

Surface Mount Frequency Mixer

SCM-1+ SCM-1

Level 7 (LO Power +7 dBm) 1 to 500 MHz

Maximum Ratings

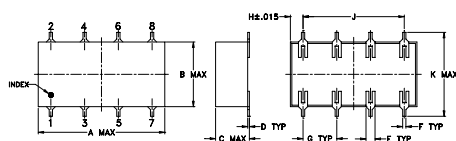
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	50mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

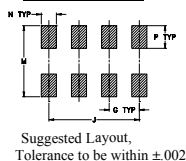
LO	8
RF	1
IF	3,4 [^]
GROUND	2,5,6,7

[^] pins must be connected together externally

Outline Drawing



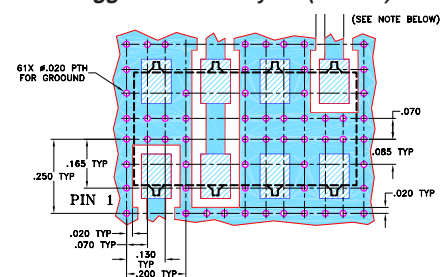
PCB Land Pattern



Outline Dimensions (inch)

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-170 Suggested PCB Layout (PL-084)



Features

- low conversion loss, 5.72 dB typ.
- excellent L-R & L-I isolation, 45 dB typ.
- IF response to DC

Applications

- VHF/UHF
- defense-federal communications
- instrumentation



CASE STYLE: YY109
PRICE: \$4.75 ea. QTY (1-9)

+RoHS Compliant

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

Electrical Specifications

FREQUENCY (MHz)		CONVERSION LOSS (dB)				LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
LO/RF f_L - f_U	IF	Mid-Band m		Total Range		L		M		U		L		M		U		
		$\overline{X}$	σ	Max.	Range Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	
1-500	DC-500	5.72	0.10	7.0	8.0	60	40	45	35	40	30	50	40	45	35	40	25	10

1 dB COMP.: +1 dBm typ.

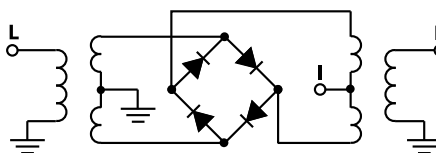
L = low range [f_L to $10 f_L$]
m= mid band [$2f_L$ to $f_L/2$]

M = mid range [$10 f_L$ to $f_U/2$]
U = upper range [$f_U/2$ to f_U]

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
1.00	31.00	6.20	72.88	66.78	1.23	2.68
2.00	32.00	6.16	72.45	67.15	1.14	2.55
5.00	35.00	5.16	72.07	67.07	1.11	2.69
10.00	40.00	5.46	70.97	66.57	1.12	2.66
20.00	50.00	5.51	68.99	65.69	1.13	2.52
32.19	62.19	5.48	65.97	64.17	1.13	2.50
50.00	80.00	5.52	62.51	62.11	1.15	2.48
78.97	48.97	5.53	59.28	58.98	1.15	2.49
100.00	70.00	5.46	57.50	57.03	1.16	2.50
125.75	95.75	5.33	56.16	55.12	1.17	2.52
156.94	126.94	5.36	54.05	52.46	1.19	2.54
188.13	158.13	5.50	51.97	51.08	1.22	2.54
219.31	189.31	5.56	50.13	49.66	1.27	2.53
250.00	220.00	5.61	50.85	46.65	1.30	2.50
281.69	251.69	5.72	48.93	45.50	1.36	2.56
328.47	298.47	5.69	46.10	46.51	1.47	2.61
375.25	345.25	5.80	43.70	44.36	1.67	2.59
422.03	392.03	6.12	45.26	41.75	1.76	2.72
453.22	423.22	6.26	45.18	41.16	1.84	2.87
500.00	470.00	6.56	43.13	42.64	1.92	3.00

Electrical Schematic



Notes

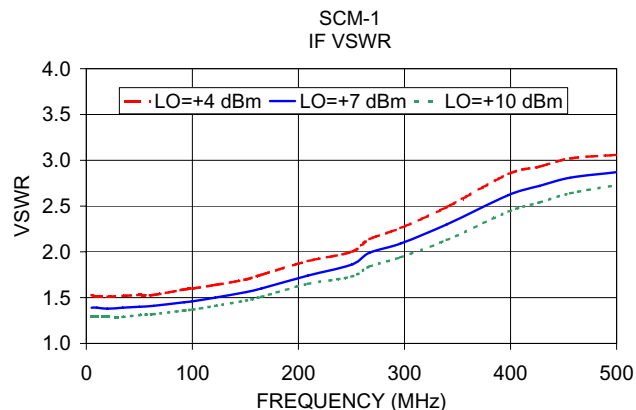
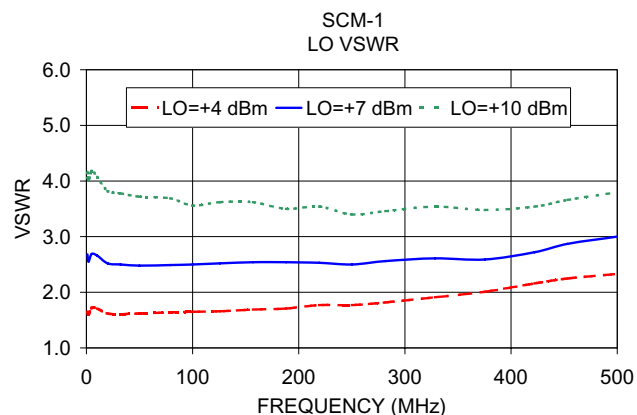
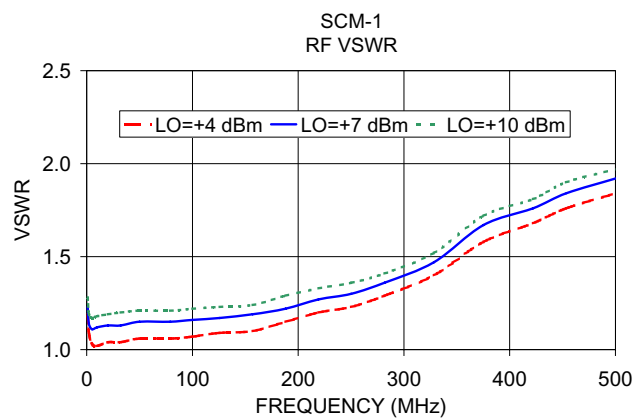
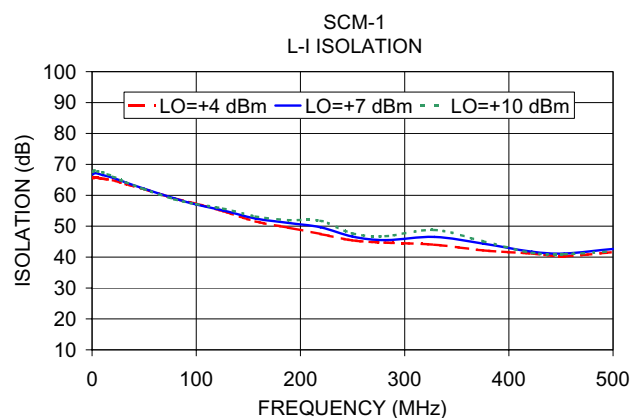
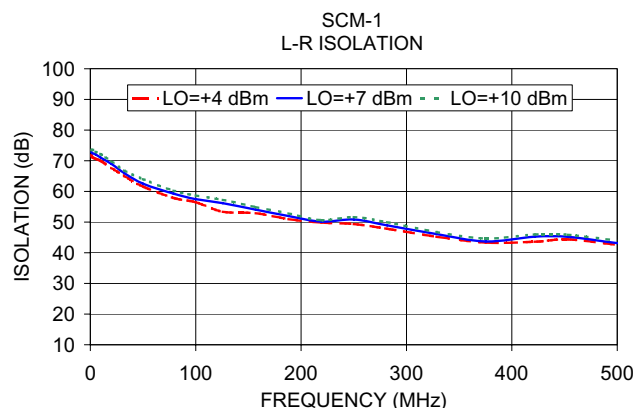
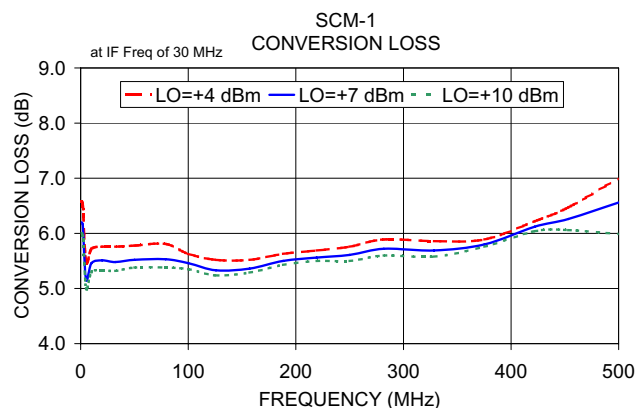
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Performance Charts



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