

Surface Mount Frequency Mixer

Level 17 (LO Power +17dBm) 10 to 1500 MHz

LRMS-5HJ+ LRMS-5HJ



CASE STYLE: QQQ569
PRICE: \$17.95 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.

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 |

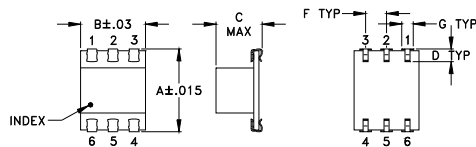
Features

- low conversion loss, 6.36 dB typ.
- aqueous washable
- J-leads for strain relief

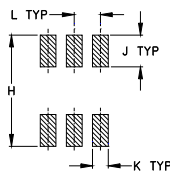
Applications

- cellular
- satellite distribution
- VHF/UHF

Outline Drawing



PCB Land Pattern

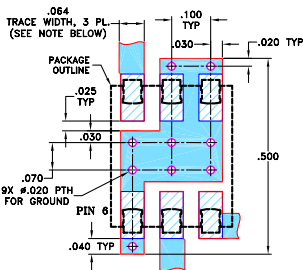


Suggested Layout,
Tolerance to be within ±.002

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) | | | | | | |
|-----------------|----------------------|----------------------|----|----|----------------------|----|----|--------------------------|----|----|----|----|---|----|
| | | L | M | U | L | M | U | | | | | | | |
| 10-1500 | DC-900 | 65 | 40 | 36 | 20 | 22 | 15 | 50 | 30 | 30 | 18 | 17 | 7 | 22 |

1 dB COMP.: +14 dBm typ.

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

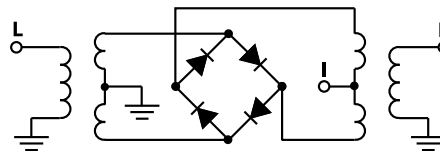
M = mid range [$10 f_U$ to $f_U/2$]

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) |
|-----------------|----------------------|--------------------|--------------------|-------------------|-------------------|
| | | | | | |
| 10.00 | 40.00 | 6.95 | 70.78 | 61.92 | 2.20 |
| 20.00 | 50.00 | 6.58 | 65.19 | 63.52 | 1.63 |
| 50.00 | 80.00 | 6.34 | 58.27 | 59.11 | 1.47 |
| 100.00 | 70.00 | 6.16 | 57.50 | 49.97 | 1.49 |
| 149.69 | 119.69 | 6.25 | 57.97 | 51.05 | 1.52 |
| 200.00 | 170.00 | 6.35 | 58.46 | 44.60 | 1.57 |
| 289.38 | 259.38 | 6.44 | 45.97 | 40.19 | 1.66 |
| 429.06 | 399.06 | 6.52 | 35.99 | 40.36 | 1.85 |
| 500.00 | 470.00 | 6.57 | 33.86 | 35.13 | 1.96 |
| 568.75 | 538.75 | 6.70 | 31.80 | 31.81 | 2.07 |
| 708.44 | 678.44 | 7.17 | 28.34 | 25.09 | 2.42 |
| 750.00 | 720.00 | 7.33 | 27.82 | 23.34 | 2.56 |
| 848.13 | 818.13 | 7.63 | 27.14 | 20.18 | 2.79 |
| 987.81 | 957.81 | 7.85 | 25.28 | 17.43 | 2.98 |
| 1000.00 | 970.00 | 7.86 | 25.09 | 16.91 | 3.00 |
| 1127.50 | 1097.50 | 7.96 | 23.28 | 14.89 | 3.16 |
| 1267.19 | 1237.19 | 8.09 | 21.51 | 13.36 | 3.15 |
| 1406.88 | 1376.88 | 8.10 | 20.40 | 11.73 | 2.97 |
| 1453.44 | 1423.44 | 8.28 | 20.09 | 11.57 | 2.99 |
| 1500.00 | 1470.00 | 8.50 | 19.62 | 11.46 | 2.94 |

Electrical Schematic



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Performance Charts

