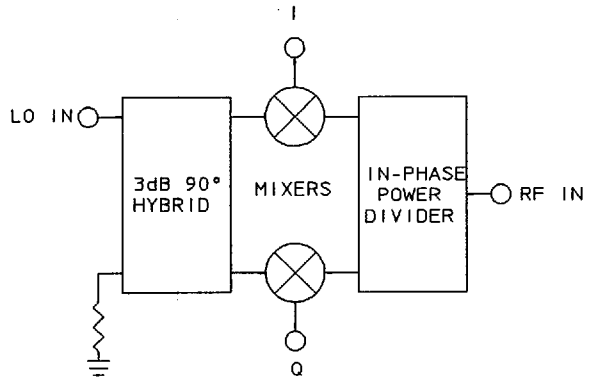
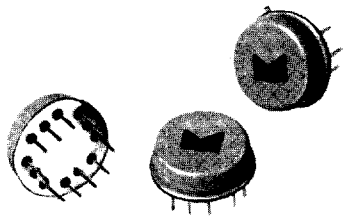
Merrimac

IQT-20A series

PRECISION I & Q PHASE DETECTOR
High Performance, TO-8





- **Frequencies from 10 to 1000 MHz**
- **Models for Cellular Base Stations**
- **Designed for Low Intermodulation**
- **Reliable Hermetic Package**

Precision I & Q Demodulators are integrated networks which when fed by an RF and LO signal, produce two equal amplitude signals that are in phase quadrature. The IQT-20A series are optimized for high accuracy at a given LO frequency and in addition are fully functional over a 10% LO bandwidth.

Special attention is paid in the design and tuning of the cellular base station model IQT-20A-900 to reduce intermodulation products, especially those that fall in adjacent channels. All Merrimac I & Q Demodulators are designed for high reliability in accordance with MIL-M-28837 requirements and can be supplied screened to meet most military and space requirements.

Model Number	RF/LO Center Frequency, f_o MHz	I/Q Balance Fixed LO max.	I/Q Balance 10 % Band max.
IQT-20A-30	30	± 2°, 0.2 dB	± 5°, 0.5 dB
IQT-20A-60	60	± 2°, 0.2 dB	± 5°, 0.5 dB
IQT-20A-70	70	± 2°, 0.2 dB	± 5°, 0.5 dB
IQT-20A-900	900	± 2°, 0.5 dB	± 5°, 1 dB
IQT-20A-**B	10 to 1000	± 2°, 0.5 dB	± 5°, 1 dB

For complete Model Number replace ** with desired Center Frequency, fo 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 @ f_o:	+10 dBm nom.

I & Q Output Characteristics

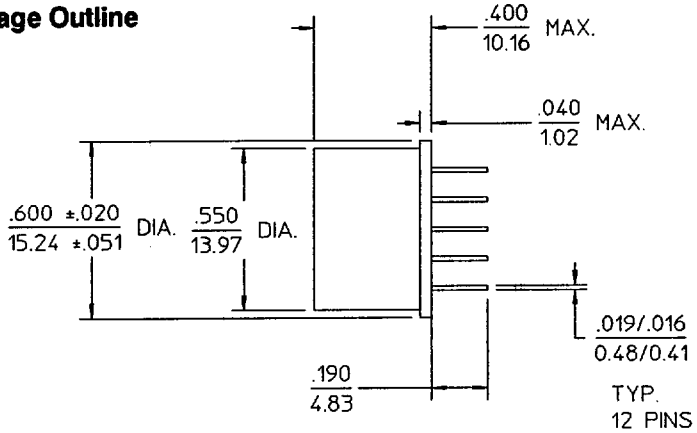
Video Bandwidth:	DC to 50 MHz, nom.
Output Impedance:	50 Ω nom.
Conversion Loss (RF to I or Q):	10 dB typ., 12 dB max.
Weight (nominal):	0.14 oz. (4 g)
Operating Temperature:	−55° to +85°C

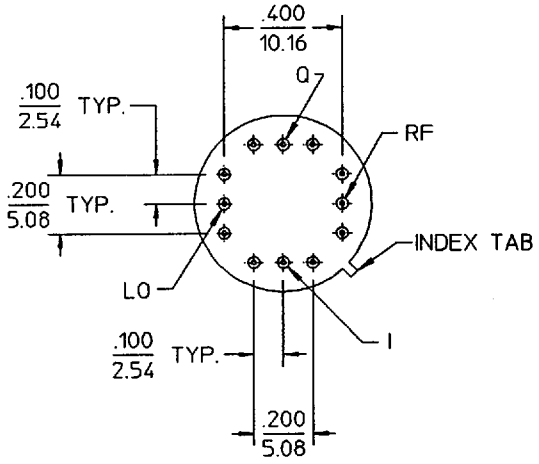
AVAILABLE SPECIFICATIONS

Close Tolerance:	1° and 0.1 dB at fixed LO
High Intercept Models:	Require High Level LO
Wider Bandwidths:	Up to Octave Band

Contact MERRIMAC for further details. (11/91)

Package Outline





NOTES:
1. Tolerance on 3 place decimals ±.010(.25) except as noted.
2. Dimensions in inches over millimeters.
3. All unmarked pins are internally grounded.

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