



**THE DATASHEET OF
SIM-83+**



Ceramic Surface Mount Frequency Mixer WIDE BAND

SIM-83+

Level 7 (LO Power +7 dBm) 2300 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, 2300 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

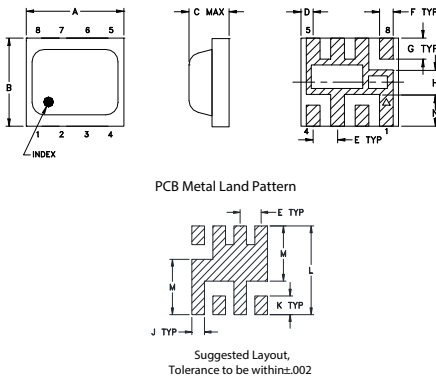
+RoHS Compliant

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

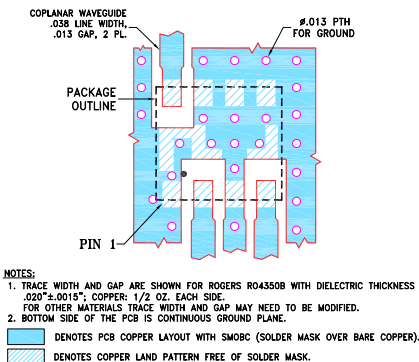
Outline Drawing



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)



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_o	IF	Typ. σ Max.	Typ. Min.	Typ. Min.	Typ.		
2300-8000	DC-3000							
2300-3200			6.0	0.1	7.8	35	27	12
3200-3700			5.8	0.1	7.0	31	26	13
3700-4200			5.9	0.2	7.4	32	26	15
4200-8000			6.0	0.2	8.9	23	17	10

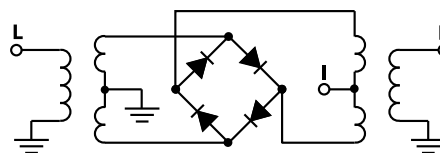
1 dB Compression: +1 dBm typ.

* 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 +7dBm	LO +7dBm	LO +7dBm	LO +7dBm	LO +7dBm
2300.00	2331.00	6.58	33.75	18.78	2.30	3.23
2500.00	2531.00	6.26	37.97	19.66	2.67	2.46
2700.00	2731.00	5.89	39.45	21.43	2.68	2.07
3000.00	3031.00	5.65	32.22	25.41	2.65	1.93
3300.00	3331.00	5.77	30.68	25.94	2.47	1.94
3600.00	3631.00	5.87	30.39	25.71	2.19	2.14
3900.00	3931.00	6.05	31.52	32.26	2.40	2.43
4200.00	4231.00	6.19	31.06	28.64	3.09	2.54
4500.00	4531.00	6.00	28.97	18.58	2.77	2.60
4800.00	4831.00	6.85	30.21	15.63	4.27	2.62
5100.00	5131.00	6.53	27.21	16.08	3.22	2.80
5400.00	5431.00	5.91	26.54	19.19	2.91	2.93
5700.00	5731.00	5.66	23.69	20.99	2.45	3.38
6000.00	6031.00	5.36	23.52	25.50	1.73	2.68
6500.00	6531.00	5.49	22.36	27.85	1.42	1.31
6900.00	6931.00	5.51	22.41	27.41	1.28	1.12
7300.00	7331.00	5.76	21.74	19.64	1.56	1.88
7600.00	7631.00	6.61	22.46	16.02	2.19	2.56
7800.00	7831.00	6.79	24.63	13.98	2.12	3.07
8000.00	8031.00	7.56	26.32	10.64	2.67	2.95

Electrical Schematic



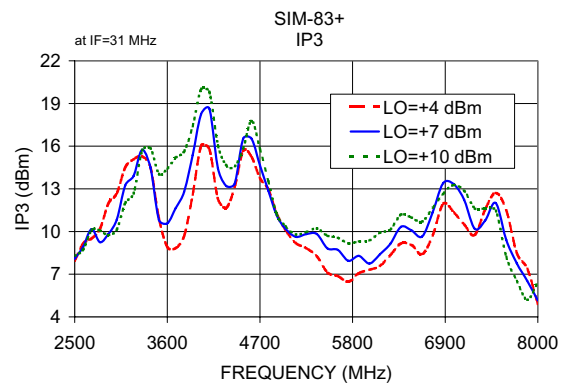
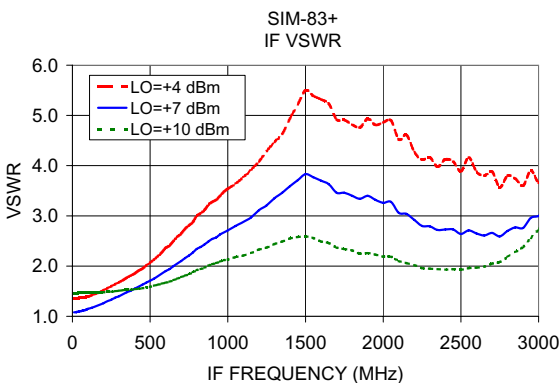
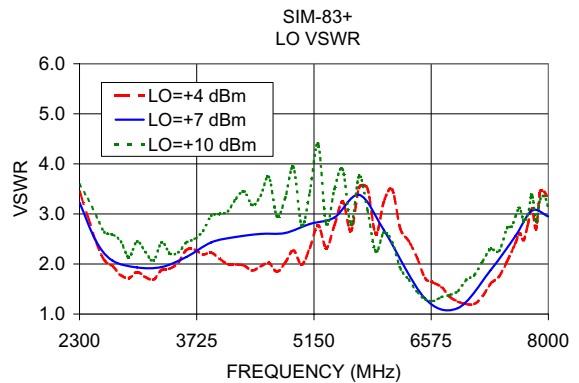
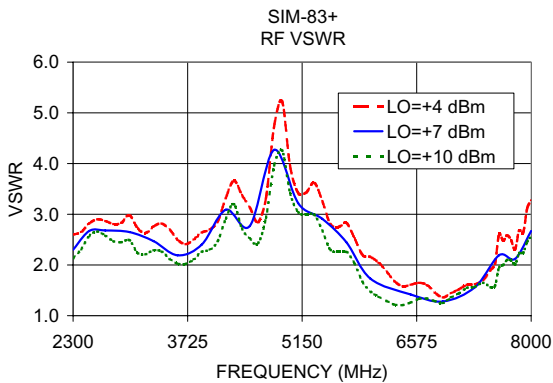
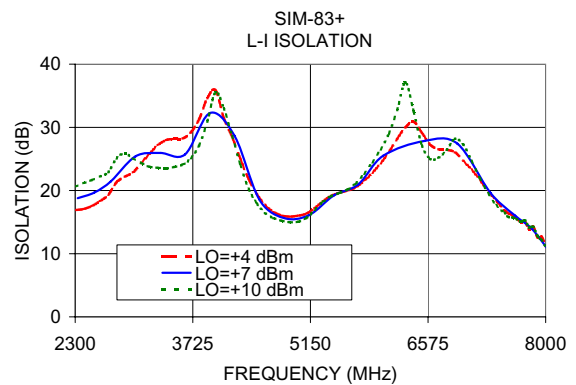
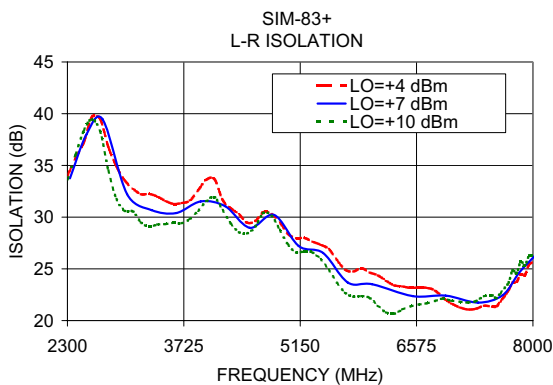
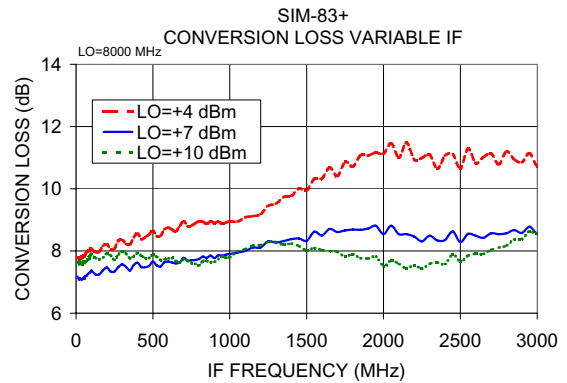
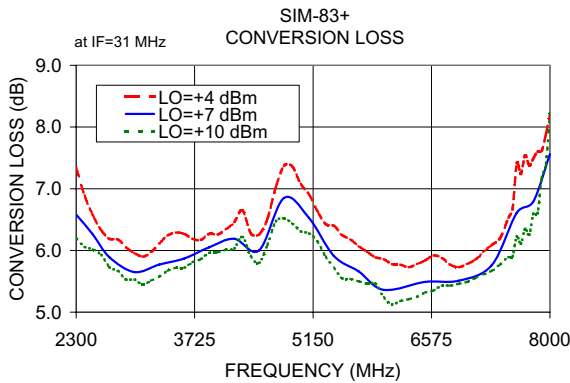
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