

# Surface Mount Frequency Mixer

Level 7 (LO Power + 7dBm) 5 to 1900 MHz

**RMS-11X+**  
**RMS-11X**



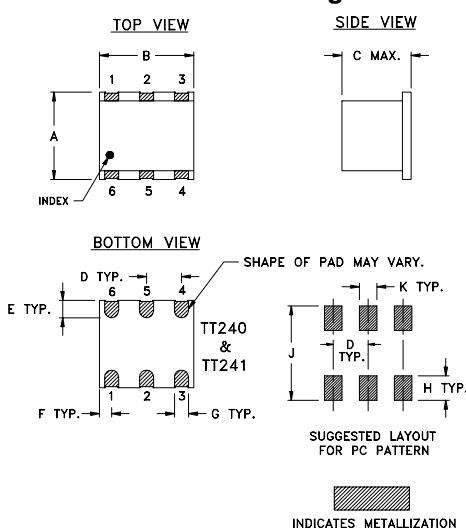
## Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA

## Pin Connections

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

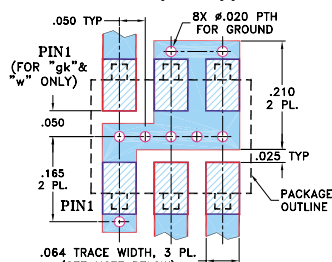
## Outline Drawing



## Outline Dimensions (inch mm)

A	B	C	D	E	F
.250	.31	.20	.100	.050	.055
6.35	7.87	5.08	2.54	1.27	1.40
G	H	J	K		wt
.040	.070	.270	.050		grams
1.02	1.78	6.86	1.27		0.50

**Demo Board MCL P/N: TB-03**  
**Suggested PCB Layout (PL-052)**  
"w" loc. of pin 1 applies.



NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .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

## Features

- excellent L-R isolation, 35 dB typ.
- conversion loss, 7.1 dB typ.
- small size, 0.25"x0.31"x0.2"

## Applications

- PCN
- satellite distribution
- GPS

CASE STYLE: TT240  
PRICE: \$3.95 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)	
LO/RF	IF	$f_L - f_U$	$\bar{X}$	$\sigma$	Max.	Total Range	L		M		U		L		M		U		
							Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.		Min.
5-1900	5-1000	7.1	.10	8.2	9.8		58	45	35	20	27	18	56	45	37	20	27	20	10

1 dB COMP: +1 dBm typ.

For phase detection, DC output positive with in-phase RF & LO.

L = low range [ $f_L$  to 10  $f_U$ ]

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

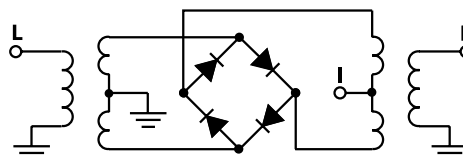
M = mid range [ $10 f_L$  to  $f_U/2$ ]

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 +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm	LO +7 dBm
5.00	35.00	6.69	57.72	66.80	1.21	2.98
10.01	40.01	6.67	57.22	64.98	1.22	2.83
50.04	80.04	6.66	51.74	53.60	1.23	2.78
103.56	73.56	6.72	46.56	47.68	1.23	2.75
189.86	159.86	6.79	42.32	43.39	1.26	2.72
241.95	211.95	6.90	40.60	41.62	1.31	2.59
308.34	278.34	7.00	38.96	39.89	1.32	2.59
392.94	362.94	7.11	37.54	38.49	1.37	2.56
500.75	470.75	7.20	35.72	37.03	1.44	2.60
638.14	608.14	6.65	34.40	36.08	1.52	2.53
720.38	690.38	7.33	33.17	35.36	1.54	2.52
918.04	888.04	7.35	31.46	34.64	1.53	2.61
950.00	920.00	7.26	30.90	34.39	1.54	2.63
1036.36	1006.36	7.24	30.00	34.46	1.52	2.68
1200.00	1170.00	7.58	30.35	34.77	1.40	2.79
1320.71	1290.71	7.59	32.03	34.21	1.34	2.90
1500.00	1470.00	7.67	35.10	33.40	1.26	2.89
1800.00	1770.00	8.36	38.63	32.68	1.42	3.62
1850.00	1820.00	8.56	36.54	32.31	1.47	3.73
1900.00	1870.00	8.80	34.84	32.78	2.04	3.94

## Electrical Schematic



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## Performance Charts

