

# Surface Mount Frequency Mixer

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

SCM-2+  
SCM-2



## 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

## Features

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

## Applications

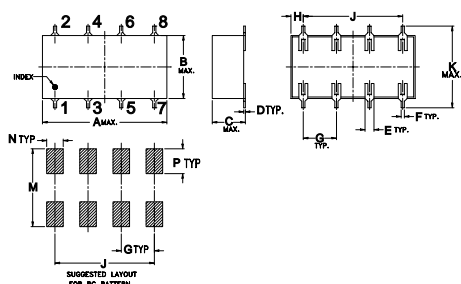
- VHF/UHF
- cellular
- GSM/ISM

CASE STYLE: YY101  
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.

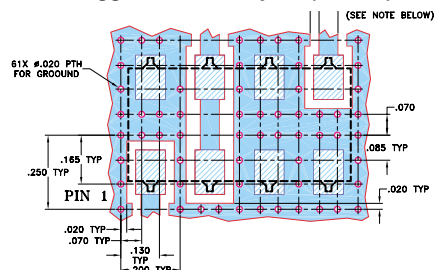
## Outline Drawing



## 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	.450	.470	.100	.150	grams
1.91	15.24	11.43	11.94	2.54	3.81	1.6

## Demo Board MCL P/N: TB-170 Suggested PCB Layout (PL-084)



DTES: 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.  
3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
4. 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)
LO/RF	Mid-Band m	L	L	
f <sub>L</sub> -f <sub>U</sub>	σ	M	M	
	Total Range	U	U	
5-1000	5.76 0.03 8.3 9.8	50 40 40 25 35 20	55 30 40 25 30 18	11

1 dB COMP.: +1 dBm typ.

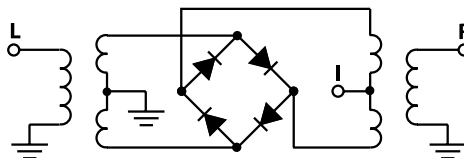
L = low range [f<sub>L</sub> to 10 f<sub>L</sub>]  
m = mid band [2 f<sub>L</sub> to f<sub>U</sub>/2]

M = mid range [10 f<sub>L</sub> to f<sub>U</sub>/2] U = upper range [f<sub>U</sub>/2 to f<sub>U</sub>]

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

## Electrical Schematic



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# Performance Charts

## SCM-2+ SCM-2

