

Frequency Mixer WIDE BAND

SIM-14LH+

Level 10 (LO Power +10 dBm) 3700 to 10000 MHz



Generic photo used for illustration purposes only

CASE STYLE: HV1195

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, 3700 to 10000 MHz
- low conversion loss, 6.7 dB typ.
- high L-R isolation, 38 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

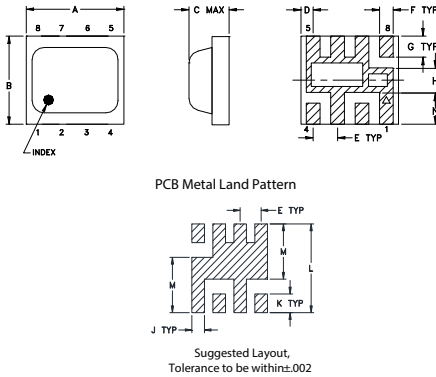
Applications

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

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Available Tape and Reel at no extra cost
Reel Size: 7" Devices/Reel: 10, 20, 50, 100, 200, 500

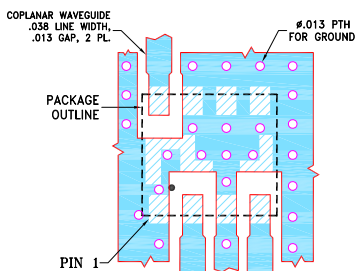
Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.200	.180	.087	.025	.050	.028	.043
5.08	4.57	2.2098	0.64	1.27	0.71	1.09
H	J	K	L	M	N	wt
.050	.030	.043	.204	.127	0.065	grams
1.27	0.76	1.09	5.18	3.23	1.65	0.08

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



- NOTES:**
1. TRACE WIDTH AND GAP ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .020±.0015"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH AND GAP 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_i-f_u	IF	Typ. σ Max.	Typ. Min.	Typ. Min.	Typ. Min.	Typ.	
3700-10000	DC-4000							
3700-6200			6.7 0.3 8.3	38 29		17 11	19	
6200-10000			6.7 0.2 8.9	35 21		17 10	12	

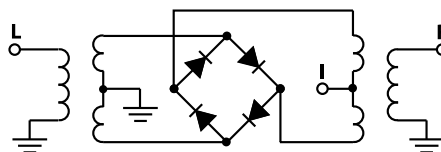
1 dB Compression: +5 dBm typ.

* 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
3560.00	3590.00	7.30	40.15	18.87	2.43	10.16
3740.00	3770.00	6.82	41.27	19.21	2.66	5.72
4100.00	4130.00	6.97	39.63	19.14	3.31	3.88
4280.00	4310.00	6.98	37.73	18.69	3.39	3.74
4460.00	4490.00	7.07	37.45	17.41	3.38	3.17
4640.00	4670.00	6.93	37.50	16.34	2.95	2.36
4820.00	4850.00	6.65	38.46	16.08	3.15	2.02
5000.00	5030.00	6.74	40.39	15.55	3.53	1.54
5600.00	5630.00	7.57	39.12	14.89	4.40	1.40
6280.00	6310.00	7.02	34.27	15.14	4.33	2.83
6620.00	6650.00	6.74	29.98	14.24	3.08	2.69
6960.00	6990.00	6.30	31.24	14.80	2.44	2.91
7300.00	7330.00	5.77	32.63	15.10	1.77	3.59
7640.00	7670.00	5.56	31.66	14.68	1.19	3.25
7980.00	8010.00	5.92	29.76	13.75	1.42	3.04
8320.00	8350.00	6.27	28.44	14.18	1.74	2.43
9000.00	9030.00	7.08	40.25	19.61	3.19	1.31
9500.00	9530.00	7.74	40.11	23.53	3.81	1.49
9810.00	9840.00	7.99	37.87	21.82	4.39	1.80
10120.00	10150.00	8.04	35.70	21.02	4.73	2.05

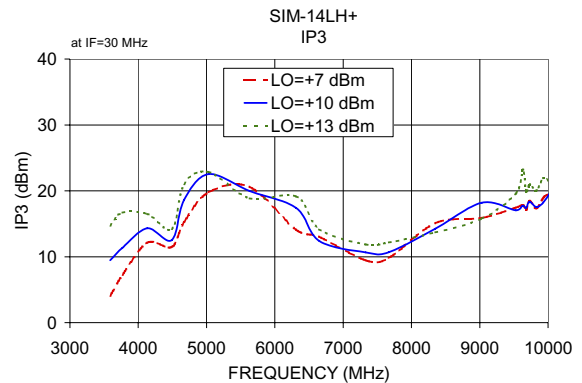
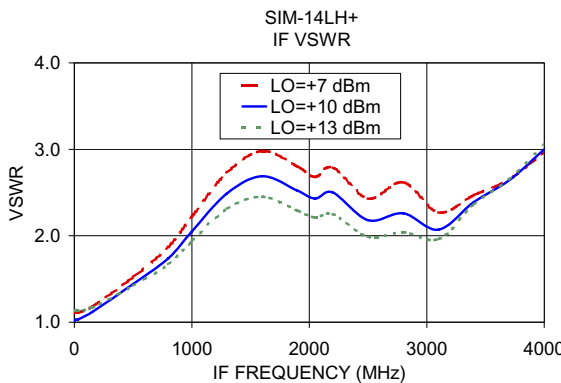
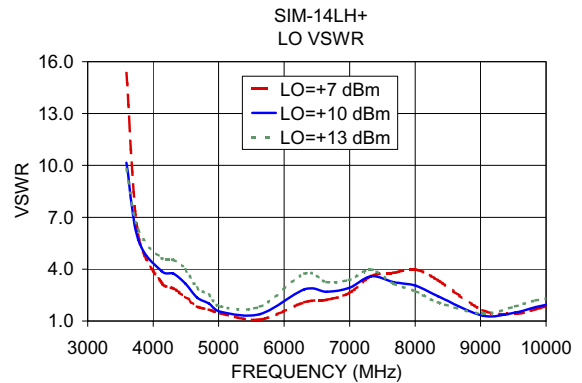
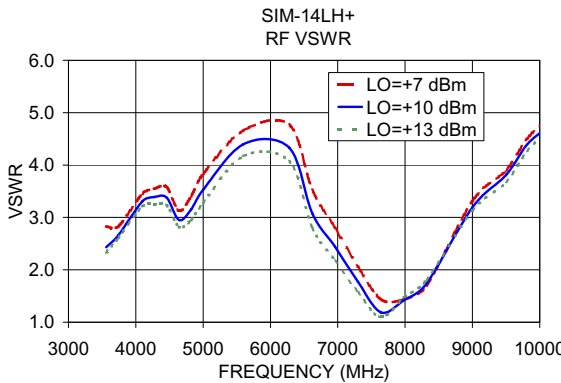
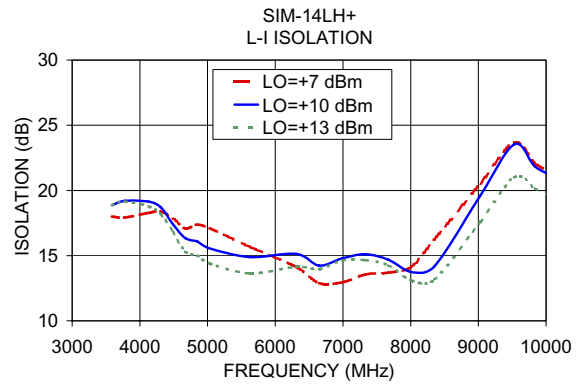
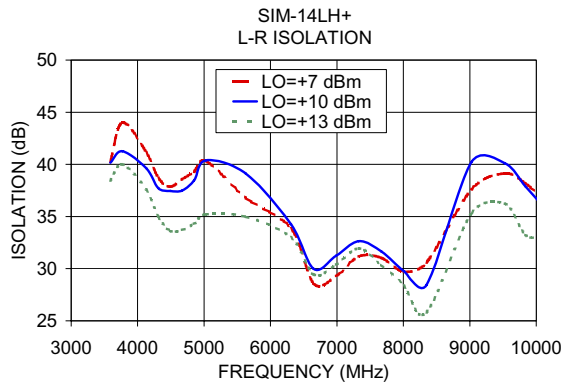
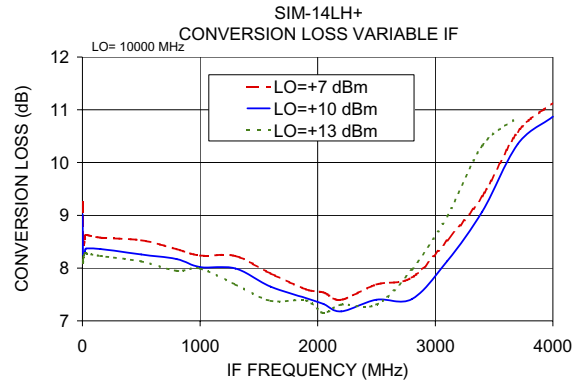
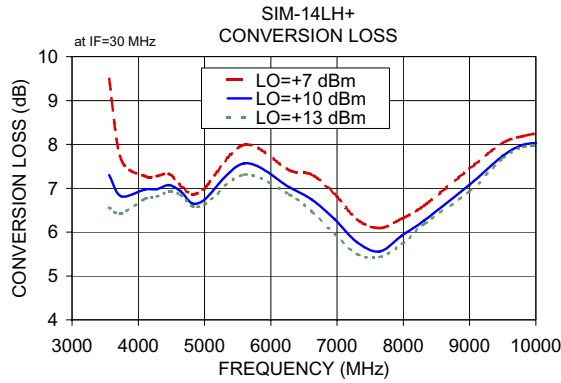
Electrical Schematic



Notes

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