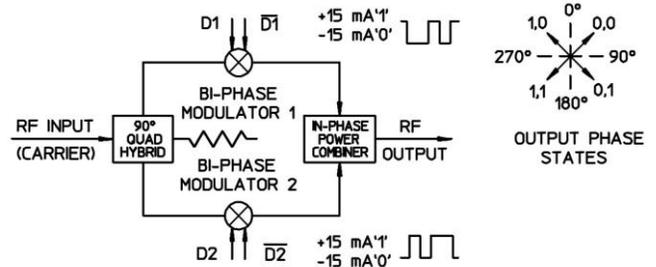


JPP-21R SERIES – QUADRAPHASE MODULATORS

TECHNICAL FEATURE

FEATURES

- Units to 1 GHz
- High Data Bandwidth
- Differential ECL/TTL Compatible Drive
- Hi-Rel Package



PRINCIPAL SPECIFICATIONS

Model Number	Center Frequency, f_0 , MHz	RF Input Bandwidth	Amplitude Balance, dB, Max.	Phase Balance at Center, f_0		Phase Balance at 10% Band Limits		Insertion Loss, dB, Max.
				Typ.	Max.	Typ.	Max.	
JPP-21R-***B	10 - 200	10% of f_0	0.5	$\pm 1^\circ$	$\pm 2^\circ$	$\pm 2^\circ$	$\pm 4^\circ$	6
JPP-21R-***B	200 - 1000	10% of f_0	1.0	$\pm 1^\circ$	$\pm 3^\circ$	$\pm 3^\circ$	$\pm 5^\circ$	9

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

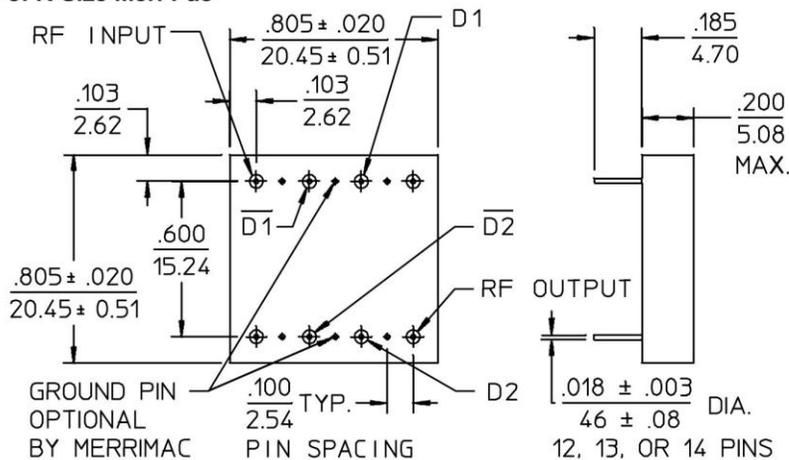
General Notes:

- Units in the JPP-21R 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 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

RF Impedance:	50 Ω 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 R-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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