

Non-Catalog Model

Active Frequency Mixer

UNCL-X1MH

Level 13 (LO Power +13 dBm)

Important Note

This is a non-catalog model and can be manufactured on specific request.
Pricing and delivery information can be supplied upon request.



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CASE STYLE : A01

ELECTRICAL SPECIFICATIONS 50Ω @ +25°C					
Parameter		Min.	Typ.	Max.	Units
Frequency	LO (fL to fU)	1		500	MHz
	RF (fL to fU)	1		500	MHz
	IF	10		500	MHz
Conversion Loss	mid band	0.5	2.4		dB
	Total Range	0.0			dB
LO-RF Isolation	Low Range	40	60		dB
	Mid Range	25	35		dB
	Upper Range	20	30		dB
LO-IF Isolation	Low Range	30	50		dB
	Mid Range	18	25		dB
	Upper Range	14	18		dB
1 dB Comp. Input Power			+7		dBm
Supply Voltage			12		V
Operating Current			60		mA

Notes: Low Range = [fL to 10fL]
mid band = [2fL to fU/2]

Mid Range = [10fL to fU/2]

Upper Range = [fU/2 to fU]

DC power is applied at pin 4.

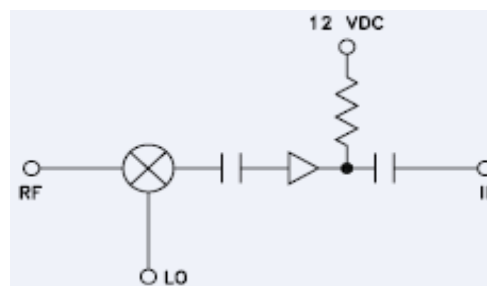
Hermetically sealed.

Load insensitive

MAXIMUM RATINGS	
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

PIN CONNECTIONS	
LO	7
RF	8
IF	1
DC	4
GROUND	3, 5, 6
NOT USED	2

Electrical Schematics



Typical Performance Data

RF (MHz)	LO (MHz)	CONVERSION LOSS (dB)			LO (MHz)	LO-RF ISOLATION (dB)			LO-IF ISOLATION (dB)		
		@LO (dBm)				@LO (dBm)			@LO (dBm)		
		+10	+13	+16		+10	+13	+16	+10	+13	+16
1.0	31.0	-0.98	-1.40	-1.66	1.0	79.9	78.2	77.1	45.4	42.2	42.2
2.0	32.0	-1.50	-1.90	-2.13	2.0	77.0	75.4	74.3	45.1	42.8	42.9
5.0	35.0	-1.89	-2.23	-2.47	5.0	69.8	68.3	67.4	45.6	43.4	43.4
10.0	40.0	-1.98	-2.31	-2.55	10.0	64.7	63.0	62.0	45.5	43.3	43.2
20.0	50.0	-1.99	-2.33	-2.55	20.0	58.8	57.5	56.5	44.2	42.1	41.7
49.3	79.3	-1.99	-2.34	-2.56	49.3	52.5	51.3	50.4	42.0	39.9	39.0
50.0	80.0	-1.99	-2.33	-2.56	50.0	52.4	51.2	50.3	41.9	39.8	38.9
97.6	67.6	-1.97	-2.28	-2.53	97.6	47.1	46.3	45.5	38.5	36.1	35.0
100.0	70.0	-1.99	-2.29	-2.54	100.0	46.8	46.1	45.3	38.4	36.0	34.9
145.9	115.9	-2.03	-2.36	-2.55	145.9	44.6	43.5	42.2	36.3	34.1	32.6
194.2	164.2	-2.05	-2.32	-2.49	194.2	42.7	41.5	40.3	34.9	32.6	31.1
200.0	170.0	-2.05	-2.33	-2.50	200.0	42.5	41.2	39.9	34.8	32.3	30.8
242.5	212.5	-2.04	-2.28	-2.46	242.5	40.6	39.3	38.1	32.4	30.9	29.4
250.0	220.0	-2.09	-2.30	-2.49	250.0	40.2	39.0	37.8	32.1	30.6	29.2
290.7	260.7	-1.98	-2.23	-2.43	290.7	38.6	37.3	36.2	29.5	28.9	27.9
339.0	309.0	-1.95	-2.20	-2.40	339.0	37.1	35.9	34.8	27.1	27.1	26.6
387.3	357.3	-1.88	-2.15	-2.38	387.3	35.6	34.5	33.5	25.5	25.8	25.7
435.6	405.6	-1.76	-2.06	-2.29	435.6	33.7	32.6	31.8	23.6	24.6	24.7
483.9	453.9	-1.69	-2.01	-2.27	483.9	32.9	32.1	31.5	22.4	23.8	24.3
500.0	470.0	-1.74	-2.04	-2.28	500.0	32.7	31.9	31.2	22.0	23.3	23.6

Frequency Mixer

UNCL-X1MH

Typical Performance Data

RF/LO (MHz)	RF VSWR (:1)			LO VSWR (:1)			IF (MHz)	IF VSWR (:1)		
	@LO (dBm)			@LO (dBm)				@LO (dBm)		
	+10	+13	+16	+10	+13	+16		+10	+13	+16
5.0	1.15	1.17	1.20	1.69	2.34	3.14	5.0	1.24	1.22	1.19
10.0	1.08	1.10	1.14	1.62	2.28	3.05	10.0	1.23	1.20	1.17
20.0	1.05	1.07	1.12	1.68	2.37	3.17	20.0	1.19	1.16	1.14
50.0	1.03	1.06	1.12	1.61	2.30	3.08	50.0	1.16	1.13	1.11
57.5	1.03	1.06	1.12	1.59	2.28	3.06	57.5	1.16	1.13	1.10
95.0	1.03	1.06	1.12	1.57	2.24	2.93	95.0	1.15	1.12	1.09
100.0	1.03	1.06	1.12	1.59	2.23	2.95	100.0	1.15	1.12	1.09
140.0	1.03	1.06	1.12	1.58	2.22	2.95	140.0	1.14	1.11	1.09
185.0	1.03	1.06	1.12	1.55	2.15	2.80	185.0	1.13	1.11	1.10
200.0	1.03	1.06	1.12	1.56	2.11	2.81	200.0	1.13	1.11	1.10
230.0	1.04	1.05	1.11	1.56	2.12	2.76	230.0	1.12	1.10	1.10
245.0	1.08	1.05	1.09	1.55	2.10	2.69	245.0	1.11	1.10	1.10
250.0	1.12	1.09	1.10	1.55	2.08	2.67	250.0	1.11	1.10	1.10
275.0	1.12	1.11	1.14	1.53	2.03	2.60	275.0	1.11	1.10	1.11
320.0	1.09	1.11	1.15	1.51	1.97	2.50	320.0	1.10	1.10	1.11
365.0	1.10	1.12	1.17	1.51	1.93	2.38	365.0	1.09	1.10	1.12
410.0	1.11	1.14	1.18	1.49	1.87	2.30	410.0	1.08	1.11	1.13
455.0	1.13	1.16	1.20	1.45	1.79	2.19	455.0	1.08	1.11	1.14
485.0	1.15	1.17	1.22	1.44	1.79	2.18	485.0	1.09	1.12	1.15
500.0	1.16	1.18	1.22	1.44	1.79	2.17	500.0	1.09	1.13	1.15

REV. X1
UNCL-X1MH
060615
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IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED RoHS compliant

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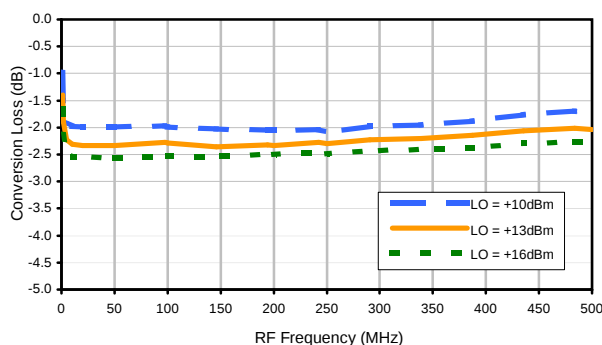


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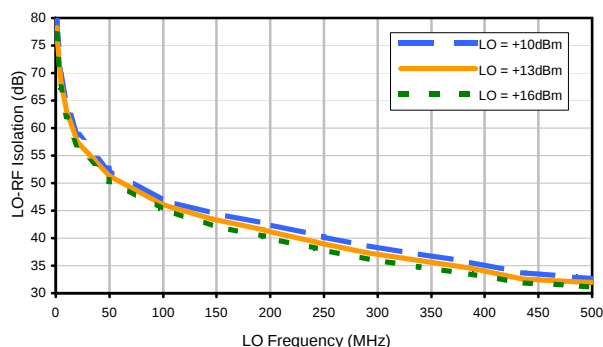


Typical Performance Curves

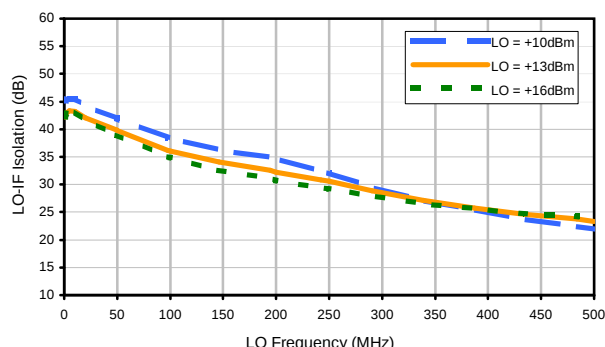
Conversion Loss



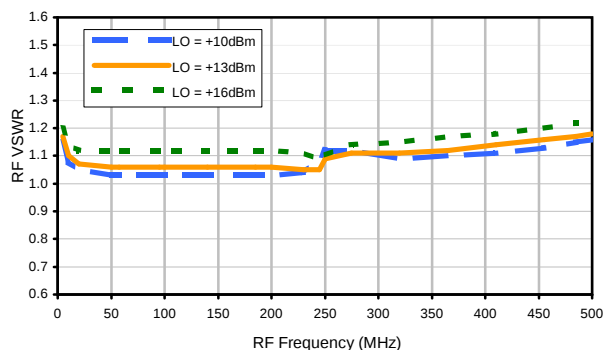
LO-RF Isolation



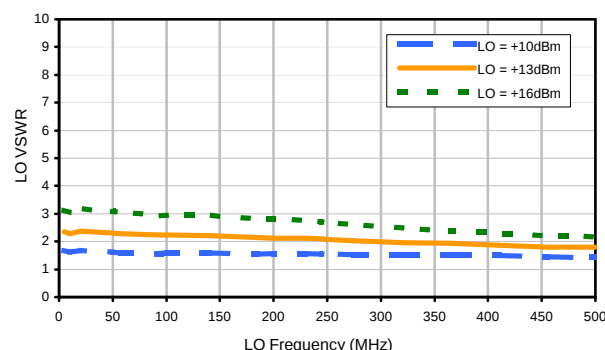
LO-IF Isolation



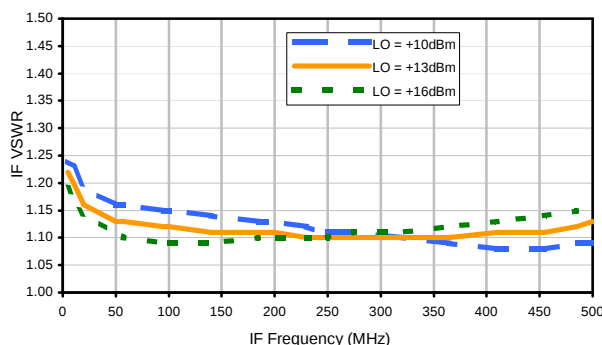
RF VSWR



LO VSWR



IF VSWR



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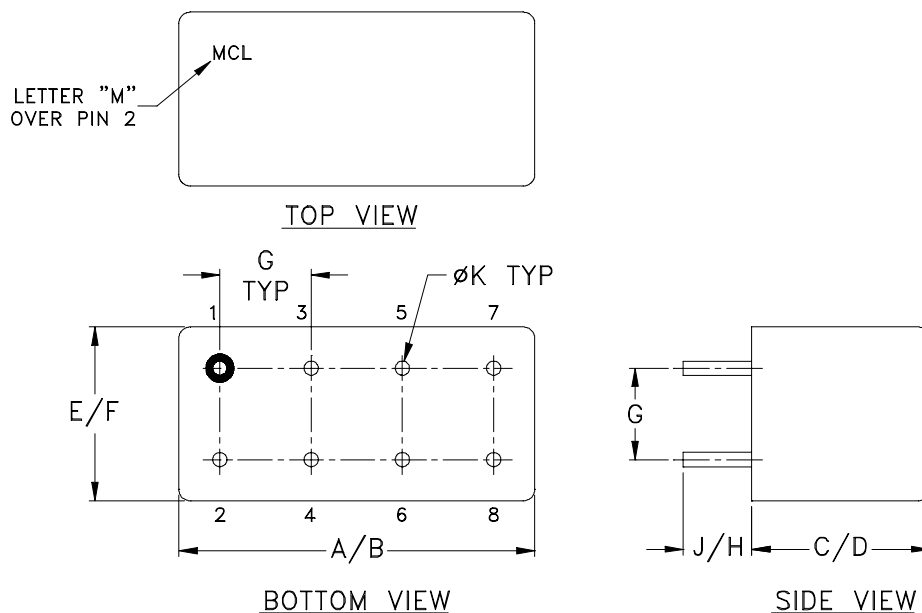


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A01
A04
A05
A06

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	WT, GRAM
A01	.770 (19.56)	.800 (20.32)	.385 (9.78)	.400 (10.16)	.370 (9.40)	.400 (10.16)	.200 (5.08)	.20 (5.08)	.14 (3.56)	.031 (.79)	5.2
A04			.200 (5.08)	.210 (5.33)							3.7
A05			.240 (6.10)	.250 (6.35)							3.7
A06			.285 (7.24)	.310 (7.87)							5.2

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .03$; 3 Pl. $\pm .015$

Notes:

- Header material: C.R.S.
Pin material: #52 alloy.
Cover material: Cupro-Nickel.
- Pin finish: Electro Tin-Silver.
- Insulated spacer available. Request P/N B14-045-01.
- Tolerance on pin diameter $\pm .005$ inch.
- Glass meniscus 0.015 inch max.
- Blue bead indicates Pin 1. Pin numbers do not appear on unit, for reference only.



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