PSAM Series — PHASE SHIFTERS, ANALOG

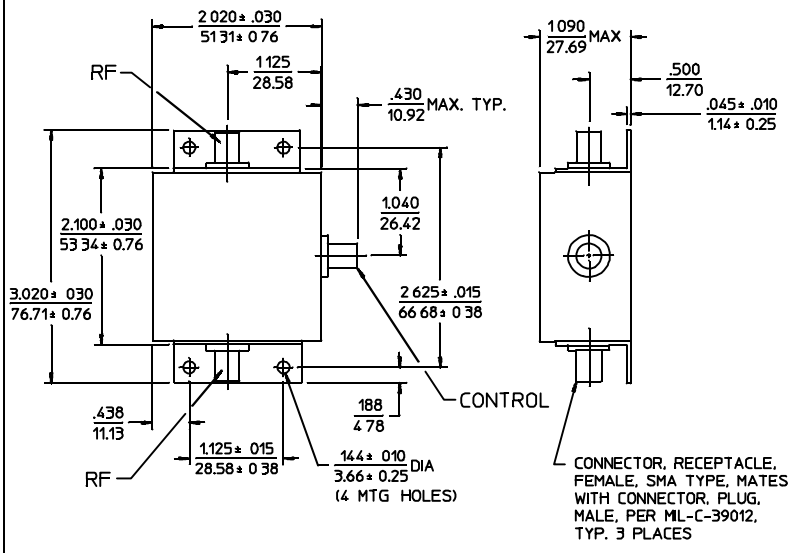
500 to 2500 MHz / 0° to 180° and 0° to 360° / 10% Bandwidth / Voltage Controlled / SMA

PRINCIPAL SPECIFICATIONS

Model Number	Center Frequency, f_o, GHz	Phase Shift Range
PSAM-3-***B	0.5 to 2.5	180° at f_o
PSAM-4-***B	0.5 to 2.5	360° at f_o

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

Package Outline



NOTES: 1. Tolerance on 3 place decimals ±.020(.51) except as noted.
2. Dimensions in inches over millimeters.

GENERAL SPECIFICATIONS

Bandwidth:	10% of f_o
Insertion Loss:	
PSAM-3 series @ 1 GHz:	3 dB typ.
@ 2.5 GHz:	4 dB typ.
PSAM-4 series @ 1 GHz:	4 dB typ.
@ 2.5 GHz:	6 dB typ.
Modulation Rate:	1% of f_o nom.
Impedance:	50 Ω nom.
VSWR: PSAM-3 series:	2.0:1 max.
PSAM-4 series:	2.5:1 max.
Input Power:	0 dBm max.*
Control Voltage for full range:	0.5 to +30 $V_{max.}$
Connectors:	SMA Female
Weight, nominal:	4 oz. (112 g)
Phase Stability, typical:	
PSAM-3 series:	0.1° per °C
PSAM-4 series:	0.2° per °C
Operating Temp:	– 55° to +85°C

*Unit may be operated at +10 dBm in reduced control range of 1.5 - 15 V. (+30 V no damage)

OPTIONAL SPECIFICATIONS

Lower Frequencies:	see PSEM series
Flatpack Version:	see PEF series

General Notes:

1. The PSAM series of voltage controlled analog phase shifters controls phase shift using a voltage of 0 to +30V. On PSAM-3 models the full range is from 0° to 180° and on PSAM-4 this is extended to 0° to 360° by cascading two similar 180° phase shifters.

2. Each phase shifter element employs Filmbrid™ quadrature hybrids with matched pairs of varactor tuned LC networks acting as sliding short circuits on the outputs. The electrical length of short effectively delays the reflected signal which appears at the isolated port of each quadrature hybrid.

3. Similar phase shifters are available in a variety of packages including catalog models in flatpacks and Meri-Pacs.

4. Merrimac phase shifters are designed for high reliability and can be supplied screened to meet specific military and space applications.

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