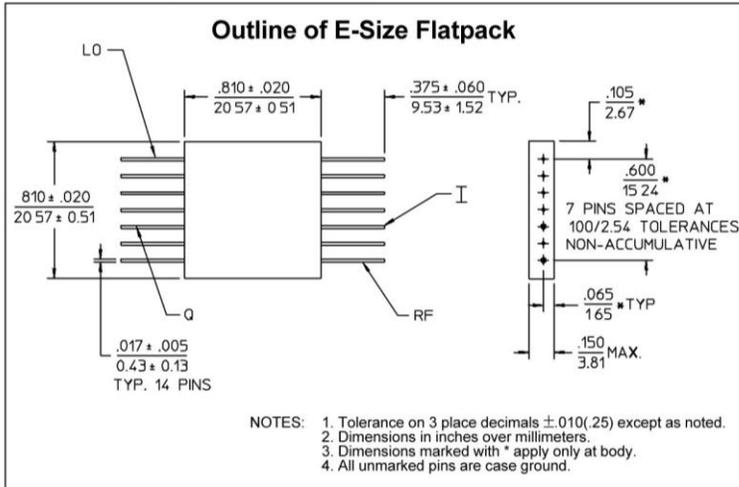
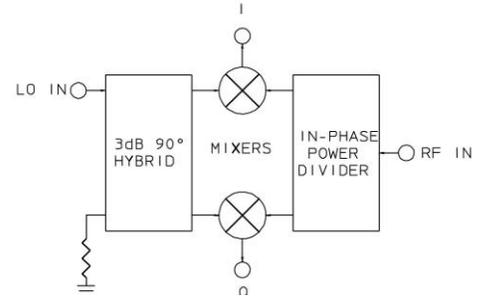


# IQF-4E SERIES – I&Q NETWORKS

## TECHNICAL FEATURE

### FEATURES

- Catalog and Custom Units to 300 MHz
- Octave LO Bandwidth
- Low Profile, Hi-Rel Package



### PRINCIPAL SPECIFICATIONS

Model Number	RF/LO Center Frequency, $f_0$	†Bandwidth, MHz
IQF-4E-***B	10 to 300 MHz	67% of $f_0$

†RF and Video Bandwidths are typically much greater than specified.  
 For complete model number, replace \*\*\* with desired LO center frequency,  $f_0$ , in MHz.

### General Notes:

1. I & Q networks are integrated devices that produce two quadrature-phased, equal amplitude signals when fed by RF and LO signals.
2. With the addition of an external IF 90° Hybrid, complete systems are formed that are useful in image rejection and single sideband modulators.
3. These units are also excellent as phase correlators in closed loop applications and vector modulator sub-systems.
4. I & Q networks can also be used in digital systems as a QPSK demodulator where it recovers two data channels from the incoming phase information. The QPSK input is applied to the RF port while the recovered carrier is applied to the LO port resulting in the two independent data outputs at the I and Q ports.
5. Merrimac I & Q networks comply with the relevant sections of MIL-M-28837 and may be supplied screened for

### 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: +10 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., 12 dB max.

**IF Balance (I to Q)**

Phase: 90°  $\pm$ 4° typ.,  
 90°  $\pm$ 5° max.  
 Amplitude: 0.25 dB typ.,  
 0.5 dB max.

Weight, nominal: 0.32 oz (9 g)  
 Operating Temp: -55° to +85°C

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

### AVAILABLE OPTIONS

Phase Balance: 90°  $\pm$  3° max.  
 (for narrow band)  
 Amplitude Balance: 0.2 dB max.  
 Conversion Loss: 8 dB typ., 10 dB max.  
 Narrowband LO: see IQF-20 series

