

Plug-In I&Q Demodulator

MIQA-21D+

50Ω

20 to 23 MHz



Generic photo used for illustration purposes only

CASE STYLE: A06

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
LO/RF Power	50mW
I&Q Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

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

* Q=+90° for LO<RF
Q=-90° for LO>RF

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

Demodulator Electrical Specifications

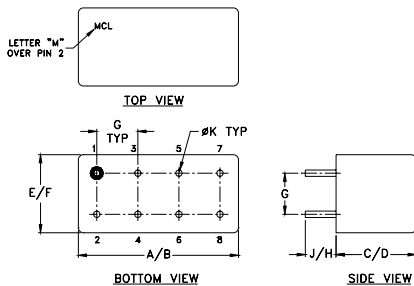
FREQUENCY (MHz)				CONVERSION LOSS (dB)			AMPLITUDE UNBALANCE (dB)		PHASE UNBALANCE (Deg.)		HARMONIC SUPPRESSION (dBc)					
RF (SIGNAL)		LO (CARRIER)		I&Q		\bar{x}	σ	Max.	Typ.	Max.	with reference to 90°		3XI/Q		5XI/Q	
f_L	f_U	Min.	Max.	Min.	Max.						Typ.	Min.	Typ.	Min.	Typ.	Min.
20	23	DC	3	6.1	0.15	7.0	0.15	0.6	0.7	3.0	64	35	67	50		

Notes:
1. Operating LO Power: 10±0.5 dBm
2. 1 dB Compression at +4 dBm RF input
3. DC offset 1mV typ.
4. Conversion Loss=RF power, dBm - (I+Q) power, dBm

Typical Performance Data

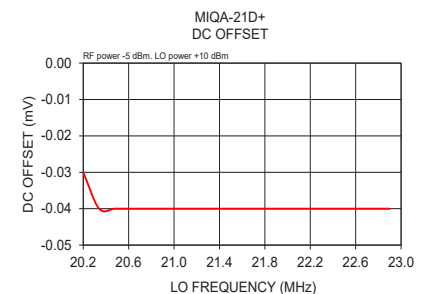
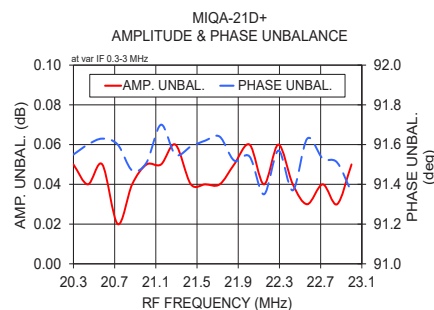
Frequency (MHz)	Conversion Loss (dB)	Amplitude Unbalance (dB)	Phase (I&Q) (deg.)	Frequency (MHz)		DC Offset (mV)
				LO	RF	
20.30	0.30	5.91	91.55	20.20	20.30	-0.03
20.44	0.44	5.91	91.60	20.34	20.44	-0.04
20.58	0.58	5.94	91.63	20.48	20.58	-0.04
20.73	0.73	5.95	91.60	20.63	20.73	-0.04
20.87	0.87	5.94	91.47	20.77	20.87	-0.04
21.01	1.01	5.89	91.51	20.91	21.01	-0.04
21.15	1.15	5.91	91.70	21.05	21.15	-0.04
21.29	1.29	5.93	91.55	21.19	21.29	-0.04
21.44	1.44	5.95	91.59	21.34	21.44	-0.04
21.58	1.58	5.94	91.62	21.48	21.58	-0.04
21.72	1.72	5.91	91.64	21.62	21.72	-0.04
21.86	1.86	5.91	91.52	21.76	21.86	-0.04
22.01	2.01	5.90	91.54	21.91	22.01	-0.04
22.15	2.15	5.91	91.35	22.05	22.15	-0.04
22.29	2.29	5.92	91.57	22.19	22.29	-0.04
22.43	2.43	5.92	91.37	22.33	22.43	-0.04
22.57	2.57	5.94	91.63	22.47	22.57	-0.04
22.72	2.72	5.95	91.53	22.62	22.72	-0.04
22.86	2.86	5.92	91.51	22.76	22.86	-0.04
23.00	3.00	5.92	91.36	22.90	23.00	-0.04

Outline Drawing

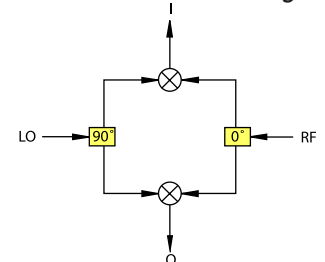


Outline Dimensions (inch/mm)

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



I&Q demodulation block diagram



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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