

Surface Mount Frequency Mixer

SCM-2+ SCM-2

Level 7 (LO Power +7 dBm) 5 to 1000 MHz



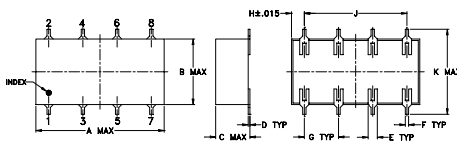
Maximum Ratings

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

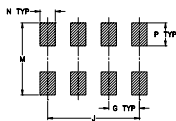
Pin Connections

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

Outline Drawing



PCB Land Pattern

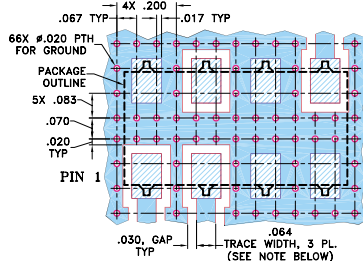


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.75	.38	.20	.10	.050	.020	.200
19.05	9.65	5.08	2.54	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-172 Suggested PCB Layout (PL-132)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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.
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
4. DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Features

- low conversion loss, 5.76 dB typ.
- high isolation, 40 dB typ.
- wideband, 5 to 1000 MHz

Applications

- VHF/UHF
- cellular
- GSM/ISM

CASE STYLE: YY109
PRICE: \$5.45 ea. QTY (1-9)

+ RoHS compliant in accordance
with EU Directive (2002/95/EC)

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)					
		L	M	U	L	M	U						
5-1000	DC-500	50	40	25	35	20	55	30	40	25	30	18	11

1 dB COMP.: +1 dBm typ.

L = low range [f_l to $10 f_l$]
M = mid band [$2 f_l$ to $f_u/2$]

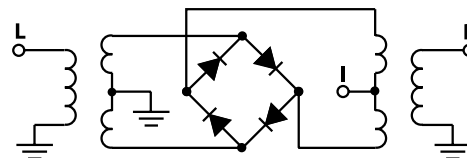
M = mid range [$10 f_l$ to $f_u/2$]

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
5.00	35.00	7.70	91.15	81.65	5.79	4.26
10.00	40.00	6.74	79.06	74.26	2.25	3.25
20.00	50.00	6.43	72.63	67.23	1.59	3.04
35.15	65.15	6.02	67.42	61.82	1.30	2.89
50.00	80.00	5.92	62.72	54.16	1.19	2.77
65.30	95.30	5.79	61.08	56.02	1.12	2.72
100.00	70.00	5.69	57.24	54.55	1.02	2.63
155.76	125.76	5.65	52.92	50.70	1.11	2.61
200.00	170.00	5.73	50.87	48.52	1.20	2.60
246.21	216.21	5.83	47.20	46.40	1.30	2.60
336.67	306.67	5.96	45.14	43.55	1.51	2.60
427.12	397.12	5.89	41.17	41.75	1.68	2.74
500.00	470.00	6.32	42.19	40.98	1.78	2.72
547.73	517.73	6.50	41.49	40.81	1.85	2.80
608.03	578.03	6.41	41.53	38.45	1.93	3.05
668.33	638.33	6.50	38.93	37.08	2.01	3.17
758.79	728.79	7.67	41.79	36.35	2.18	3.43
819.09	789.09	7.83	43.08	35.42	2.25	3.47
909.55	879.55	7.89	45.07	33.32	2.12	3.45
1000.00	970.00	7.08	39.99	28.91	1.90	3.51

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 CERTIFIED

ALL NEW
minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

REV. A
M98898
SCM-2
DJ/TD/CP
070503
Page 1 of 2

