

# Model 4153 6 Bit Digital Phase Shifter

## Microwave Phase Shifter @ 25°C

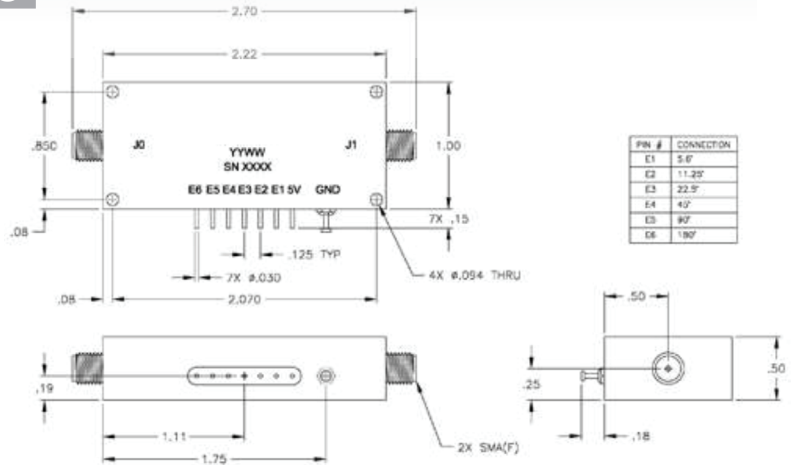
Frequency Range	7 to 18 GHz	
Number of bits	6	
LSB Resolution	5.625 Degree	
Input Power		
P1dB	24 dBm	
Damage level	30 dBm	
Insertion Loss for any state (Maximum)		
7 to 10 Ghz	10 dB	
10 to 14 Ghz	12 dB	
14 to 16 Ghz	13.5 dB	
16 to 18 Ghz	15.5 dB	
VSWR (Maximum)	2.5:1	
Phase Bit Accuracy		
Bit 1	5.6 ±3°	
Bit 2	11.25 ±3°	
Bit 3	22.5 ±6°	
Bit 4	45 ±6°	
Bit 5 90	(7 to 15 Ghz) ±10°	(15 to 18 Ghz) ±16°
Bit 6 180	(7 to 10 Ghz) ±12°	(10 to 18 Ghz) ±8°
Phase Variation	(unit to unit)	
5.6 to 22.5	4 Degree	
22.5 to 180	6 Degree	
Switching speed	30 nS	

## Environmental Requirements

Temperature		
Operating	-40 to +85 °C	
Storage	-55 to +150°C	
Cooling	Conduction cooling through surface of switch body	
Seal	Moisture Sealed (Hermetic seal optional)	

## Dimensions

Refer to outline drawing



## General Specifications

Connectors	
RF (J0, J1)	SMA(F)
Control (E1-E6)	Solder Pins
Bias	Solder Pins
Control	
Logic	TTL
State Table	
Phase Bit control E1-E6	RF Path
Logic 0	Ref.
Logic 1	Ref. + phase shift
DC Power Requirements	
Digital Supply	-5 +/- 5% Vdc
Digital supply current (Max)	10 mA



MERCURY COMMERCIAL ELECTRONICS