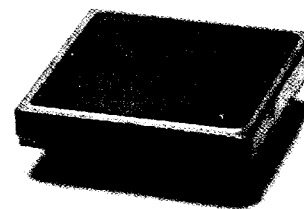
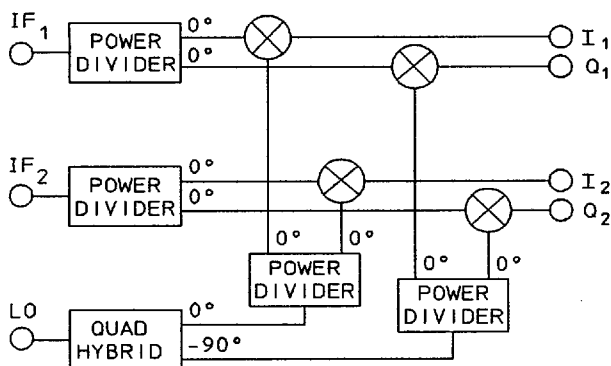




IDP-2S series

DUAL MATCHED QUADRATURE DEMODULATORS
Two I & Q Phase Detectors with Common LO

- Frequencies from 20 to 500 MHz
- Space saving hermetic design
- No lead forming for reliability
- Adapts to automatic insertion and wave soldering techniques

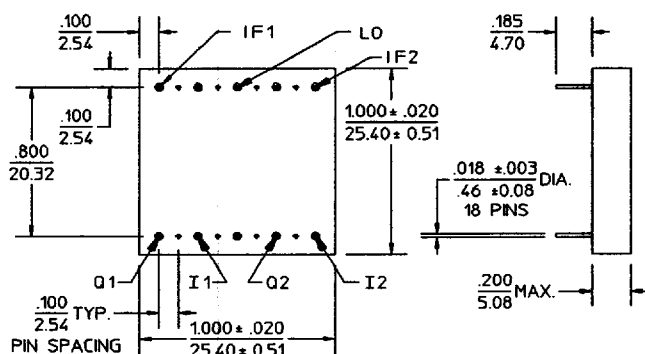
MERRIMAC Dual I & Q Phase Detectors are integrated networks which, when fed by two RF and a LO signal, produce two pairs of equal amplitude signals that are in phase quadrature.

This series of Dual I & Q Phase Detectors integrate two matched circuits in one package. In order to minimize size and weight, while maintaining high performance, both lumped and distributed circuit technologies are used.

Dual I & Q Phase Detectors are often used in image rejection and single sideband modulator circuits, whereby with the addition of an external IF 90° Hybrid, complete systems are formed. Additionally, they are popular as phase correlators in closed loop applications and vector modulator sub-systems.

MERRIMAC Dual I & Q Phase Detectors are designed for high reliability in accordance with MIL-M-28837 requirements, and can be supplied screened to meet specific military and space applications.

Meri-Pac™ S-Package Outline



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

Model Number	RF/LO Center Frequency, f_0	[†] Bandwidth
IDP-2S-70	70 MHz	7 MHz
IDP-2S-***B	20 to 500 MHz	10% of f_0

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

COMMON SPECIFICATIONS

RF and LO Input Characteristics

Impedance:	50 Ω nom.
VSWR:	1.5:1 max.
RF Power Level:	0 dBm nom.
LO Power Level:	+14 dBm nom.

I & Q Output Characteristics

Video Bandwidth:	DC to [†] 50 MHz nom.
Output Impedance:	50 Ω nom.

Conversion Loss

(RF to I or Q):	10 dB typ. 12 dB max.
-----------------	--------------------------

IF Balance

Phase:	$0 \pm 5^\circ$ max. ($I_1 - I_2$ or $Q_1 - Q_2$) $90 \pm 5^\circ$ max. ($I_1 - Q_1$ or $I_2 - Q_2$)
--------	---

Amplitude: 0.5 dB typ., 1 dB max.

Weight, nominal: 0.35 oz (10 g)

Operating Temperature: -55° to $+85^\circ\text{C}$

[†]RF and Video Bandwidths are typically much greater than that specified.

AVAILABLE SPECIFICATIONS

Phase Balance:	$90^\circ \pm 2^\circ$ max.
Amplitude Balance:	0.5 dB max.
Wider Bandwidth:	to custom order
Flatpack Version:	to custom order

Contact MERRIMAC for further details. (9/91)

41 Fairfield Place, West Caldwell, N.J. 07006 • (201) 575-1300 • FAX: (201) 575-0531