

Ceramic Surface Mount Frequency Mixer WIDE BAND

SIM-852MH+

Level 13 (LO Power +13 dBm) 3700 to 8500 MHz



Maximum Ratings

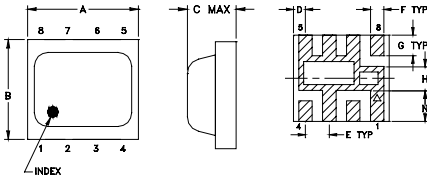
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW

For extended temperature range, consult factory.

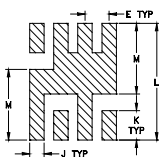
Pin Connections

LO	8
RF	4
IF	2
GROUND	1,3,5,6,7

Outline Drawing



PCB Land Pattern

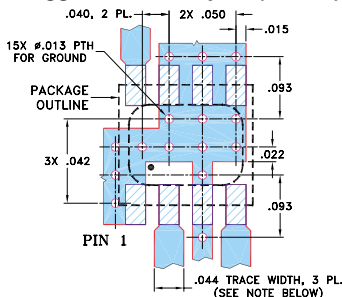


Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch)

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

Features

- wide bandwidth, 3700 to 8500 MHz
- low conversion loss, 6.9 dB typ.
- high L-R isolation, 36 dB typ.
- excellent IF BW, DC to 4000 MHz
- LTCC double balanced mixer
- tiny size, low profile, 0.08"
- useable as up and down converter
- aqueous washable
- protected by US patent 7,027,795

Applications

- satellite up and down converters
- defense radar and communications
- line of sight links
- federal fixed service
- WIFI
- blue tooth
- VSAT
- ISM

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-RF ISOLATION (dB)	LO-IF ISOLATION (dB)	IP3 at center band (dBm)					
					Typ.	σ	Max.	Typ. Min.	Typ. Min.
LO/RF $f_c - f_u$	IF								
3700-8500	DC-4000								
3700-6200		7.3	0.1	8.7	36	28	16	10	22
6200-8500		6.9	0.2	9.8	35	22	15	7	16

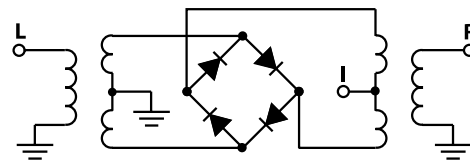
1 dB Compression: +9 dBm typ.

* Conversion loss at 30 MHz IF. σ is a measure of repeatability from unit to unit.

Typical Performance Data

Frequency (MHz)	Conversion Loss (dB)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR RF Port (:1)	VSWR LO Port (:1)	
						LO +13dBm
RF	LO	LO	LO	LO	LO	
	+13dBm	+13dBm	+13dBm	+13dBm	+13dBm	
3700.10	3730.10	7.02	40.31	22.76	3.98	5.79
4000.10	4030.10	7.42	36.20	20.85	4.37	4.86
4500.10	4530.10	7.37	37.26	16.40	3.67	3.23
5000.10	5030.10	7.89	36.66	14.15	5.07	2.07
5500.10	5530.10	7.76	36.47	13.30	4.80	1.73
6000.10	6030.10	7.17	36.88	13.69	4.14	3.00
6100.10	6130.10	7.15	36.38	13.96	3.95	3.20
6200.10	6230.10	7.04	36.34	14.08	3.63	3.60
6500.10	6530.10	6.91	35.51	14.75	2.88	4.50
7000.10	7030.10	6.44	34.67	15.76	2.15	5.93
7100.10	7130.10	6.60	35.86	16.44	1.96	6.28
7200.10	7230.10	6.66	38.11	17.48	1.90	7.00
7400.10	7430.10	6.70	42.47	20.12	1.97	6.78
7500.10	7530.10	6.90	42.36	21.36	2.12	7.47
7800.10	7830.10	7.22	33.82	18.80	2.86	6.83
8000.10	8030.10	7.43	30.25	14.74	3.10	5.74
8100.10	8130.10	7.67	29.04	13.29	3.22	5.22
8200.10	8230.10	8.01	28.37	12.39	3.31	4.69
8400.10	8430.10	8.60	29.91	12.44	3.93	3.86
8500.10	8530.10	8.85	31.20	13.18	4.37	3.59

Electrical Schematic



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