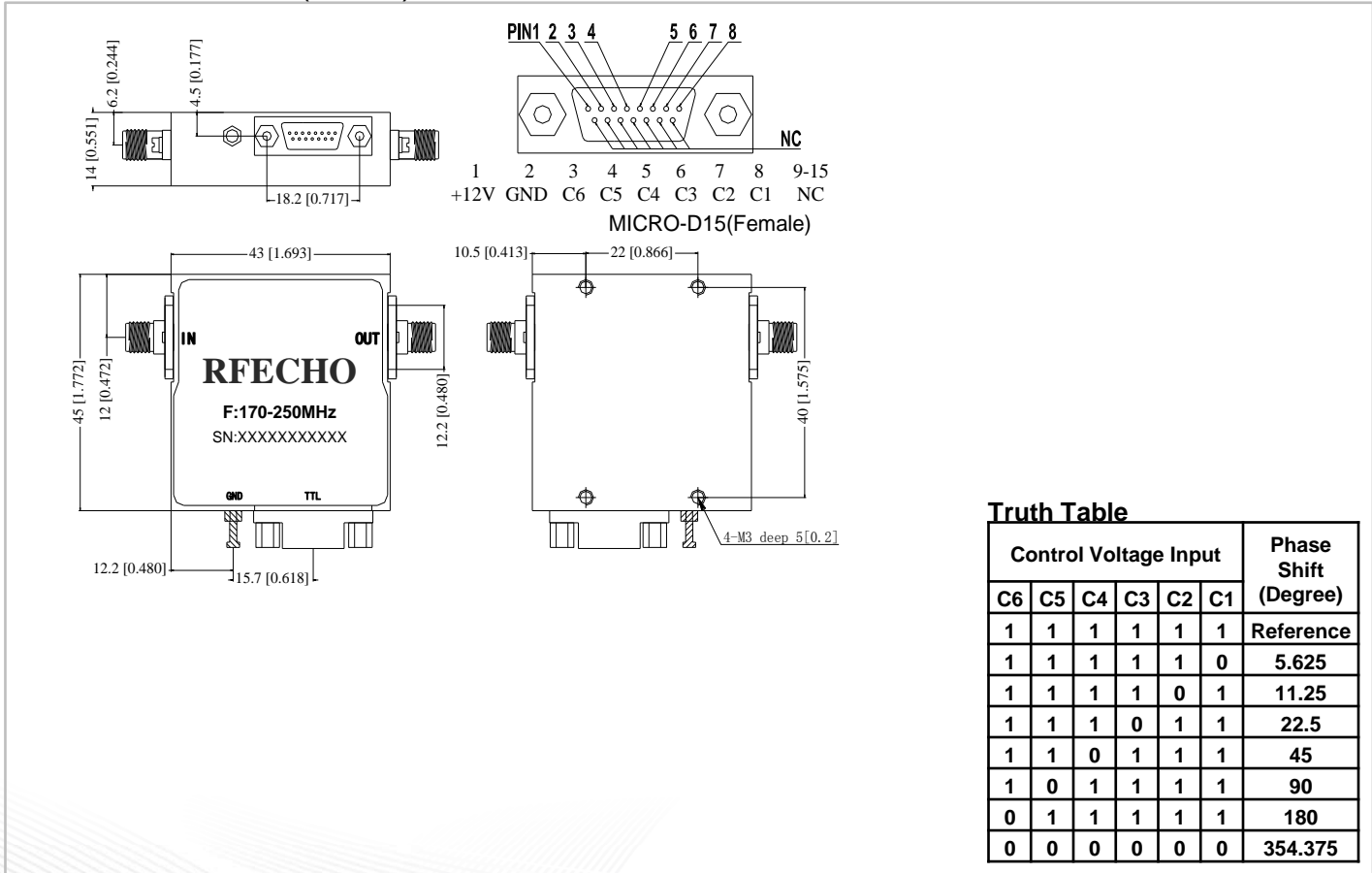
Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Uncontrolled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

Ordering Information

Part No.	Description
DBDP0600170025B	170-250MHz Digital Phase Shifter

Outline Drawing:

All Dimensions in mm (inches)

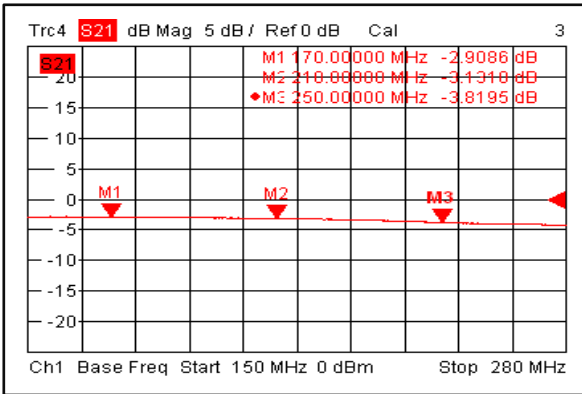


Truth Table

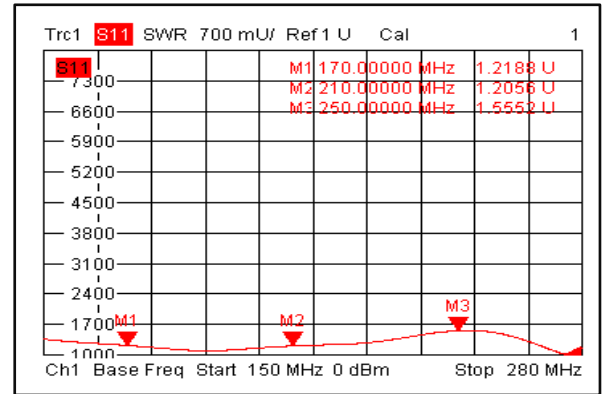
Control Voltage Input						Phase Shift (Degree)
C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	Reference
1	1	1	1	1	0	5.625
1	1	1	1	0	1	11.25
1	1	1	0	1	1	22.5
1	1	0	1	1	1	45
1	0	1	1	1	1	90
0	1	1	1	1	1	180
0	0	0	0	0	0	354.375



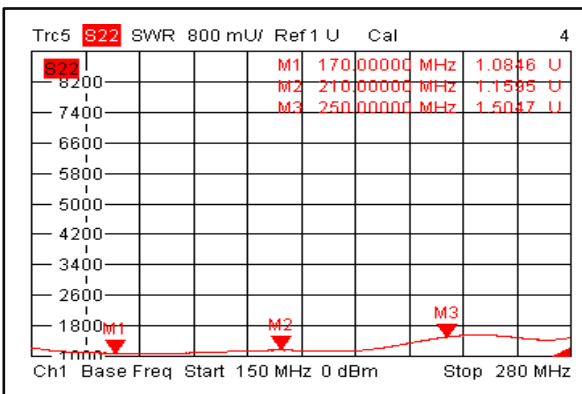
Insertion Loss @+25°C



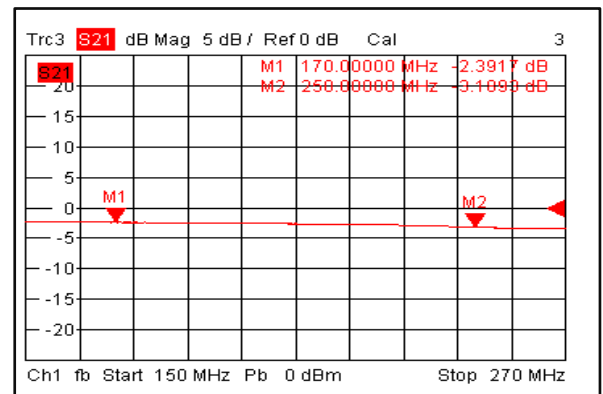
Input VSWR @+25°C



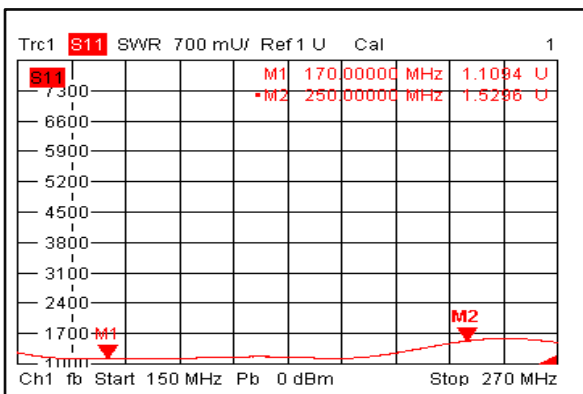
Output VSWR @+25°C



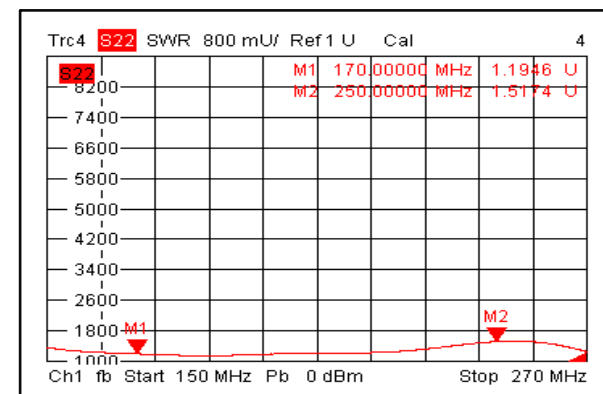
Insertion Loss @-40°C



Input VSWR @-40°C

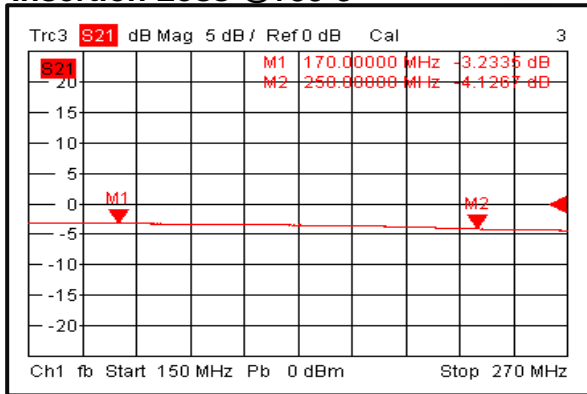


Output VSWR @-40°C

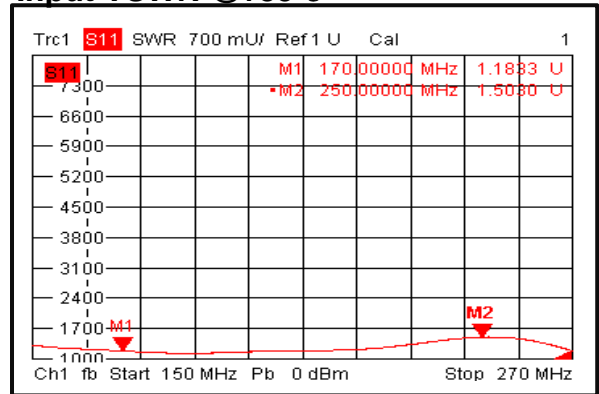




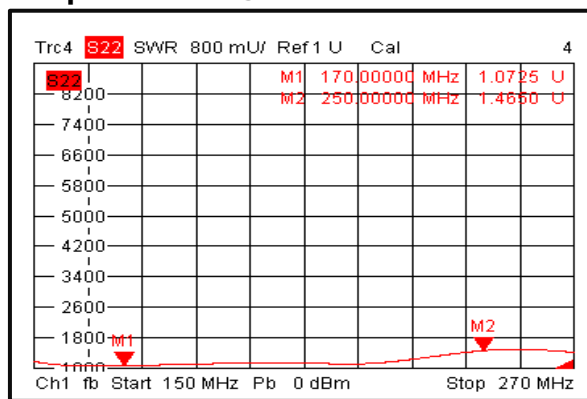
Insertion Loss @+85°C



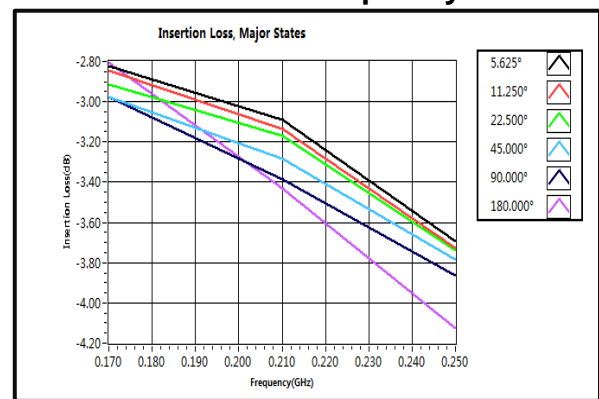
Input VSWR @+85°C



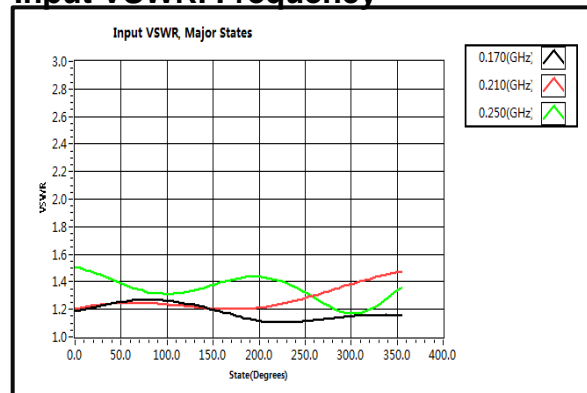
Output VSWR @+85°C



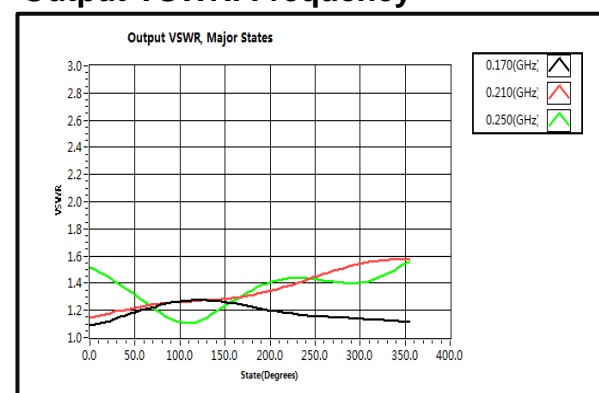
Insertion Loss vs. Frequency



Input VSWR. Frequency

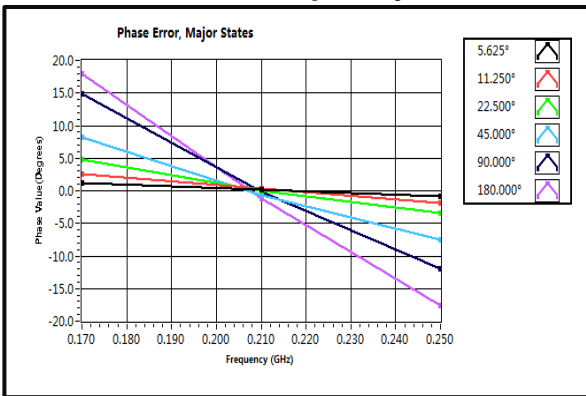


Output VSWR. Frequency

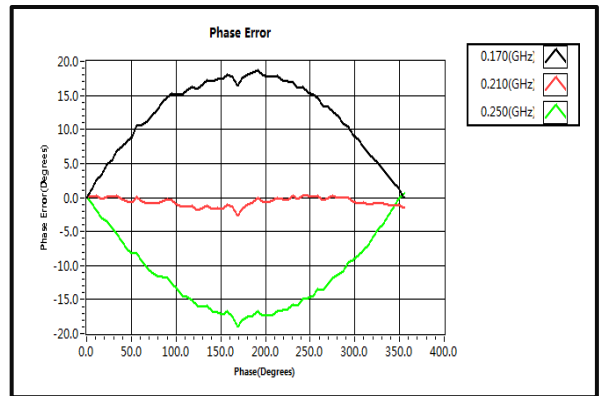




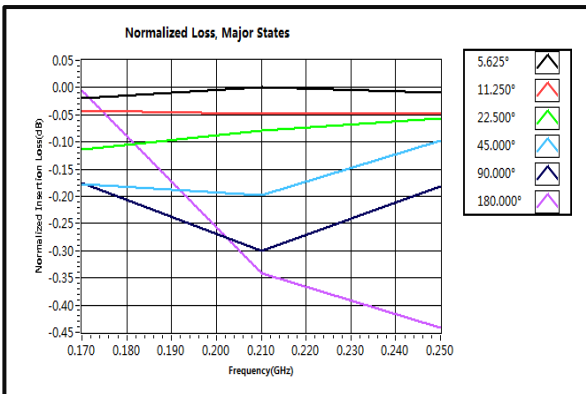
Phase Error vs. Frequency



Phase Error vs. State



Normalized Loss . All States



Relative Phase Shift vs. Frequency

