

Surface Mount Frequency Mixer

SCM-2500+

Level 7 (LO Power +7 dBm) 500 to 2500 MHz



Units are not marked with NL suffix

CASE STYLE: YY109

Maximum Ratings

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

Permanent damage may occur if any of these limits are exceeded.

Pin Connections

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

Features

- low conversion loss, 5.88 dB typ.
- wide bandwidth, 500 to 2500 MHz
- high L-R isolation, 35 dB typ.

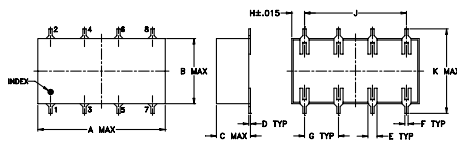
Applications

- UHF
- cellular
- satellite distribution
- GPS/PCS

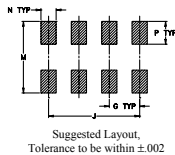
+RoHS Compliant

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

Outline Drawing



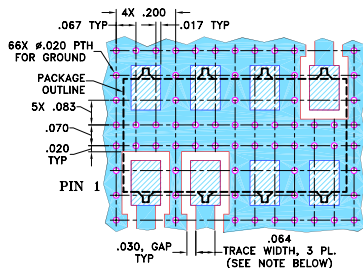
PCB Land Pattern



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.75	.38	.20	.010	.050	.020	.200
19.05	9.65	5.08	0.25	1.27	0.51	5.08
H	J	K	M	N	P	wt
.075	.600	.720	.740	.100	.150	grams
1.91	15.24	18.29	18.80	2.54	3.81	1.6

Demo Board MCL P/N: TB-171 Suggested PCB Layout (PL-130)



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.030" ± 0.002"; 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

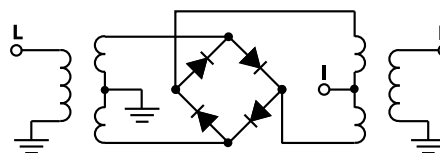
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)		LO-IF ISOLATION (dB)		IP3 at center band (dBm)				
		Typ.	Min.	Typ.	Min.					
500-2500	DC-500	5.88	.08	6.9	10	35	22	18	12	13

1 dB COMP: +1 dBm typ.
m= mid band [2f_L to f_U/2]

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
500.00	530.00	5.45	54.10	25.42	1.90	2.44
650.00	680.00	5.24	46.72	24.17	1.19	2.42
800.00	830.00	5.18	50.53	24.04	1.21	2.60
950.00	980.00	5.34	39.92	22.92	1.56	2.84
1000.00	1030.00	5.61	38.68	21.93	1.74	2.92
1100.00	1070.00	6.52	35.67	19.02	1.90	2.94
1150.00	1120.00	6.54	35.25	17.69	2.78	2.95
1250.00	1220.00	6.21	35.47	16.09	3.17	2.82
1350.00	1320.00	6.10	38.09	15.24	3.20	2.88
1500.00	1470.00	6.10	40.51	17.24	3.59	3.05
1650.00	1620.00	6.97	39.61	20.00	3.82	3.00
1750.00	1720.00	7.73	40.56	21.79	4.92	2.60
1800.00	1770.00	7.87	41.20	23.27	5.75	2.00
1950.00	1920.00	7.91	37.08	25.03	6.73	1.71
2000.00	1970.00	7.83	36.28	24.82	6.63	1.59
2150.00	2120.00	7.95	34.61	21.63	7.22	1.54
2300.00	2270.00	8.12	34.07	19.31	7.66	1.68
2400.00	2370.00	8.32	33.85	18.30	8.43	2.03
2450.00	2420.00	7.93	33.63	17.81	8.60	2.45
2500.00	2470.00	7.98	34.92	18.95	8.16	2.65

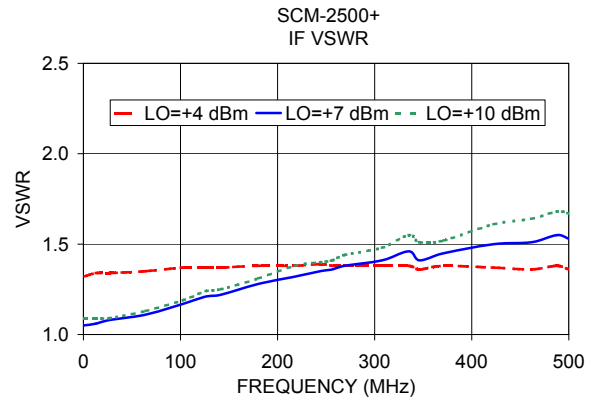
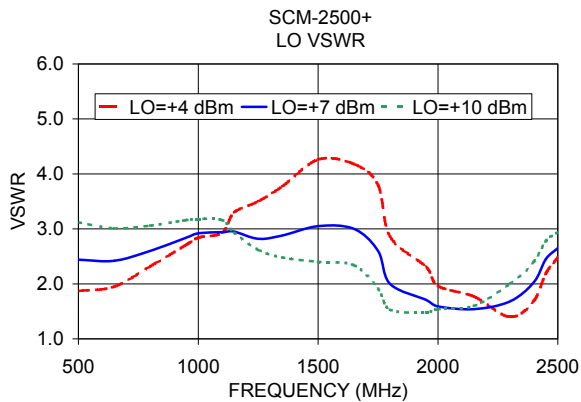
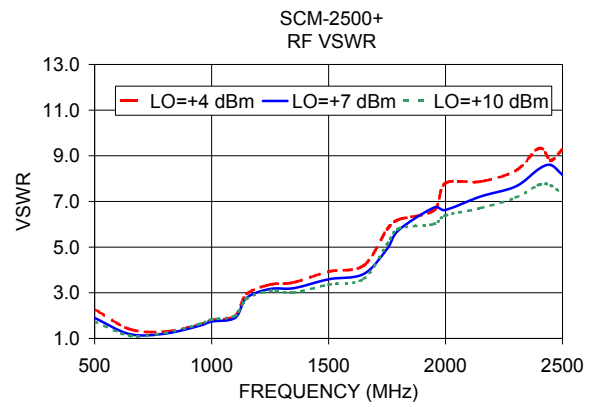
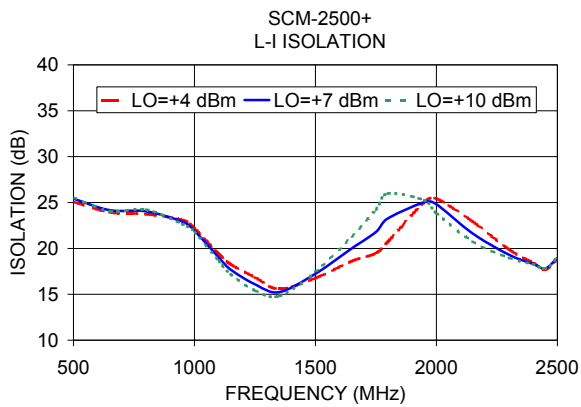
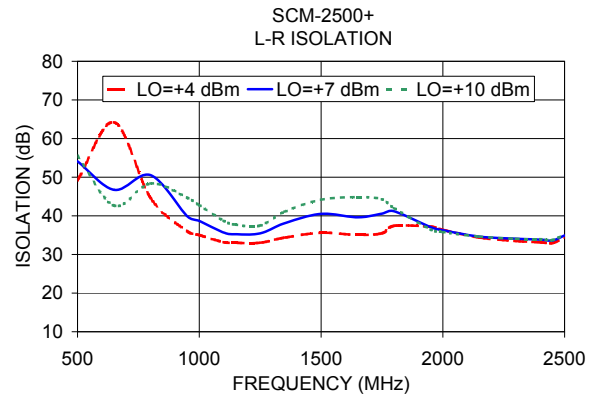
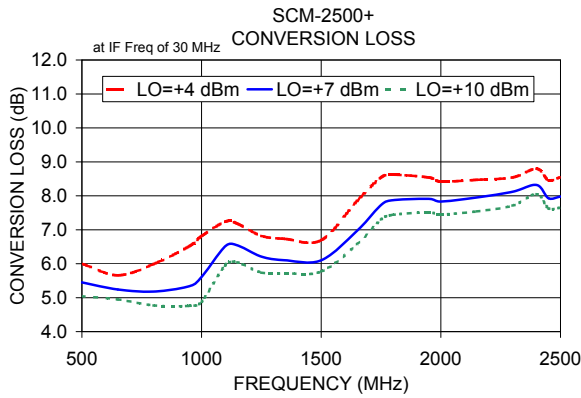
Electrical Schematic



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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