

# Mitron Inc.

## MILLIMETER WAVE PHASE SHIFTER MODEL MPS1840

### Main Features

- ◆ 18 to 40 GHz
- ◆ 360° Range
- ◆ High Speed
- ◆ Digitally Programmable (10 Bits)
- ◆ Monotonicity Guaranteed
- ◆ Airborne Environment



Mitron Inc. cooperated with Herley General Microwave to design and manufacture a variety of Millimeter Wave catalog Commercial Of-The-Shelf (COTS) Microwave products as well as Custom designed Integrated Microwave Assemblies .

### APPLICATION

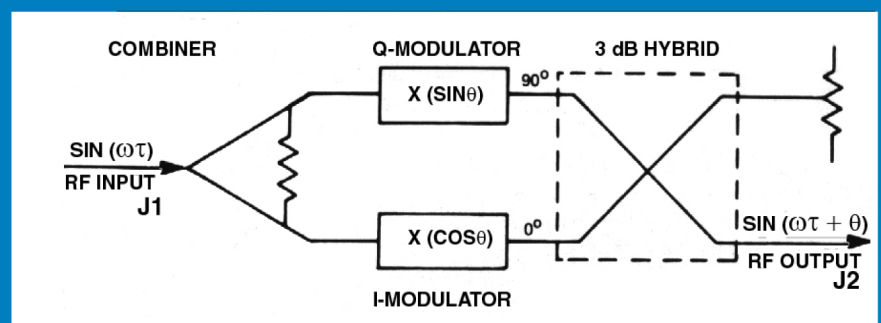
Model MPS1840 is a MMW PIN diode phase shifter covering the frequency range from 18 to 40 GHz providing a full 360° range of variable phase shift. Phase Shifter Model MPS1840 is a catalog COTS product designed for use in various electronics systems such as Test Systems, Electronic Design Laboratories and Simulators.

### PHASE SHIFT

Phase shifting is achieved utilizing the RF vector modulator approach shown in Figure 2. The 3-dB hybrid coupler divides the RF signal into two quadrature components which are then biased in proportion to the sine and cosine of the desired phase shift. The signals are then combined in-phase to yield desired output.

### ACCURACY

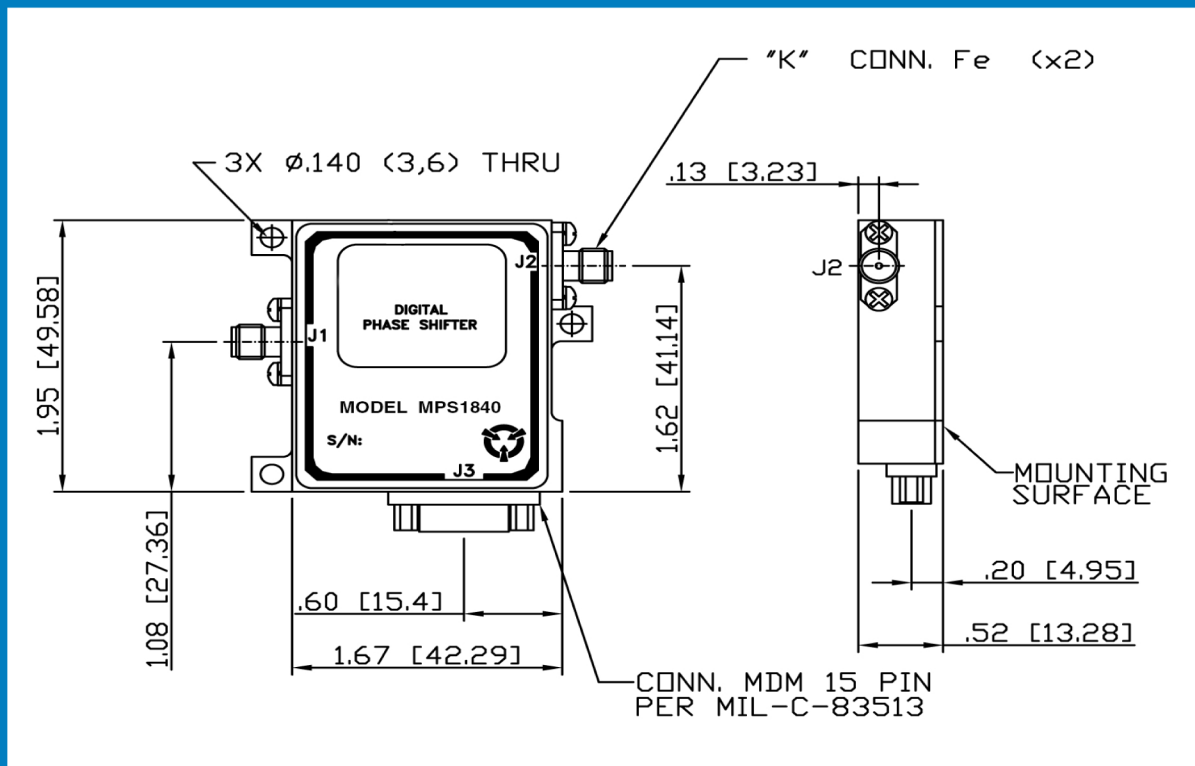
Improved phase accuracy and PM/AM performance are achieved by using double-balanced bi-phase linear amplitude modulators. In the operating band, overall phase accuracy is better than 15°.



## MAIN SPECIFICATIONS - PHASE SHIFTER MODEL MPS1840

	PARAMETER	SPECIFICATION
1	Frequency Range (GHz)	18 to 40
2	Phase Shift Range (Degrees)	360
3	Phase Accuracy (Degrees)	±15
4	Insertion Loss, max. (dB)	15.0
5	Number Of Control Bits	10
6	Switching Speed, max. (nsec.)	500
7	Flatness Over Frequency (dB)	±2.5

### DIMENSIONS AND OUTLINE



Model MPS1840 Wt. 2.5 oz (71gr.) approx.

Dimensional Tolerances: unless otherwise indicated: .XX ±.02; .XXX ±.005