

# Surface Mount Frequency Mixer

## RMS-2LH+ RMS-2LH

Level 10 (LO Power +10 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
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, 39 dB typ.
- conversion loss, 6.44 dB typ.
- small size, 0.25"x0.31"x0.2"

### Applications

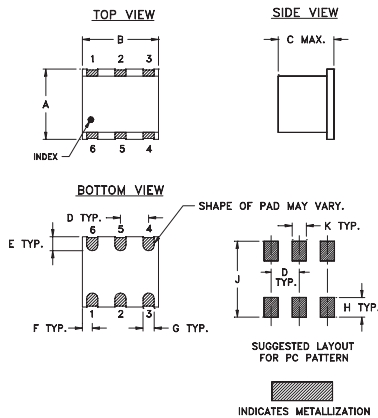
- HF & VHF communications
- intermediate frequency for down converters

CASE STYLE: TT100  
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.

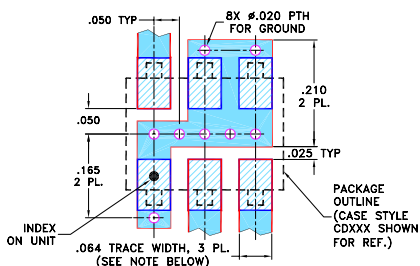
### Outline Drawing



### 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

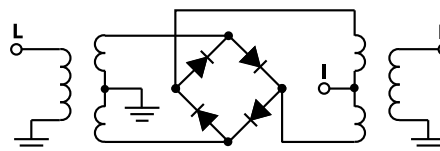
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)						LO-IF ISOLATION (dB)						IP3 at center band (dBm)				
		L		M		U		L		M		U						
5-1000	DC-1000	6.44	0.10	8.0	9.5	58	40	39	20	22	16	52	30	30	17	18	11	18

1 dB COMP: +5 dBm typ. For phase detection, DC output positive with in-phase RF & LO. L = low range [ $f_L$  to  $10 f_L$ ] 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)
5.00	35.00	6.77	63.03	59.74	1.36
10.00	40.00	6.92	60.63	54.85	1.24
20.00	50.00	6.93	56.56	48.96	1.20
35.15	65.15	6.82	52.70	44.78	1.20
50.00	80.00	6.80	50.21	42.03	1.20
65.30	95.30	6.77	48.42	40.14	1.20
100.00	70.00	6.71	46.01	37.18	1.20
155.76	125.76	6.67	44.69	34.75	1.22
200.00	170.00	6.65	42.20	33.10	1.24
246.21	216.21	6.76	40.22	31.46	1.26
306.52	276.52	6.78	37.07	29.28	1.31
366.82	336.82	6.62	33.94	26.64	1.37
427.12	397.12	6.68	30.94	24.95	1.44
500.00	470.00	6.70	28.40	22.81	1.54
577.88	547.88	6.71	25.77	20.52	1.68
668.33	638.33	7.07	23.71	18.54	1.84
758.79	728.79	7.63	21.83	16.38	2.03
849.24	819.24	8.30	20.52	14.77	2.27
909.54	879.54	8.82	20.13	14.18	2.42
1000.00	970.00	9.17	19.83	12.95	2.69

### 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

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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## Performance Charts

