

# Surface Mount Frequency Mixer

## LRMS-25J+ LRMS-25J

Level 10 (LO Power +10dBm) 750 to 2500 MHz



CASE STYLE: QQQ569  
PRICE: \$9.25 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.

### 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

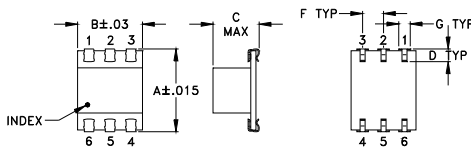
### Features

- low conversion loss, 5.2 dB typ.
- aqueous washable
- J-leads for strain relief

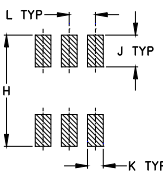
### Applications

- PCS
- GPS
- satellite distribution

### Outline Drawing



### PCB Land Pattern

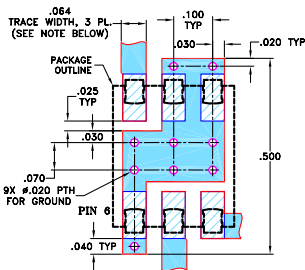


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.390	.31	.225	.060	--	.100	.045
9.91	7.87	5.72	1.52	--	2.54	1.14
H	J	K	L	M	wt	
.420	.120	.060	.100	--	grams	
10.67	3.05	1.52	2.54	--	0.50	

### Demo Board MCL P/N: TB-44+ Suggested PCB Layout (PL-083)



- NOTES: 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.  
■ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)  
▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

### Electrical Specifications

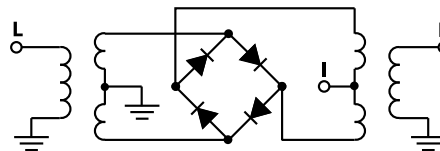
FREQUENCY (MHz)	CONVERSION LOSS (dB)	LO-RF ISOLATION (dB)	LO-IF ISOLATION (dB)	IP3 at center band (dBm)
LO/RF	IF			
$f_c - f_u$	$\bar{X}$ $\sigma$ Max.	Typ. Min.	Typ. Min.	Typ.
750-2500	DC-600	5.2 .15 9.5	35 17	20 7 18

1 dB COMP.: +5 dBm typ.

### 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 +10dBm	LO +10dBm	LO +10dBm	LO +10dBm	LO +10dBm
750.00	780.00	8.42	21.80	9.70	1.67	5.03
852.94	882.94	7.16	25.70	11.70	1.58	3.16
955.88	985.88	6.00	30.90	13.80	1.55	2.23
1058.82	1088.82	5.43	39.60	15.60	1.54	1.40
1161.77	1191.77	5.35	39.80	17.70	1.56	1.16
1264.71	1294.71	5.89	34.30	20.80	1.59	1.77
1367.65	1397.65	6.21	35.10	22.40	1.58	2.35
1470.59	1500.59	6.70	34.90	23.90	1.59	2.96
1500.00	1530.00	6.92	35.20	24.30	1.60	3.21
1573.53	1603.53	6.84	34.80	25.30	1.55	3.44
1676.47	1706.47	5.88	38.70	26.20	1.47	3.16
1779.41	1809.41	5.60	37.10	26.50	1.40	2.96
1882.35	1912.35	5.78	35.50	26.60	1.37	2.55
1985.29	2015.29	6.53	34.80	28.10	1.43	3.44
2000.00	2030.00	6.68	34.40	28.20	1.42	3.57
2088.24	2118.24	6.83	30.50	29.10	1.44	3.71
2191.18	2221.18	6.37	27.20	30.00	1.51	2.92
2294.12	2324.12	5.84	25.10	30.90	1.59	2.16
2397.06	2427.06	5.35	23.60	32.50	1.74	1.46
2500.00	2530.00	5.32	24.50	34.60	1.94	1.24

### Electrical Schematic



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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-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet are subject to Mini-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp).

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## Performance Charts

