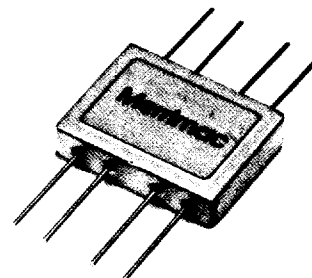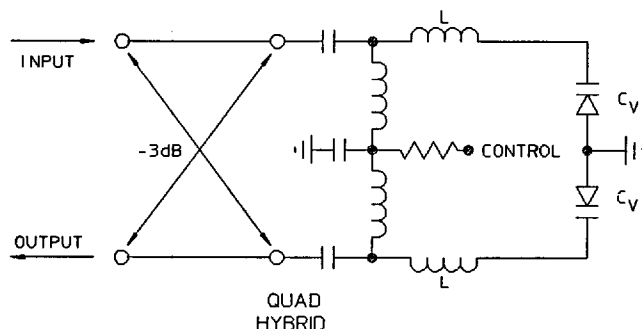# Merrimac

## PEF-03A series

### 0° to −180° PHASE SHIFTERS
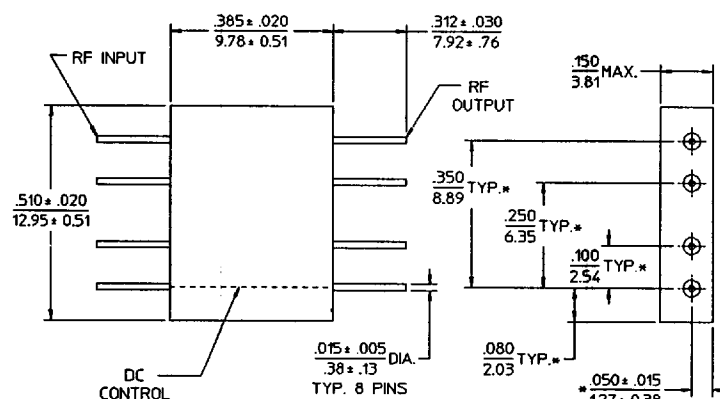### L-Band, Voltage Variable



QUAD
HYBRID



- Catalog and Custom from 500 MHz to 2 GHz
- Continuous 0 to 180° Adjustment
- Low Insertion Loss
- Space saving hermetic design.
- Low Profile, High Reliability Package

The PEF series of high frequency, electronically controlled phase shifters combine the latest microstrip and lumped element technologies to provide very high performance in a space saving package. With a center frequency coverage to 2 GHz, these units extend the frequency range of the long established PSEF series which cover the 10 to 500 MHz band.

Electronic phase shifters find frequent application in systems requiring automatic phase control, closed loop feedback networks and steering of electronically scanned antennas.

MERRIMAC Phase Shifters are designed for high reliability, and can be supplied screened to meet military and space applications.

| Model Number | Center Frequency, $f_o$ | Bandwidth |
|---|---|---|
| PEF-03A-1000 | 1000 MHz | 100 MHz |
| PEF-03A-***B | 500 – 2000 MHz | 10% of $f_o$ |

For complete Model Number replace *** with desired Center Frequency, fo in MHz.

## COMMON SPECIFICATIONS

**RF Characteristics**

| | |
|---|---|
| Bandwidth: | 10% min. |
| Phase Shift Range: | 0 to 180° min. |
| Impedance: | 50 Ω nom. |
| VSWR: | 2.0:1 max. |
| RF Input Level: | 0 dBm max. |
| Insertion Loss: | |
| 1000 - 2000 | 3 dB max. |
| 500 - 1000 | 2 dB max. |

**Control Characteristics**

| | |
|---|---|
| Control Voltage | 0 to +30VDC |
| Modulation Rate: | DC to 1% $f_o$ |

**General Characteristics**

| | |
|---|---|
| Phase Stability: | 0.2° per °C |
| Operating Temperature: | −55° to +85°C |
| Weight, nominal: | 0.09 oz. (2.5 g) |

## AVAILABLE SPECIFICATIONS

| | |
|---|---|
| Lower Frequencies: | Down to 10 MHz in PSEF series only. |
| RF Bandwidth: | Up to 20% of $f_o$ |
| Control: | Negative polarity |

Contact MERRIMAC for further details. (12/91)

### A-Size Package Outline



NOTES:  1. Tolerance on 3 place decimals ±.010(.25) except as noted.
2. Dimensions in inches over millimeters.
3. Dimensions marked with * apply only at body.
4. All unmarked pins are case ground.