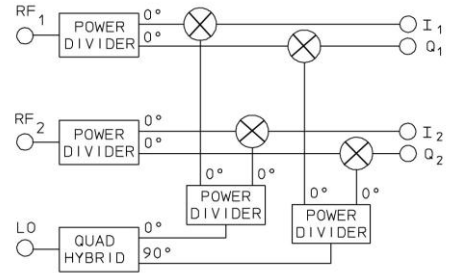


# IDP-2S SERIES – I&Q NETWORKS

## TECHNICAL FEATURE

### FEATURES

- 2 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  $\Omega$  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  $\Omega$  nom.

**Conversion Loss**

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

**IF Balance**

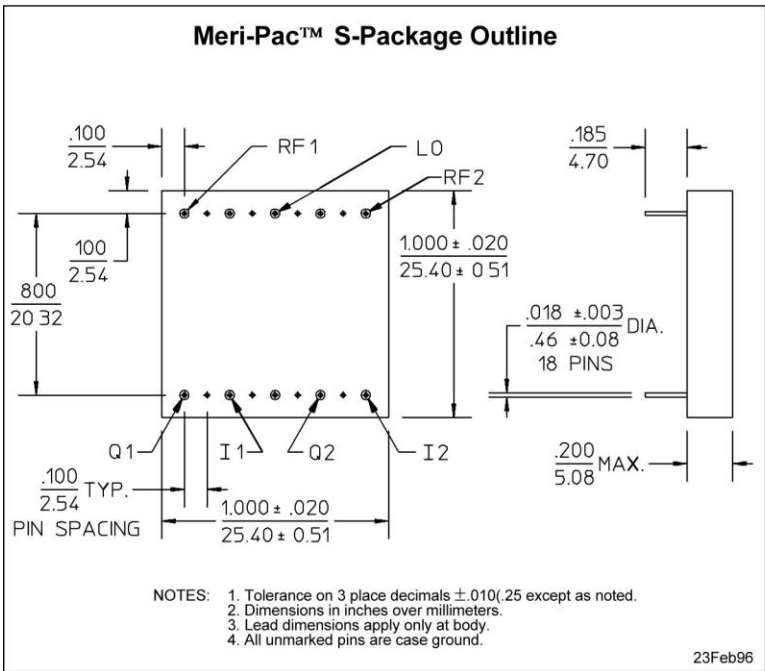
12 dB max.

**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 Temp:** -55°C to +85°C



**AVAILABLE OPTIONS**

**Phase Balance:**  $90^\circ \pm 2^\circ$  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.



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