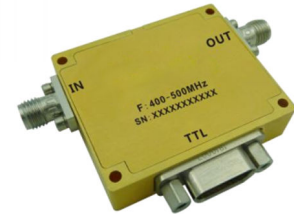




Digital 360° Phase Shifter 400-500MHz

Features

- Wide Band Operation 400-500MHz
- 8-Bit Phase Shift
- Temperature Range -40°C~+85°C
- Customization available upon request



Parameters	Min	Typ.	Max	Units
Frequency Range	400		500	MHz
Phase Range		360		°
Control Bits		8		Bit
Control Step Size		1.4		°
Insertion Loss			5.5	dB
Insertion Loss Temperature Coefficient		0.008		dB/ °C
Phase Flatness		±5	±25	°
Input VSWR (All states)		1.5	1.7	: 1
Output VSWR (All states)		1.5	1.7	: 1
Input 1dB Compression Point (P1dB)			30	dBm
Weight		1.06		Ounces
Impedance		50		Ω
Speed		3.5		ms
Bias Current (+5V)		50		mA
Input / Output Connectors		SMA-Female		
Interface and Control Connector		MICRO-D15 (Female)		
Finish		Gold Plated		
Material		Aluminum		
Sealing		Hermetically Sealed (Optional)		



Absolute Maximum Ratings

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

Ordering Information

Part No.	Description
DBDP0800400050A	400-500MHz Digital Phase Shifter

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

Outline Drawing:

All Dimensions in mm (inches)

1 2 3 4 5 6 7 8 9 10 11~15
C8 C7 C6 C5 C4 C3 C2 C1 +5V GND NC

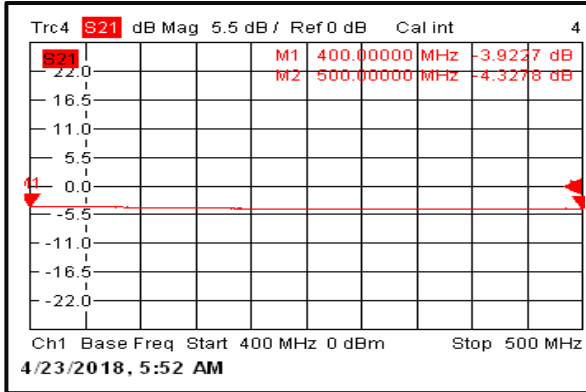
MICRO-D15(Female)

Truth Table

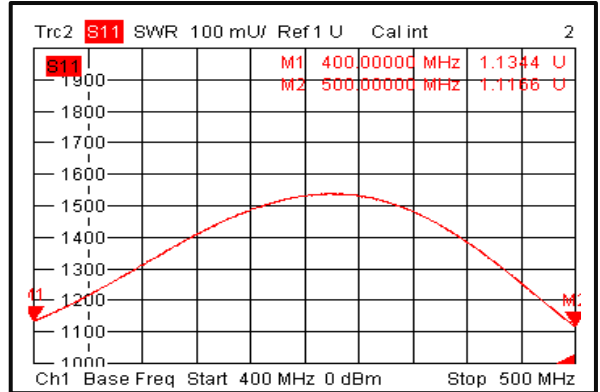
Control Voltage Input								Phase Shift (Degrees)
C8	C7	C6	C5	C4	C3	C2	C1	
1	1	1	1	1	1	1	1	Reference
1	1	1	1	1	1	1	0	1.4
1	1	1	1	1	1	0	1	2.8
1	1	1	1	1	0	1	1	5.625
1	1	1	1	0	1	1	1	11.25
1	1	1	0	1	1	1	1	22.5
1	1	0	1	1	1	1	1	45
1	0	1	1	1	1	1	1	90
0	1	1	1	1	1	1	1	180
0	0	0	0	0	0	0	0	358.594



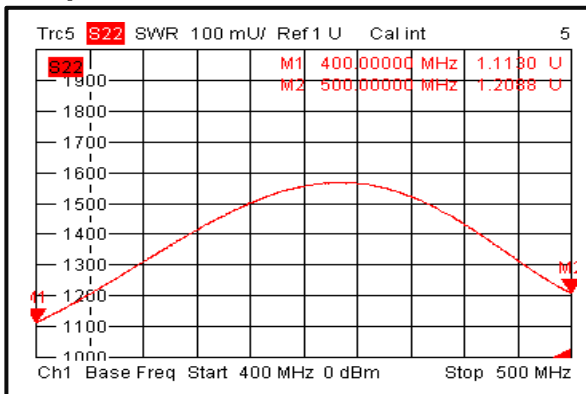
Insertion Loss @+25°C



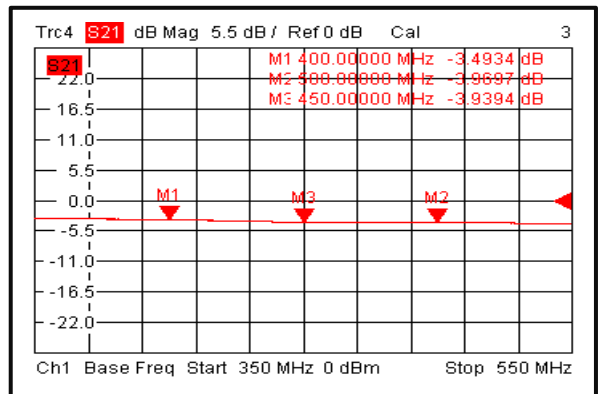
Input VSWR @+25°C



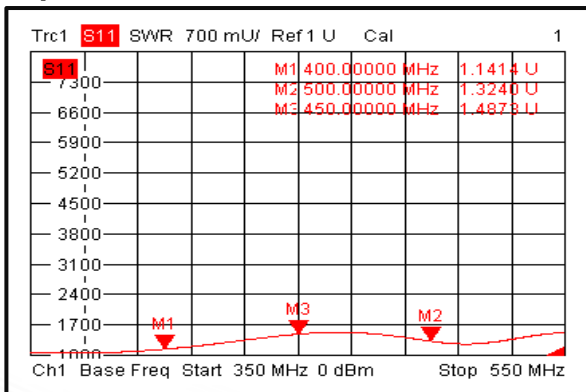
Output VSWR @+25°C



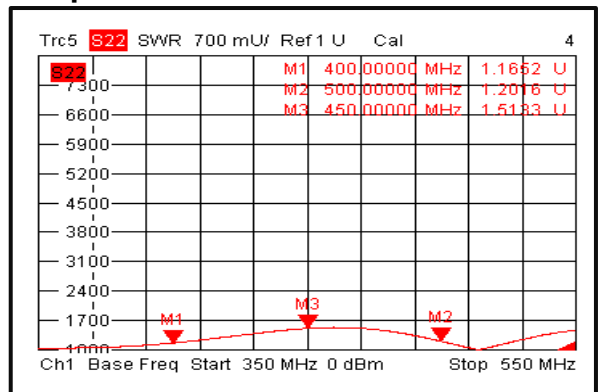
Insertion Loss @-40°C



Input VSWR @-40°C

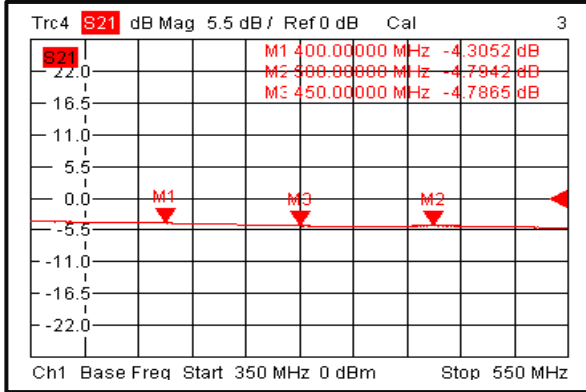


Output VSWR @-40°C

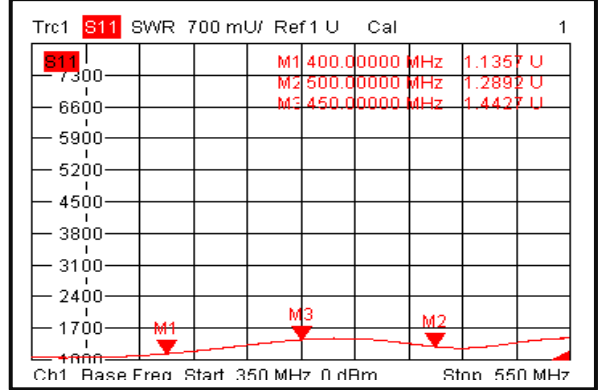




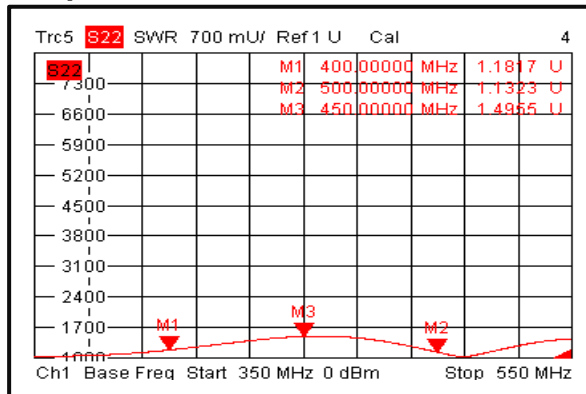
Insertion Loss @+85°C



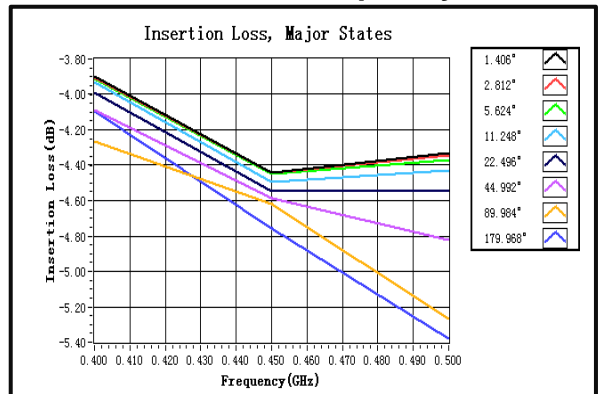
Input VSWR @+85°C



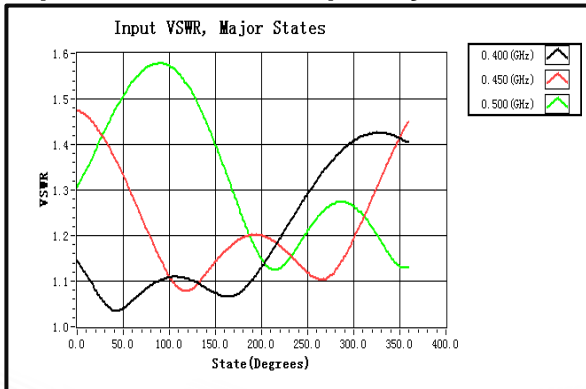
Output VSWR @+85°C



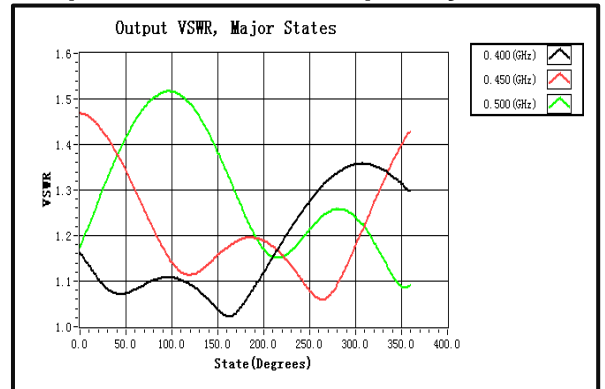
Insertion Loss vs. Frequency



Input VSWR vs. Frequency

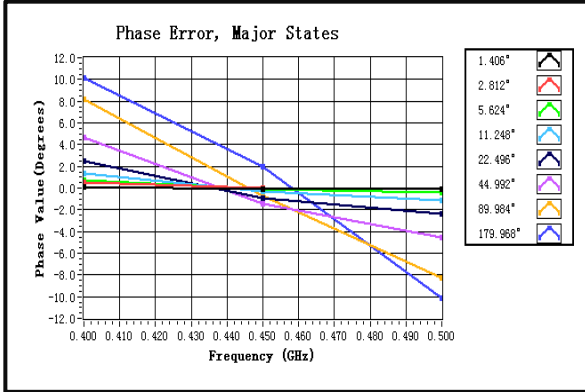


Output VSWR vs. Frequency

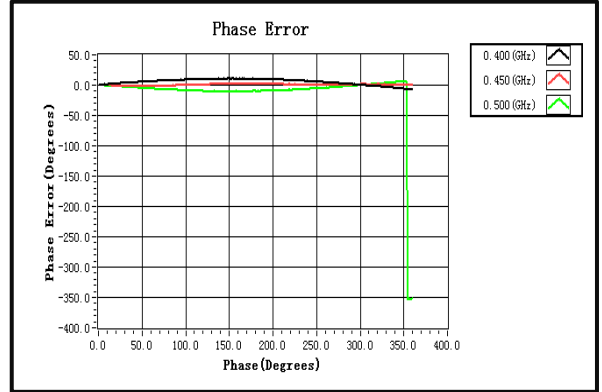




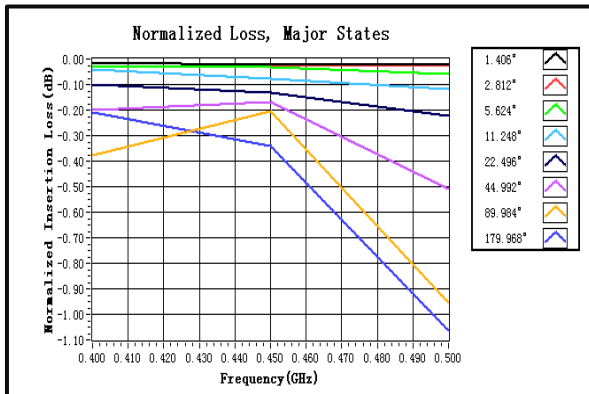
Phase Error vs. Frequency



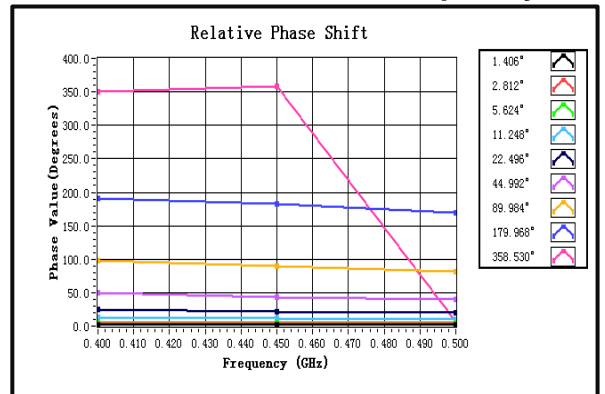
Phase Error vs. State



Normalized Loss. All States



Relative Phase Shift vs. Frequency



Attenuation vs. Frequency

