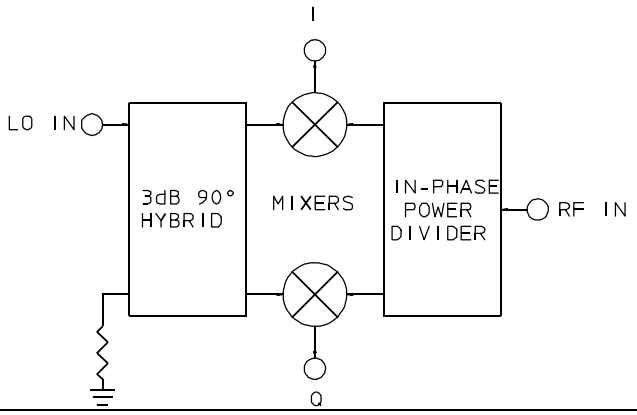
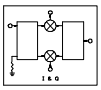
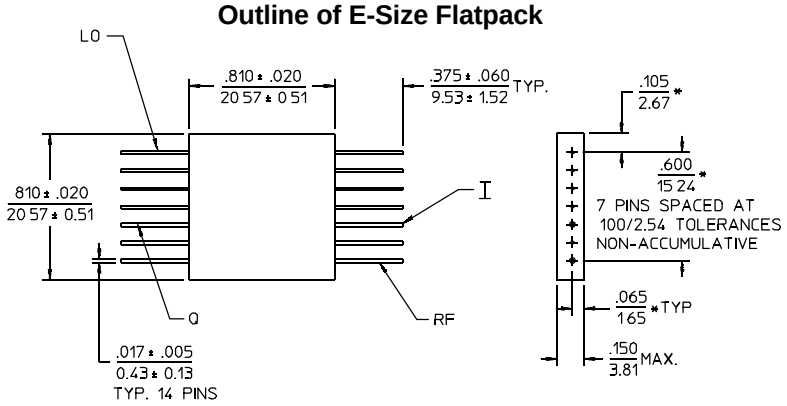
IQF-4E Series I&Q NETWORKS

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





Outline of E-Size Flatpack



NOTES: 1. Tolerance on 3 place decimals ±.010(.25) except as noted.
2. Dimensions in inches over millimeters.
3. Dimensions marked with * apply only at body.
4. All unmarked pins are case ground.

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

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PRINCIPAL SPECIFICATIONS

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

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

For complete model number, replace *** with desired LO center frequency, f_o, 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	+10 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 (I to Q)

Phase:	90° ±4° typ., 90° ±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° ± 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

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