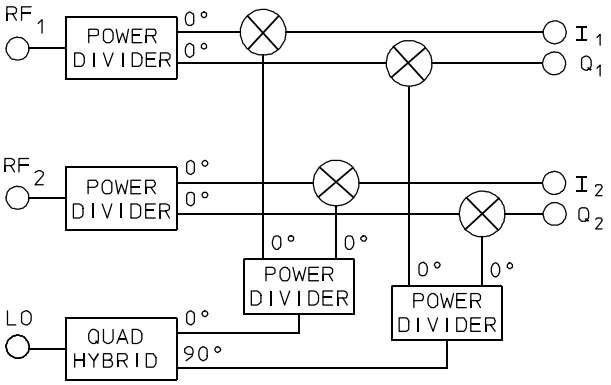
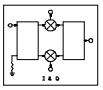
# IDP-2S Series I&Q NETWORKS

***20 to 500 MHz / Two I&Q Phase Detectors with Common LO / Hermetic Package***



## *PRINCIPAL SPECIFICATIONS*

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

†RF and video bandwidths are typically much greater than specified.

*** Insert center frequency in MHz.

## *GENERAL SPECIFICATIONS*

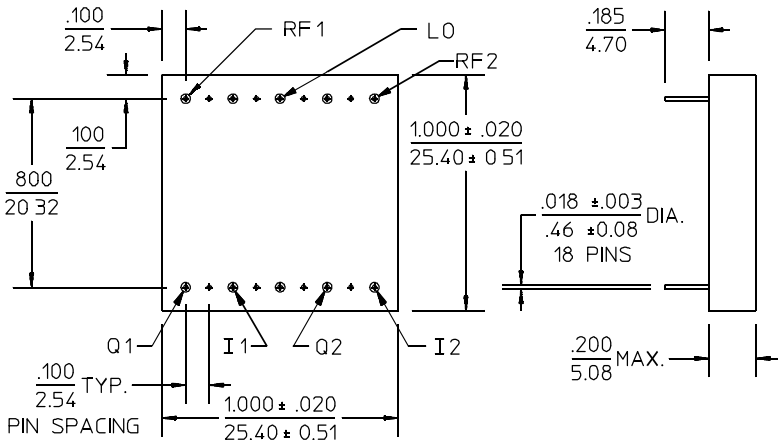
RF and LO Input Characteristics

| | |
|---|---|
| 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. |
| IF Balance | 12 dB max. |
| Phase: | 0 ± 5° max. ($I_1$ - $I_2$ or $Q_1$ - $Q_2$)<br>90 ± 5° 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 Temp: | -- 55° to +85°C |

**Meri-Pac™ S-Package Outline**




NOTES:
1. Tolerance on 3 place decimals ±.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.

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## *AVAILABLE OPTIONS*

| | |
|---|---|
| Phase Balance: | 90° ± 2° max. |
| Amplitude Balance: | 0.5 dB max. |
| Wider Bandwidth: | Customized units |

**General Notes:**

1. Dual I & Q networks are integrated devices that produce two pairs of quadrature-phased, equal amplitude signals when fed by two IF signals and an LO signal as shown in the schematic above.

2. Merrimac's IDP-2S series combines two matched circuits in one package. Both lumped and distributed circuit technologies are used to minimize size and weight while maintaining excellent overall performance.

3. Merrimac's I & Q networks comply with the relevant sections of MIL-M-28837 and may be screened for compliance with additional specifications for military and space applications requiring the highest reliability.


For further information contact: ***MERRIMAC / 41 Fairfield Pl, West Caldwell, NJ, 07006 / 973 575-1300 / FAX 973-575-0531***