

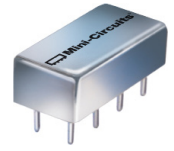
# Plug-In I&Q Demodulator

# NON-CATALOG

## MIQA-10D

50Ω

9 to 11 MHz



CASE STYLE: A06

### 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
50Ω TERM EXT.	2
GROUND	3,5,6
CASE GROUND	3,5,6

\*Q= I+90° for LO<RF  
Q= I-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

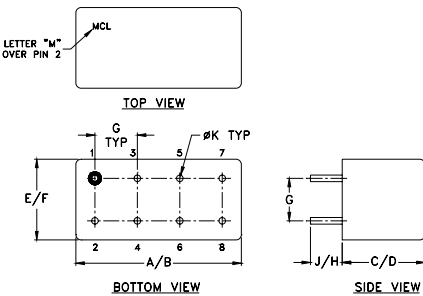
FREQUENCY (MHz)				CONVERSION LOSS (dB)			AMPLITUDE UNBALANCE (dB)		PHASE UNBALANCE (Deg.)		HARMONIC SUPPRESSION (dBc)					
RF (SIGNAL)		LO (CARRIER)		I&Q		$\bar{x}$	$\sigma$	Max.	Typ.	Max.	with reference to 90°		3X1/Q		5X1/Q	
$f_L$	$f_U$	Min.	Max.	Min.	Max.						Typ.	Min.	Typ.	Min.		
9	11	DC	2	6.0	0.10	7.0	0.15	0.3	1.0	3.0	50	35	65	55		

Note:  
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

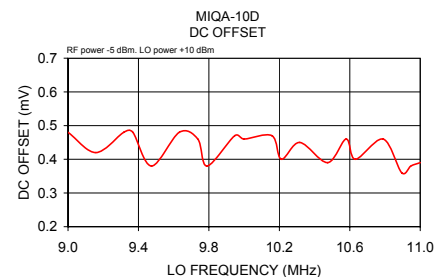
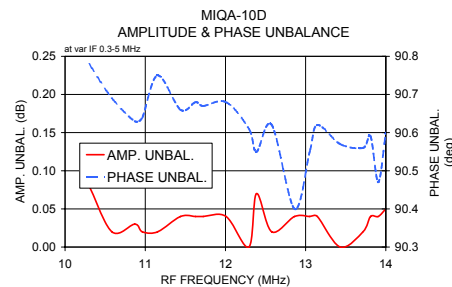
Frequency (MHz)	Conversion Loss (dB)	Amplitude Unbalance (dB)	Phase (I&Q) (deg.)	Frequency (MHz)		DC Offset (mV)
				LO	RF	
10.30	0.30	5.85	90.78	9.00	9.10	0.48
10.59	0.59	5.82	90.69	9.16	9.26	0.42
10.87	0.87	5.80	90.63	9.32	9.42	0.48
10.96	0.97	5.80	90.64	9.37	9.47	0.48
11.15	1.15	5.83	90.75	9.47	9.57	0.38
11.44	1.44	5.78	90.66	9.63	9.73	0.48
11.63	1.63	5.77	90.68	9.74	9.84	0.46
11.72	1.72	5.77	90.67	9.79	9.89	0.38
12.01	2.01	5.75	90.68	9.95	10.05	0.47
12.29	2.29	5.73	90.61	10.00	10.10	0.46
12.39	2.39	5.73	90.55	10.16	10.26	0.47
12.58	2.58	5.72	90.62	10.21	10.31	0.40
12.86	2.86	5.71	90.40	10.32	10.42	0.45
13.05	3.05	5.70	90.55	10.47	10.57	0.39
13.15	3.15	5.69	90.62	10.58	10.68	0.46
13.43	3.43	5.67	90.57	10.63	10.73	0.40
13.72	3.71	5.63	90.56	10.79	10.89	0.46
13.81	3.81	5.62	90.59	10.90	11.00	0.36
13.91	3.91	5.61	90.47	10.95	11.05	0.38
14.00	4.00	5.61	90.60	11.00	11.10	0.39

### Outline Drawing

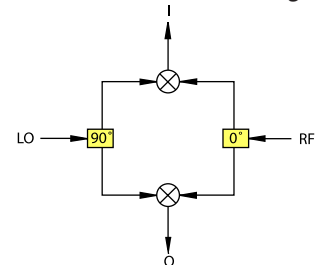


### Outline Dimensions (inch/mm)

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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