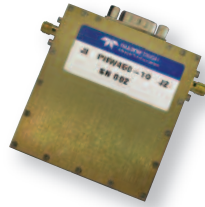




High Performance Phase Shifters
Typical Specifications—50 Ω System



Model	Frequency Band (MHz)	Insertion Loss (dB) Typ.	Phase Error (°RMS) Typ.	Input VSWR Typ.	Output VSWR Typ.	Control Voltage Range (V) Typ.	Control Logic Typ.	Amplitude Balance (State to State) (dB) Typ.	Amplitude Flatness (dB) Typ.	Phase Range (°) Typ.	Max Power (Watts) Typ.
PHW450	435 ± 15 MHz	2.8	0.25	1.2:1	1.2:1	N/A	TTL	±0.15	±0.1	5.625-180 (6 Bits)	5

PHASE SHIFTERS

Current data sheets available on website.

PHW450 420 TO 450 MHz 5 WATT 6 BIT DIGITAL PHASESHIFTER

Typical Values	PHW450
Insertion Loss	2.8 dB
Phase Error.....	0.25°RMS
Amplitude Balance (State to State)	±0.15 dB
Amplitude Flatness	±0.1 dB

SPECIFICATIONS*

Guaranteed -40°C to +85°C

Electrical Parameters	Units	Min	Typ	Max
Frequency Band	MHz	420	N/A	450
Insertion Loss	dB	—	2.8	3.1
Amplitude Balance (state to state)	±dB	—	0.15	0.2
Amplitude Flatness (420-450 MHz)	±dB	—	0.1	0.15
Phase Error	°RMS	—	0.25	0.5
Input VSWR (50 ohms)		—	1.2:1	1.26:1
Output VSWR (50 ohms)		—	1.2:1	1.36:1
Voltage	Volts	—	8V Nom	15 V
Control Logic		—	TTL	—
Max Power (CW)	W	—	—	5

* Measured in a 50-ohm system at +8 Vdc unless otherwise specified.

CONTROL LOGIC TRUTH TABLE

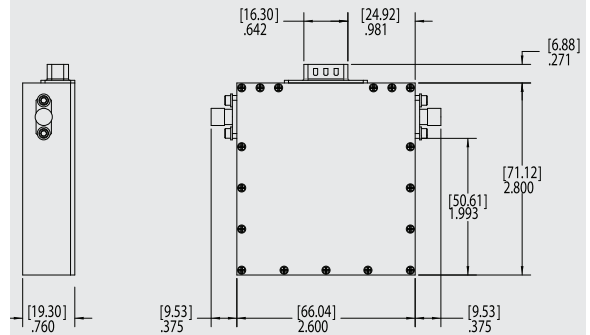
State	Phase Control Lines						Normalized Phase Shift (Degrees)
	Bit1	Bit2	Bit3	Bit4	Bit5	Bit6	
0	0	0	0	0	0	0	Reference Level
1	1	0	0	0	0	0	5.625
2	0	1	0	0	0	0	11.25
4	0	0	1	0	0	0	22.5
8	0	0	0	1	0	0	45
16	0	0	0	0	1	0	90
32	0	0	0	0	0	1	180
63	1	1	1	1	1	1	354.3

ABSOLUTE MAXIMUM RATINGS

Storage Temperature	-55 to +100° C
Maximum Input Power5 Watts (+37 dBm)
Maximum DC Voltage	+15 Volts

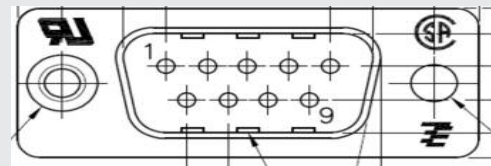
PHW450

Phaseshifter Outline



DIMENSIONS ARE IN INCHES

PINOUT



PIN1	BIT1 (LSB)
PIN2	BIT2
PIN3	BIT3
PIN4	BIT4
PIN5	BIT5
PIN6	BIT6 (MSB)
PIN7	Ground
PIN8	NC
PIN9	VCC

DIMENSIONS ARE IN INCHES [MILLIMETERS]

TYPICAL PERFORMANCE

KEY: +25 °C —
-40 °C - - -
+85 °C - · - ·
+110 °C - - -

