

**PRINCIPAL SPECIFICATIONS**

Model Number	Center Frequency, $f_0$ , MHz	RF Input Bandwidth	Amplitude Balance at, dB, Max.	Phase Balance at Center, $f_0$ Typ. Max.	Phase Balance at 10% Band Limits Typ. Max.	Insertion Loss, dB, Max.
JPP-21S-***B	1200 - 2500	10% of $f_0$	1.0	$\pm 2^\circ$ $\pm 5^\circ$	$\pm 2^\circ$ $\pm 5^\circ$	10

For complete Model Number replace \*\*\* with desired Center Frequency,  $f_0$  in MHz.

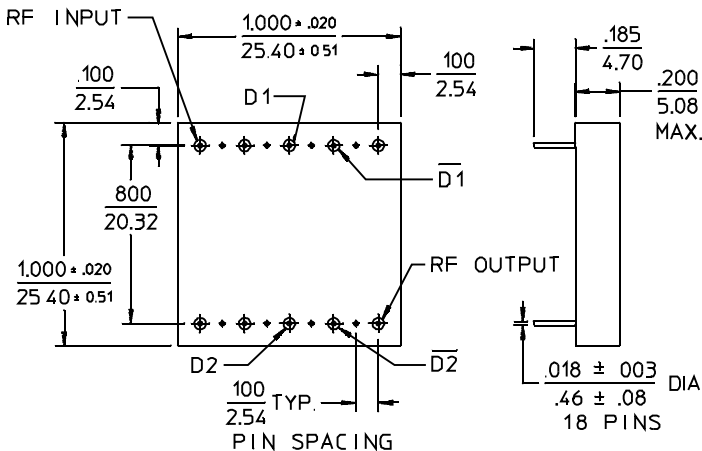
**General Notes:**

- Units in the JPP-21S series of Quadrature Modulators are composed of two biphase modulators, a 90° quadrature hybrid and an in-phase power combiner.
- These devices are generally used in systems to generate QPSK coded signals. The units accept two differential data inputs each of which independently biphase modulates an RF carrier. These are then combined to produce a quadrature output of 0, 90, 180 and 270 degrees. Differential drive allows easy interface with ECL/TTL drivers.
- Merrimac Quadrature Modulators comply with the relevant sections of MIL-M-28837 and may be supplied screened for compliance with additional specifications for military and space applications requiring the highest reliability.

**GENERAL SPECIFICATIONS**

Impedance:	50 $\Omega$ nom.
VSWR:	1.5:1 max.
RF Input Level:	0 dBm nom.
Data Bandwidth:	>100 MHz nom.
Data Signal Levels:	Logic 1: +15 mA nom. Logic 0: -15 mA nom.
Weight, nominal:	0.32 oz (9 g)
Operating Temperature:	-55° to +85°C

**Outline of S-Size Meri-Pac™**



Modulation Sequence		
Data Ports 1, 2	0, 0	ref. 0°
	1, 0	-270°
	1, 1	-180°
	0, 1	-90°

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

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