QUINSTAR TECHNOLOGY, INC.

I-Q Mixer
QMI

Characteristics

- Compact outline
- Excellent Amplitude and Phase Balance
- No DC bias required
- Usable as Image Reject Mixer or Single Sideband Upconverter

Product Description

QuinStar Technology supplies series QMI mixer with I (in phase) and Q (quadrature phase) outputs. They are offered over the RF range of 18 to 110 GHz. These mixers utilize two balanced mixers, a 90 degree RF hybrid and an LO power splitter integrated to achieve excellent amplitude and phase balanced I-Q outputs. Using an external IF quadrature hybrid combiner, these mixers can be configured as image-reject mixers or as single-sideband upconverters. Good LO to RF isolation is achieved over a relatively broad RF and LO frequency ranges. Typical IF range is from DC to 3 GHz. Models with subharmonic LO (local oscillator at one-half the RF frequency) can also be provided as custom products. The mechanical design of these mixers is very compact and can be customized to suit any specific application and outline requirement. Both waveguide and coaxial interfaces are offered as options for RF and LO ports.

These IQ mixers find applications in communication equipment, radar sensors, EW/ECM subsystems and instrumentation receivers.

Specifications

RF Frequency Range, GHz	Conversion Loss[1], dB typ.	Amplitude imbalance, ± dB typ.	Phase Balance[2] degree typ.	LO to RF isolation, dB typ.
18-40	9	1	3	23
40-70	10	1	4	20
70-100	12	1.5	5	20
100-110	15	1.5	5	20

[1] As single-sideband mixer or upconverter.
[2] Error in I and Q phase difference

Ordering Information

Model Number **QMI -** **AB CD EF G**

- AB: center frequency in GHz
- CD: bandwidth in GHz
- EF: conversion loss in dB
- G: coaxial type or waveguide band designation

K = K-band	V = V-band
A = Ka-band	E = E-band
Q = Q-band	W = W-band
U = U-band	C = coaxial

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