

Surface Mount Frequency Mixer

RMS-1MH+ RMS-1MH

Level 13 (LO Power +13 dBm) 2 to 500 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	4
IF	5
GROUND	2,3,6

Features

- excellent L-R isolation, 44 dB typ.
- conversion loss, 5.65 dB typ.
- small size, 0.25"x0.31"x0.2"

Applications

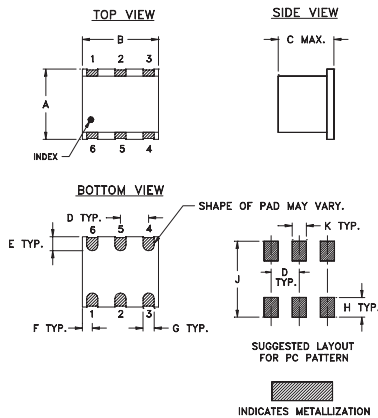
- HF & VHF communications
- intermediate frequency for down converters

CASE STYLE: TT240
PRICE: \$8.95 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.

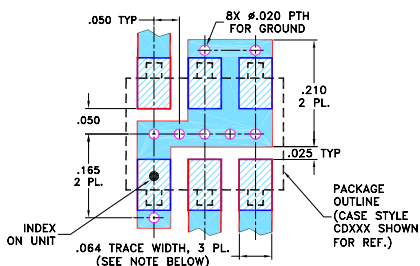
Outline Drawing



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

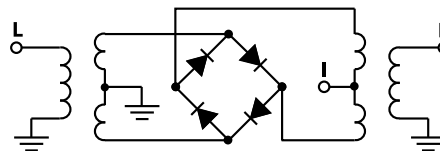
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)
		L		M		U		L		M		U		
$f_L - f_U$	\bar{X} σ Max.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.	Min.	Typ.
2-500 DC-500	6.07 .16 7.0 8.0	58	45	44	25	30	20	55	40	36	25	28	17	26

1 dB COMP: +9 dBm typ. For phase detection, DC output positive with in-phase RF & LO. L = low range [f_L to 10 f_L] m = mid band [$2f_L$ 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)	VSWR RF Port (:1)	Frequency (MHz)	Isolation L-R (dB)	Isolation L-I (dB)	VSWR LO Port (:1)
RF	LO	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm	LO +13dBm
2.10	32.10	6.68	2.42	10.50	95.44	63.71	1.79
4.10	34.10	6.36	2.54	14.50	90.48	60.97	1.80
6.10	36.10	6.32	2.59	20.50	85.55	57.99	1.78
10.10	40.10	6.28	2.60	24.50	81.96	56.51	1.78
14.10	44.10	6.27	2.57	30.50	79.59	54.62	1.78
18.10	48.10	6.26	2.53	35.00	77.37	53.48	1.79
20.10	50.10	6.22	2.52	40.10	75.20	52.34	1.79
25.10	55.10	6.20	2.48	50.10	71.74	50.40	1.79
50.10	80.10	6.14	2.29	80.10	64.50	46.30	1.78
100.10	130.10	6.13	1.89	105.10	60.46	43.60	1.77
125.10	155.10	6.11	1.71	155.10	55.39	40.81	1.80
150.10	180.10	6.07	1.56	205.10	51.72	39.49	1.79
175.10	205.10	6.16	1.45	255.10	49.15	38.65	1.84
200.10	230.10	6.18	1.41	305.10	46.78	37.95	1.88
250.10	280.10	6.16	1.39	330.10	46.50	37.64	1.91
300.10	330.10	6.24	1.41	355.10	45.71	37.18	1.90
350.10	380.10	6.31	1.41	405.10	43.38	35.68	1.95
400.10	430.10	6.37	1.42	430.10	42.53	34.62	1.96
425.10	455.10	6.50	1.44	455.10	41.47	33.69	1.93
500.00	470.00	6.51	1.70	470.00	40.85	33.01	1.96

Electrical Schematic



Mini-Circuits
ISO 9001 ISO 14001 AS 9100 CERTIFIED

For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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Page 1 of 2

Performance Charts

