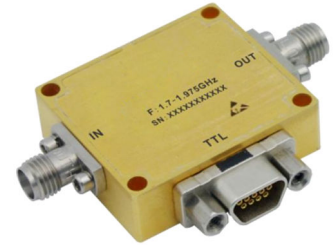




Digital Dispersive 360° Phase Shifter 1.7-1.975GHz

Features

- Wide Band Operation 1.7-1.975GHz
- 360° Phase Shift
- Fast Switching Speed
- Temperature Range -40°C~+85°C
- Customization available upon request
- Hermetically sealed package up to 60,000 ft available upon request.



| Parameters | Min. | Typ. | Max. | Units |
|--|----------------------------------|------|------|--------|
| Frequency Range | 1.7~1.975 | | | GHz |
| Phase Range | | 360 | | ° |
| Insertion Loss | | 4.5 | 5 | dB |
| Insertion Loss Temperature Coefficient | | 0.01 | | dB/ °C |
| Phase Flatness | | ±2.5 | ±3 | ° |
| Input VSWR | | 1.7 | 2 | ratio |
| Output VSWR | | 1.8 | 2 | ratio |
| RF Input power (CW) | | | 0.5 | W |
| Power Dissipation (CW) | | 0.4 | | W |
| Input Power for 1 dB Compression | | 25 | | dBm |
| Input IP3 | | 40 | | dBm |
| Weight | 3.5 | | | Ounces |
| Impedance | 50 | | | Ω |
| Biasing (+5V/-5V) | 5/5 | | | mA |
| Input /Output Connectors | SMA-Female (Standard) | | | |
| Control PIN | MICRO-D9 Female | | | |
| Finish | Gold Plated | | | |
| Material | Aluminum | | | |
| Seal | Hermetically Sealed (optional) | | | |



Absolute Maximum Ratings

| | |
|---------------------|-----------------|
| Biasing | +5V±10%/-5V±10% |
| TTL Control Voltage | 0~0.8V/2~5V |
| RF Input power | +30dBm |

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 Un-controlled 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 |
|-----------------|------------------------------------|
| DBDP0601700197A | 1.7-1.975GHz Digital Phase Shifter |

Outline Drawing:

All Dimensions in mm (inches)

RF ECHO
IN F:1.7-1.975GHz OUT
SN:XXXXXXXXXX
TTL

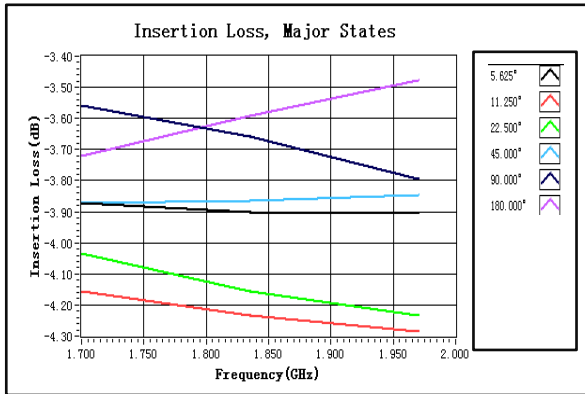
1 2 3 4 5 6 7 8 9
+5V -5V GND C1 C2 C3 C4 C5 C6
MICRO-D9

Truth Table

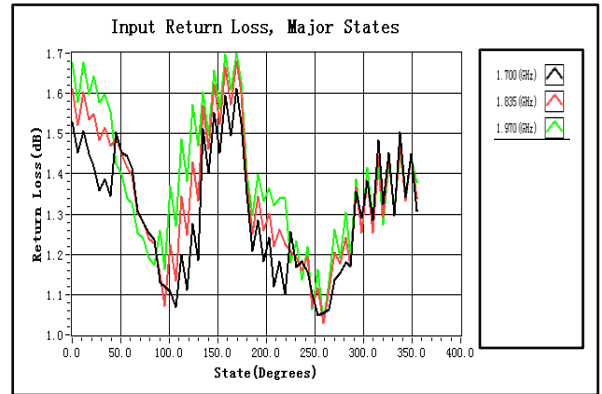
| Control Voltage Input | | | | | | Phase Shift (Degree) |
|-----------------------|----|----|----|----|----|----------------------|
| C6 | C5 | C4 | C3 | C2 | C1 | |
| 0 | 0 | 0 | 0 | 0 | 0 | Reference |
| 0 | 0 | 0 | 0 | 0 | 1 | 5.6 |
| 0 | 0 | 0 | 0 | 1 | 0 | 11.25 |
| 0 | 0 | 0 | 1 | 0 | 0 | 22.5 |
| 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 | 360 |



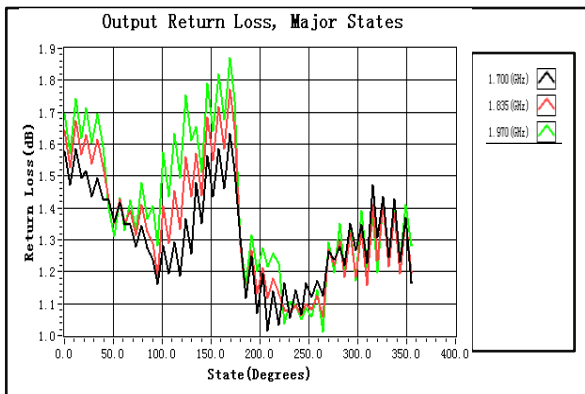
Insertion Loss



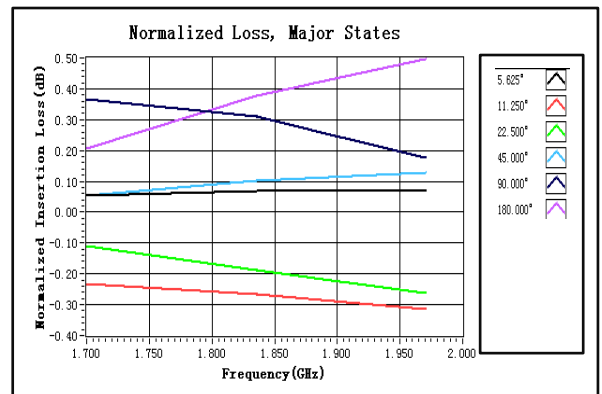
Input Return Loss vs. Frequency



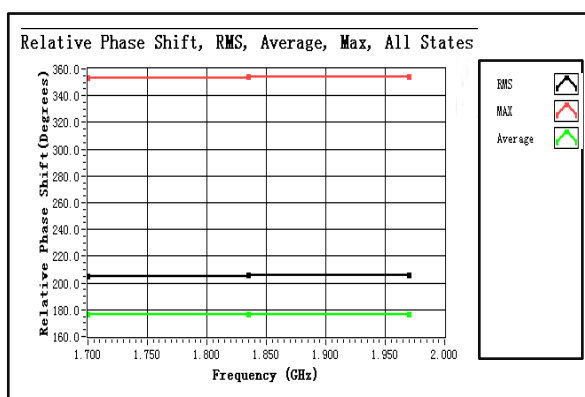
Output Return Loss vs. Frequency



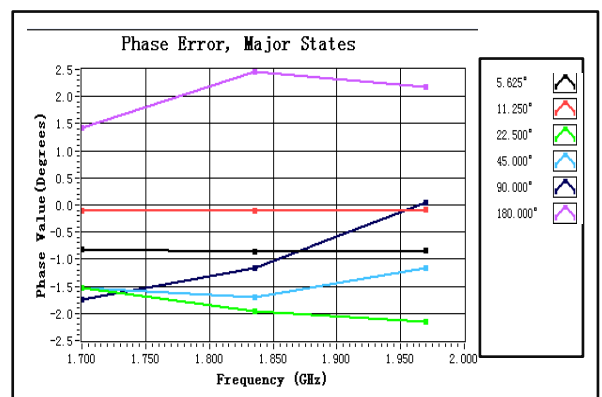
Normalized Loss . All States



Relative Phase Shift vs. Frequency



Phase Error vs. Frequency





Phase Error vs. State

