

Up Converter Frequency Mixer

SIM-U712H+

Level 17 (LO Power +17 dBm) 10 to 7100 MHz



Maximum Ratings

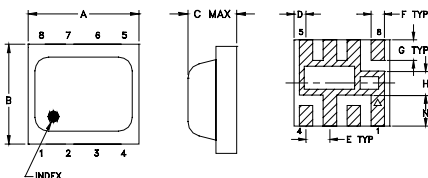
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
IF Power	100mW

For extended temperature range, consult factory.
Permanent damage may occur if any of these limits are exceeded.

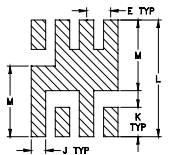
Pin Connections

LO	2
IF (IN)	8
RF (OUT)	4
GROUND	1,3,5,6,7

Outline Drawing



PCB Land Pattern

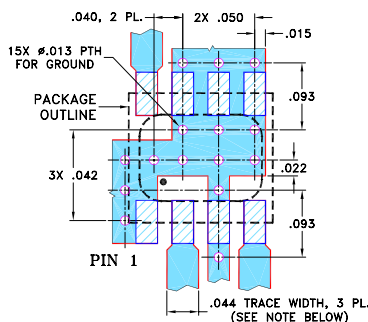


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.200	.180	.087	.025	.050	.028	.043
5.08	4.57	2.21	0.64	1.27	0.71	1.09
H	J	K	L	M	N	wt
.050	.030	.060	0.238	0.144	0.065	grams
1.27	0.76	1.52	6.05	3.66	1.65	0.08

Demo Board MCL P/N: TB-382 Suggested PCB Layout (PL-239)



NOTES:

- TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020" ± .0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
- BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 The Design Engineers Search Engine Provides ACTUAL Data Instantly at minicircuits.com

Features

- up converter mixer
- low conversion loss, 7.3 dB typ.
- high IP3, 27 dBm typ.
- ceramic, tiny size
- aqueous washable
- protected by US patent, 7,027,795

Applications

- cellular infrastructure
- WIMAX
- line-of-sight links
- wide band receivers

CASE STYLE: HV1195
PRICE: \$8.95 ea. QTY (10-49)

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

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Electrical Specifications

FREQUENCY (MHz)			CONVERSION LOSS* (dB)			LO-IF (IN) ISOLATION (dB)		LO-RF (OUT) ISOLATION (dB)		IP3 at center band (dBm)
IF (IN)	LO	RF (OUT)	Typ.	σ **	Max.	Typ.	Min.	Typ.	Min.	Typ.
2600-7100	10-1780	2600-7100	7.3	0.3	9.5	27	14	19	11	27

1 dB Compression: +14 dBm typ.

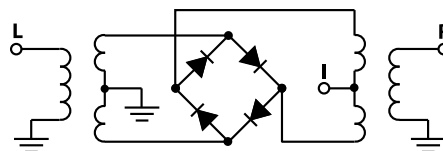
* Conversion Loss at 30 MHz LO

** σ is a standard deviation

Typical Performance Data

Frequency (MHz)			Conversion Loss (dB)	VSWR RF Port (:1)	Frequency (MHz)		Isolation L-I (dB)	Isolation L-R (dB)	VSWR LO Port (:1)
IF (IN)	LO	RF (OUT)	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm	LO +17dBm
2600.10	30.00	2630.10	7.80	1.34	11.00	67.68	51.44	1.47	
2800.10	30.00	2830.10	7.15	1.41	51.00	55.46	42.85	1.50	
3000.10	30.00	3030.10	6.88	1.59	91.00	50.53	38.59	1.50	
3200.10	30.00	3230.10	6.61	1.52	153.60	46.33	35.04	1.53	
3400.10	30.00	3430.10	6.74	1.60	238.80	42.47	31.79	1.55	
3600.10	30.00	3630.10	6.62	1.69	324.00	39.73	29.14	1.59	
3800.10	30.00	3830.10	6.81	1.91	409.20	37.68	27.14	1.60	
4000.10	30.00	4030.10	7.00	2.30	494.40	35.96	25.30	1.58	
4400.10	30.00	4430.10	7.21	2.77	664.80	33.22	22.36	1.52	
4600.10	30.00	4630.10	7.42	2.80	750.00	31.84	21.29	1.49	
4800.10	30.00	4830.10	7.52	3.53	776.67	31.61	21.20	1.53	
5000.10	30.00	5030.10	7.64	3.83	803.33	31.30	21.00	1.54	
5400.10	30.00	5430.10	7.58	2.09	871.67	30.30	20.66	1.67	
5600.10	30.00	5630.10	7.45	1.43	913.33	29.80	20.50	1.69	
5800.10	30.00	5830.10	7.59	1.78	955.00	29.17	20.11	1.79	
6280.10	30.00	6310.10	8.08	1.46	1080.00	27.50	19.86	1.93	
6440.10	30.00	6470.10	7.68	1.23	1121.67	26.99	19.53	2.10	
6600.10	30.00	6630.10	7.98	1.49	1205.00	25.85	19.07	2.23	
6920.10	30.00	6950.10	7.75	2.82	1436.67	23.03	17.93	2.37	
7240.10	30.00	7270.10	8.80	3.39	1796.50	19.26	16.94	2.29	

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

IF/RF MICROWAVE COMPONENTS

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp.

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