

Ceramic Surface Mount Frequency Mixer WIDE BAND

SIM-83LH+

Level 10 (LO Power +10 dBm) 1700 to 8000 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, 1700 to 8000 MHz
- low conversion loss, 6.0 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

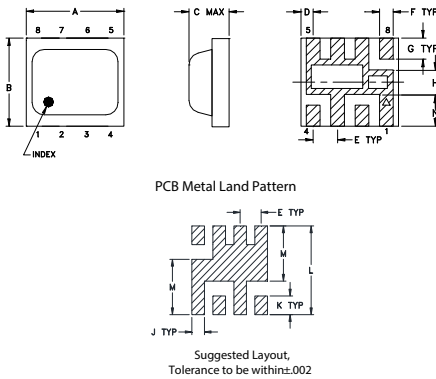
+RoHS Compliant

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	Devices/Reel
7"	10, 20, 50, 100, 200, 500

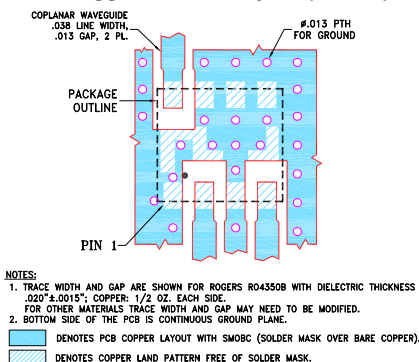
Outline Drawing



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

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

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.	
1700-8000	DC-3000							
1700-3200			6.0	0.1	7.9	33	25	10
3200-3700			5.7	0.1	6.7	30	24	15
3700-4200			5.8	0.1	7.2	31	24	18
4200-8000			6.0	0.2	8.9	23	16	11

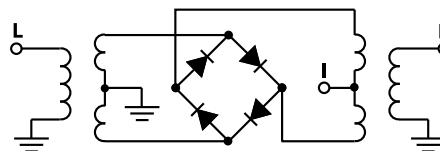
1 dB Compression: +3 dBm typ.

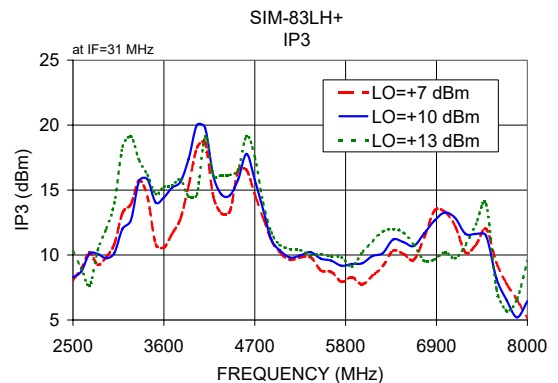
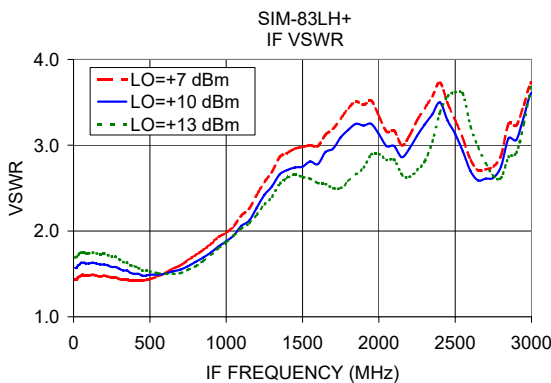
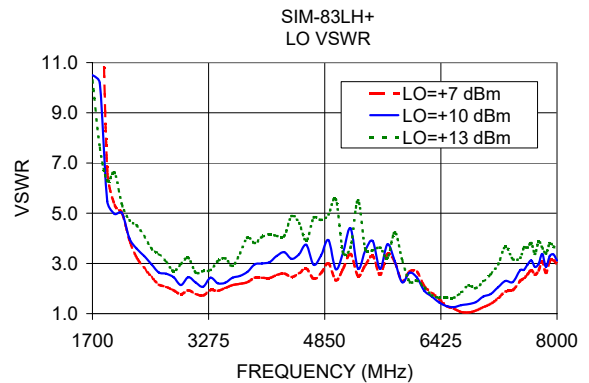
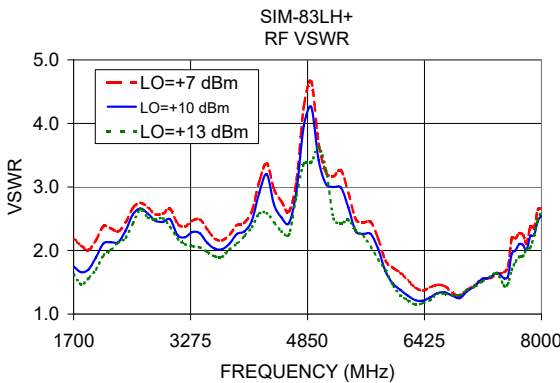
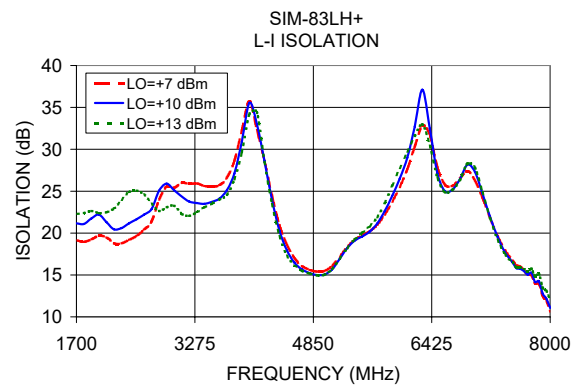
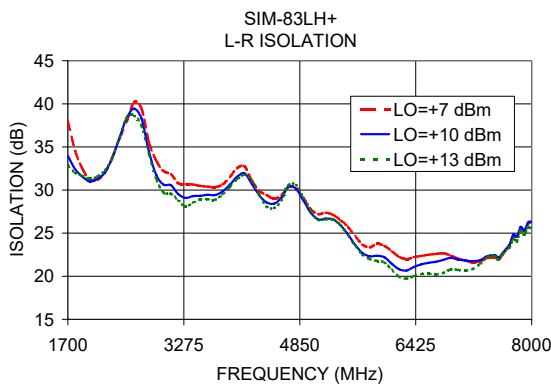
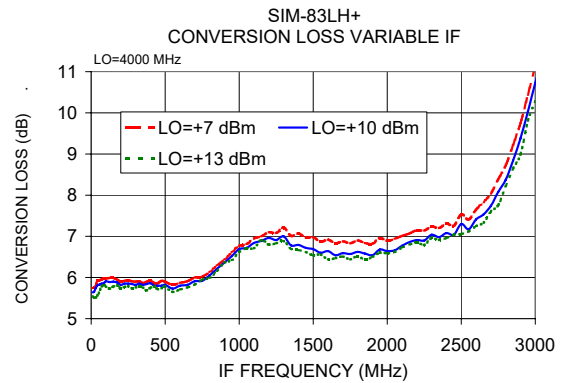
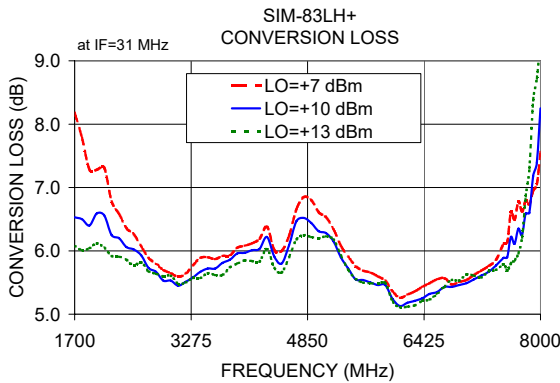
* Conversion loss at 30 MHz IF σ is a measure of repeatability from unit to unit.

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 +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	
1700.00	1731.00	6.53	33.97	21.16	1.75	10.50				
1800.00	1831.00	6.50	32.41	21.09	1.66	10.19				
2000.00	2031.00	6.59	30.98	22.21	1.89	4.97				
2300.00	2331.00	6.20	33.66	20.60	2.13	3.59				
2600.00	2631.00	5.93	39.44	22.21	2.66	2.64				
3000.00	3031.00	5.53	30.63	25.11	2.49	2.45				
3400.00	3431.00	5.67	29.29	23.49	2.27	2.21				
3800.00	3831.00	5.86	29.82	27.10	2.11	2.66				
4200.00	4231.00	6.03	30.69	28.64	2.91	3.30				
4600.00	4631.00	6.09	29.09	16.45	2.43	3.74				
5000.00	5031.00	6.31	27.35	15.06	3.42	2.77				
5400.00	5431.00	5.72	25.94	19.10	2.68	3.51				
5800.00	5831.00	5.46	22.31	22.64	2.03	3.08				
6200.00	6231.00	5.18	20.81	32.72	1.29	1.91				
6600.00	6631.00	5.35	21.56	25.01	1.33	1.26				
7000.00	7031.00	5.49	21.93	27.31	1.36	1.68				
7400.00	7431.00	5.77	22.35	17.70	1.65	2.26				
7700.00	7731.00	6.35	23.66	15.04	2.10	2.86				
7900.00	7931.00	7.18	25.31	12.78	2.24	3.29				
8000.00	8031.00	8.25	26.35	11.07	2.55	3.12				

Electrical Schematic





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