

Ceramic Surface Mount Frequency Mixer WIDE BAND

SIM-73L+

Level 4 (LO Power +4 dBm) 2400 to 7000 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.
Permanent damage may occur if any of these limits are exceeded.

Pin Connections

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

Features

- wide bandwidth, 2400 to 7000 MHz
- low conversion loss, 6.2 dB typ.
- excellent IF BW, DC to 3000 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

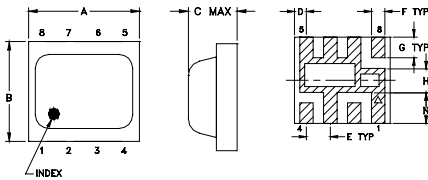
- satellite up and down converters
- defense radar and communications
- line of sight links
- WIFI
- blue tooth
- VSAT
- ISM

CASE STYLE: HV1195
PRICE: \$9.95 ea. QTY (10-49)

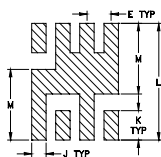
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Outline Drawing



PCB Land Pattern

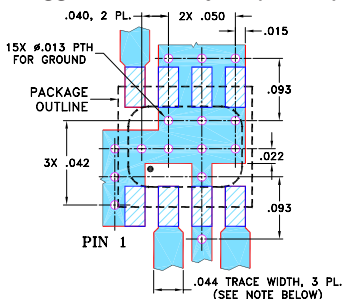


Suggested Layout,
Tolerance to be within ±0.002

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:

1. 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.
2. 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

Electrical Specifications

FREQUENCY (MHz)	CONVERSION LOSS* (dB)			LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)		
	LO/RF $f_c - f_u$	IF	Typ. σ Max.	Typ.	Min.	Typ.	Min.			
2400-7000	DC-3000									
2400-3200			6.3	0.1	8.5	35	28	20	14	10
3200-4200			6.1	0.1	7.8	32	27	26	20	12
4200-7000			6.0	0.2	8.5	23	17	18	11	9

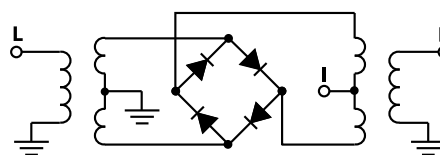
1 dB Compression: +1 dBm typ.

* 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)
RF	LO	LO +4dBm	LO +4dBm	LO +4dBm	LO +4dBm	LO +4dBm
2400.00	2431.00	6.89	35.71	17.07	2.65	2.95
2500.00	2531.00	6.57	37.21	17.53	2.82	2.44
2700.00	2731.00	6.19	39.47	19.32	2.87	1.96
2900.00	2931.00	6.05	34.89	22.18	2.83	1.72
3100.00	3131.00	5.90	32.79	24.37	2.73	1.74
3300.00	3331.00	6.11	32.25	27.18	2.76	1.88
3500.00	3531.00	6.29	31.58	28.20	2.70	2.03
3700.00	3731.00	6.19	31.36	29.17	2.41	2.29
4000.00	4031.00	6.26	33.62	35.84	2.70	2.11
4400.00	4431.00	6.28	30.28	21.82	3.38	1.87
4800.00	4831.00	7.37	30.30	16.05	4.73	2.03
5200.00	5231.00	6.64	28.00	17.21	3.43	2.77
5600.00	5631.00	6.18	25.85	20.00	2.75	2.66
5900.00	5931.00	5.89	25.08	22.79	2.20	2.60
6100.00	6131.00	5.78	24.38	26.07	2.05	3.49
6300.00	6331.00	5.73	23.41	29.97	1.68	2.46
6500.00	6531.00	5.84	23.16	29.13	1.61	1.72
6700.00	6731.00	5.88	23.17	26.55	1.61	1.54
6900.00	6931.00	5.73	22.21	26.06	1.36	1.25
7000.00	7031.00	5.78	21.68	24.72	1.44	1.20

Electrical Schematic



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The Design Engineers Search Engine



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IF/RF MICROWAVE COMPONENTS

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