

Surface Mount Frequency Mixer

RMS-11X+ RMS-11X

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



Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power	200mW
IF Current	40mA
Permanent damage may occur if any of these limits are exceeded.	

Pin Connections

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

Features

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

Applications

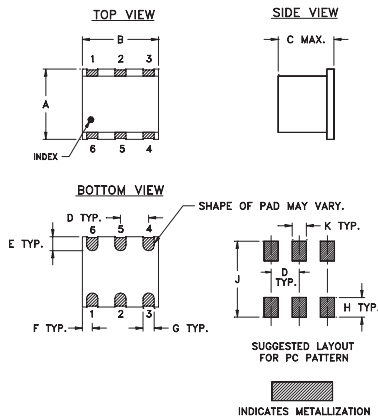
- PCN
- satellite distribution
- GPS

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.

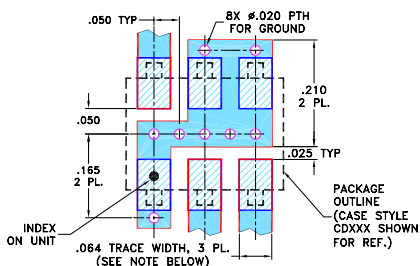
Outline Drawing



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)



- 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

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											
5-1900	5-1000	7.1	.10	8.2	9.8	58	45	35	20	27	18	56	45	37	20	27	20	10

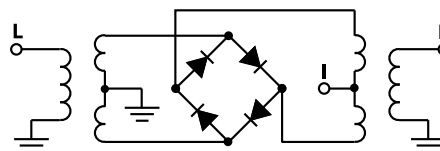
1 dB COMP.: +1 dBm typ.
For phase detection, DC output positive with in-phase RF & LO.

L = low range [f_1 to $10 f_1$]
M = mid band [$2f_1$ to $f_1/2$]
U = upper range [$f_1/2$ to f_1]

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	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



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

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RMS-11X
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Page 1 of 2

Performance Charts

