

# Plug-In I&Q Demodulator

# MIQA-21D+ MIQA-21D

50Ω

20 to 23 MHz

## Maximum Ratings

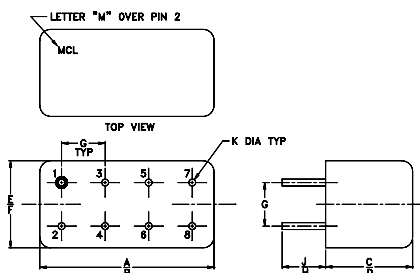
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO/RF Power	50mW
I&Q Current	40mA

## Pin Connections

LO (carrier)	1
RF (signal)	8
I (0°)(ref.)	7
Q (90°)*	4
NOT USED	2
GND EXT.	3,5,6
CASE GND	3,5,6

\* Q=+90° for LO<RF  
Q=-90° for LO>RF

## Outline Drawing



NOTE: BLUE BEAD INDICATES PIN 1. PIN NUMBERS DO NOT APPEAR ON UNIT, FOR REFERENCE ONLY.

## Outline Dimensions (inch/mm)

A	B	C	D	E	F
.770	.800	.285	.310	.370	.400
19.56	20.32	7.24	7.87	9.40	10.16
G	H	J	K		wt
.200	.20	.14	.031		grams
5.08	5.08	3.56	0.79		5.2

## Features

- hermetically sealed metal case
- excellent 3rd and 5th order harmonic suppression
- good amplitude and phase unbalance

## Applications

- radar and communication systems
- military, hi-rel applications



CASE STYLE: A06  
PRICE: \$ 49.95 ea. QTY (1-9)

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

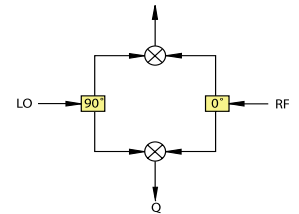
See our web site for RoHS Compliance methodologies and qualifications.

## Demodulator Electrical Specifications

MODEL NO.	FREQUENCY (MHz)				CONVERSION LOSS (dB)			AMPLITUDE UNBALANCE (dB)		PHASE UNBALANCE (Deg.) with reference to 90°		HARMONIC SUPPRESSION (dBc)			
	RF (SIGNAL/ LO (CARRIER)		I&Q		$\bar{x}$	$\sigma$	Max.	Typ.	Max.	Typ.	Max.	3X1/Q		5X1/Q	
	fL	fU	Min.	Max.								Typ.	Min.	Typ.	Min.
MIQA-21D(+)	20	23	DC	3	6.1	0.15	7.0	0.15	0.6	0.7	3.0	64	35	67	50

Operating LO Power: 10±0.5 dBm  
1 dB Compression at +4 dBm RF input  
DC offset 1mV typ.  
Conversion Loss=RF power, dBm - (I+Q) power, dBm

I&Q demodulation block diagram



## Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Amplitude Unbalance (dB)	Phase (I&Q) (deg.)	Frequency (MHz)		DC Offset (mV)
				LO	RF	
20.30	0.30	5.91	0.05	20.20	20.30	-0.03
20.44	0.44	5.91	0.04	20.34	20.44	-0.04
20.58	0.58	5.94	0.05	20.48	20.58	-0.04
20.73	0.73	5.95	0.02	20.63	20.73	-0.04
20.87	0.87	5.94	0.04	20.77	20.87	-0.04
21.01	1.01	5.89	0.05	20.91	21.01	-0.04
21.15	1.15	5.91	0.05	21.05	21.15	-0.04
21.29	1.29	5.93	0.06	21.19	21.29	-0.04
21.44	1.44	5.95	0.04	21.34	21.44	-0.04
21.58	1.58	5.94	0.04	21.48	21.58	-0.04
21.72	1.72	5.91	0.04	21.62	21.72	-0.04
21.86	1.86	5.91	0.05	21.76	21.86	-0.04
22.01	2.01	5.90	0.06	21.91	22.01	-0.04
22.15	2.15	5.91	0.04	22.05	22.15	-0.04
22.29	2.29	5.92	0.06	22.19	22.29	-0.04
22.43	2.43	5.92	0.04	22.33	22.43	-0.04
22.17	2.57	5.94	0.03	22.47	22.57	-0.04
22.72	2.72	5.95	0.04	22.62	22.72	-0.04
22.86	2.86	5.92	0.03	22.76	22.86	-0.04
23.00	3.00	5.92	0.05	22.90	23.00	-0.04

