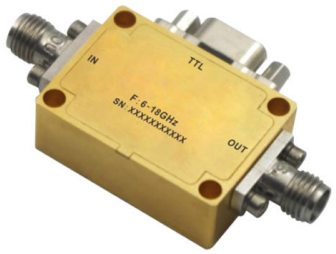
RFecho
A Gateway to RFWorld

Digital 360° Phase Shifter 6-18GHz

Features

- Wide Band Operation 6-18GHz
- 6-Bit Phase Shift
- Temperature Range -40ºC~+85ºC
- Customization available upon request
- Hermetically sealed package up to 60,000ft available upon request.



Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	6		12	12		18	GHz
Phase Range			360			360	°
Control Bits			6			6	Bit
Control Step size		5.625			5.625		°
Insertion Loss		7.5	9		10	12	dB
Insertion Loss Temperature Coefficient		0.008			0.008		dB/ °C
Phase Flatness		±5	±10		±5	±15	°
Input VSWR		1.5	2.5		1.5	2.1	: 1
Output VSWR		2.0	3.0		1.7	2.5	: 1
Input 1 dB Compression Point(P1dB)		25			25		dBm
Input IP3		41			41		dBm
Weight	1.41						ounces
Impedance	50						Ω
Bias Current (+12V)	10						mA
Input / Output Connectors	SMA-Female						
Interface and Control Connector	MICRO-D9(Female)						
Finish	Gold Plated						
Material	Brass						
Sealing	Hermetically Sealed (optional)						

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Absolute Maximum Ratings

Biasing	+12V±10%
TTL Control Voltage	+5V/0V
RF Input power	+30dBm

Environmental Specifications

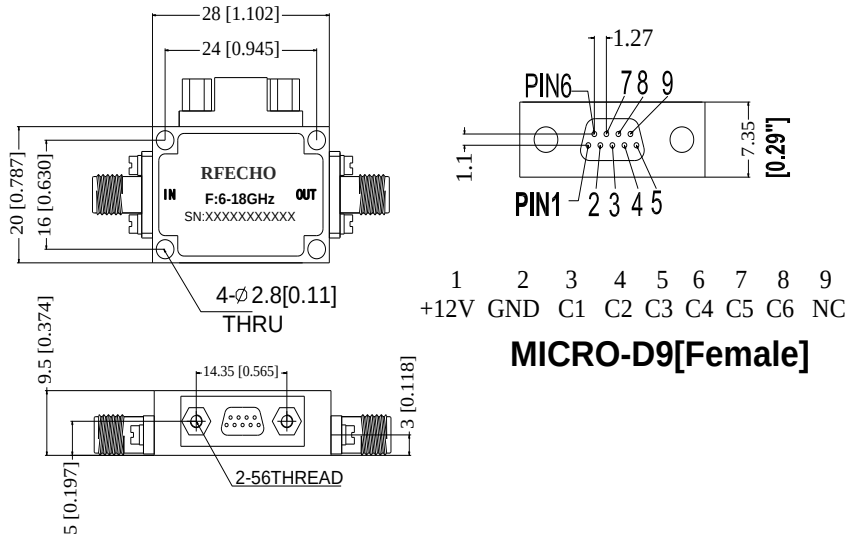
Operational Temperature	-40ºC~+85ºC
Storage Temperature	-50ºC~+105ºC
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35ºc, 95%RH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

Ordering Information

Part No.	Description
DBDP0606001800B	6-18GHz Digital Phase Shifter

Outline Drawing:

All Dimensions in mm (inches)



MICRO-D9[Female]

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	5.625
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	355

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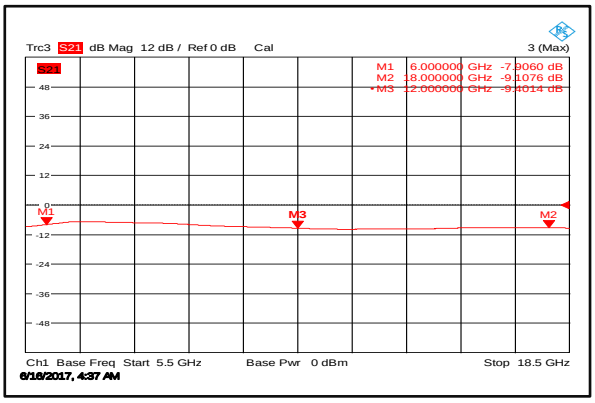
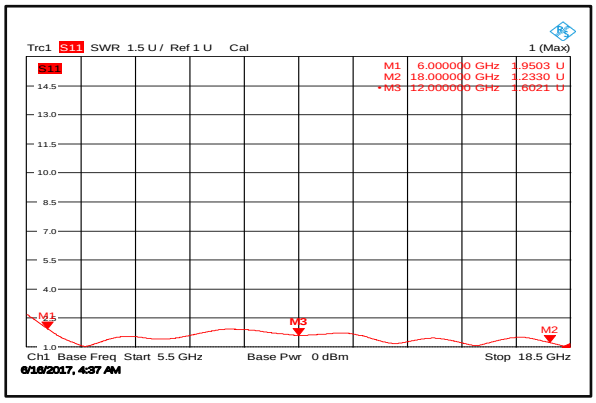
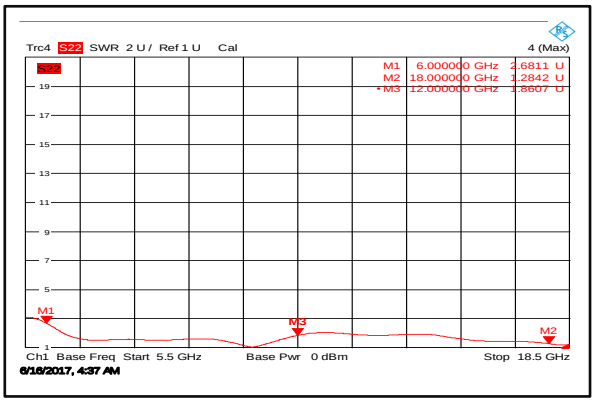
Insertion Loss @+25℃



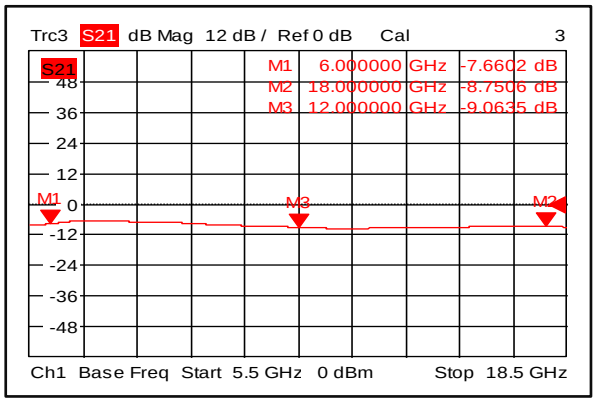
Input VSWR @+25℃



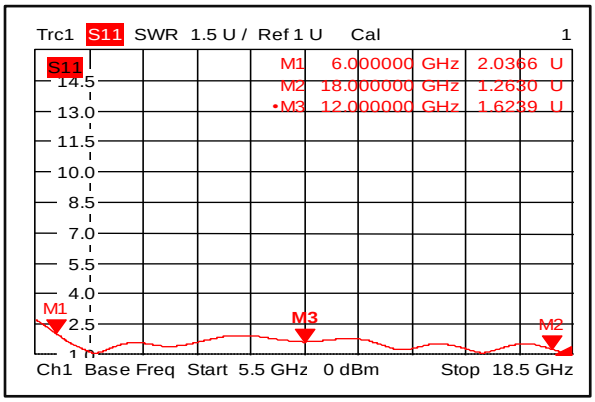
Output VSWR @+25℃



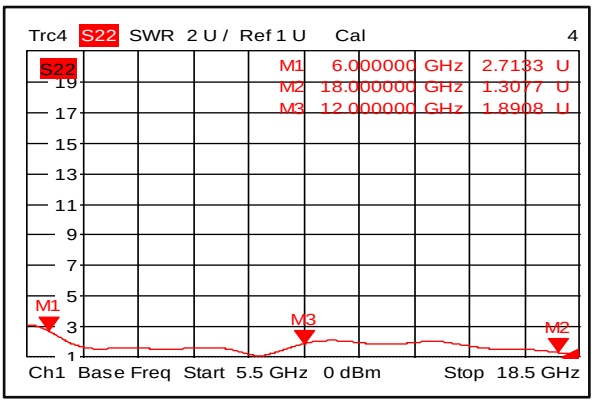
Insertion Loss @-45℃



Input VSWR @-45℃



Output VSWR @-45℃



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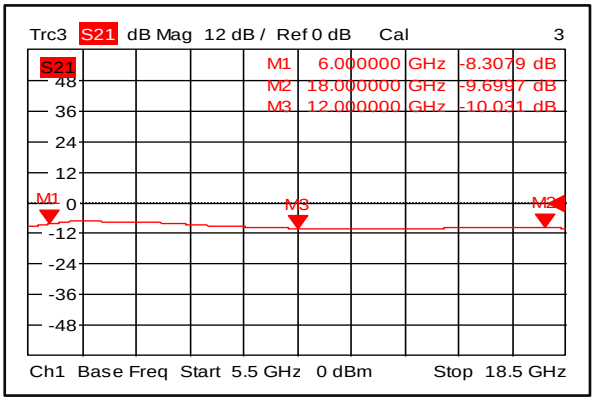
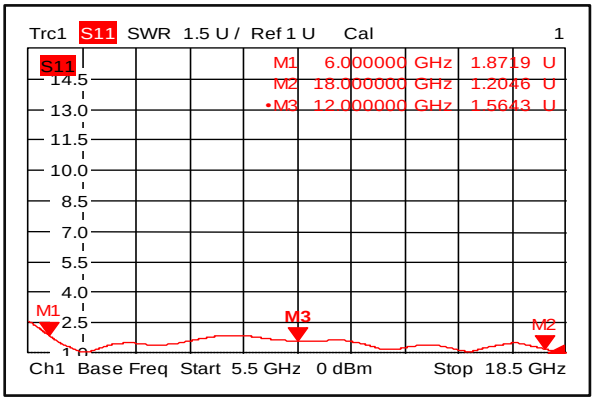
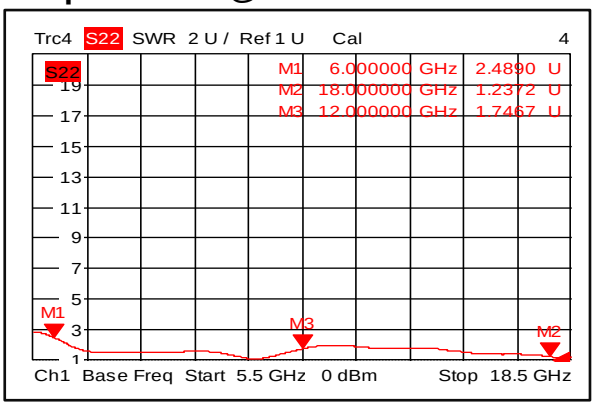
Insertion Loss @+85℃



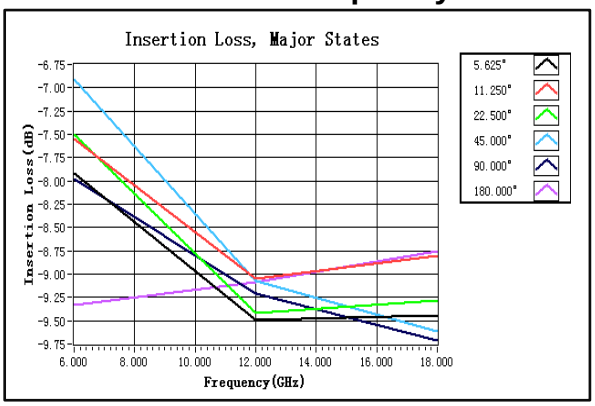
Input VSWR @+85℃



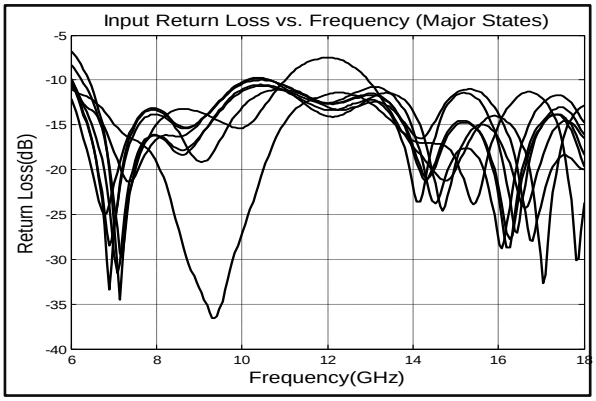
Output VSWR @+85℃



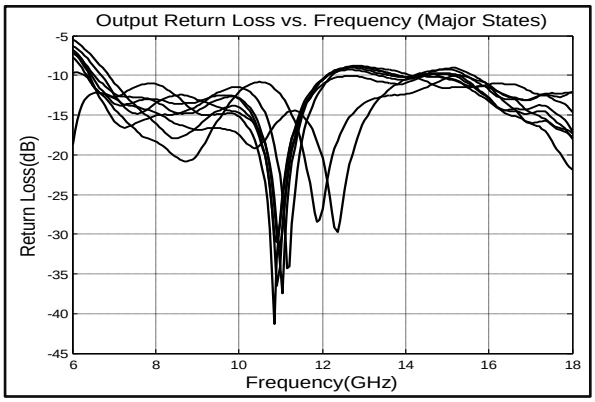
Insertion Loss vs. Frequency



Input Return Loss vs. Frequency



Output Return Loss vs. Frequency



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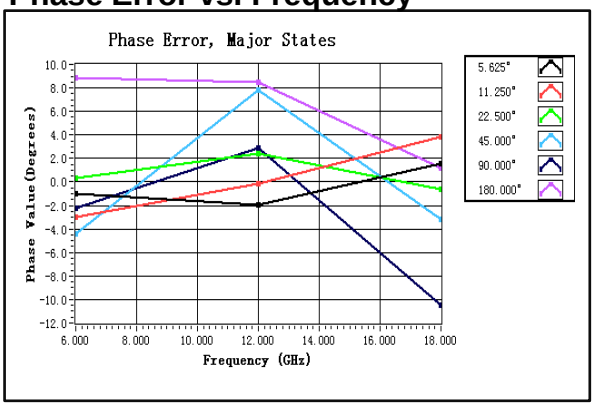
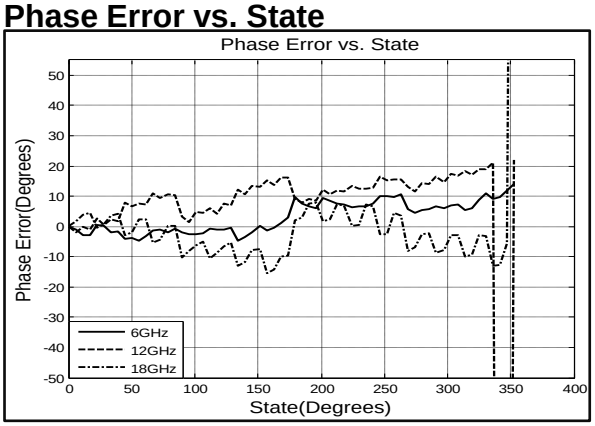
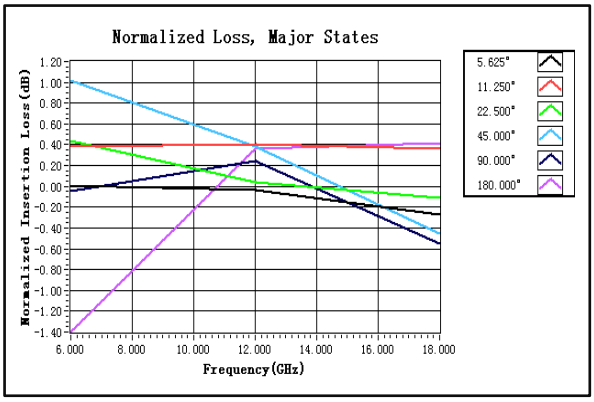
Phase Error vs. Frequency



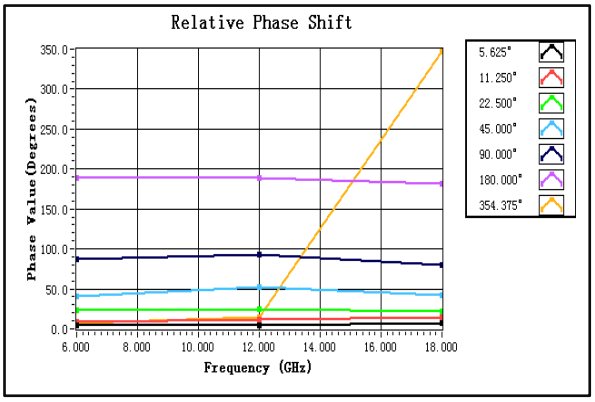
Phase Error vs. State



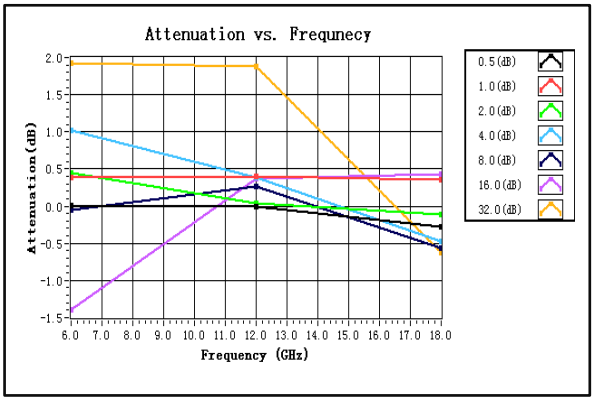
Normalized Loss . All States



Relative Phase Shift vs. Frequency



Attenuation vs. Frequency



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