

Surface Mount Frequency Mixer

Level 7 (LO Power +7dBm) 200 to 3000 MHz

LRMS-30J+ LRMS-30J



CASE STYLE: QQQ569

+RoHS Compliant
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

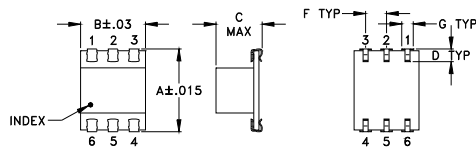
Maximum Ratings

| | |
|---|----------------|
| 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. | |

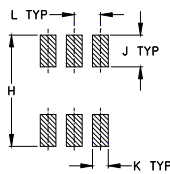
Pin Connections

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

Outline Drawing



PCB Land Pattern

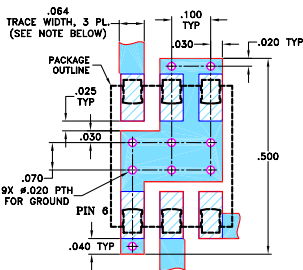


Suggested Layout,
Tolerance to be within ±.002

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

Features

- wide bandwidth, 200 to 3000 MHz
- low conversion loss, 5.92 dB typ.
- aqueous washable
- J-leads for strain relief

Applications

- cellular
- PCS
- GPS
- ISM
- cellular

Electrical Specifications

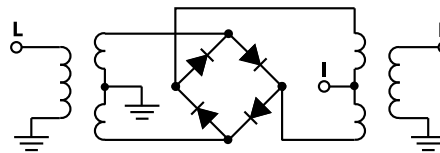
| FREQUENCY (MHz) | CONVERSION LOSS (dB) | LO-RF ISOLATION (dB) | | LO-IF ISOLATION (dB) | | IP3 at center band (dBm) |
|-----------------|----------------------|----------------------|------|----------------------|------|--------------------------|
| | | Typ. | Min. | Typ. | Min. | |
| 200-3000 | DC-1000 | 6.8 | .30 | 9.0 | 9.8 | 14 |

1 dB COMP: +1 dBm typ.
m= mid band [2f_L to f_U/2]

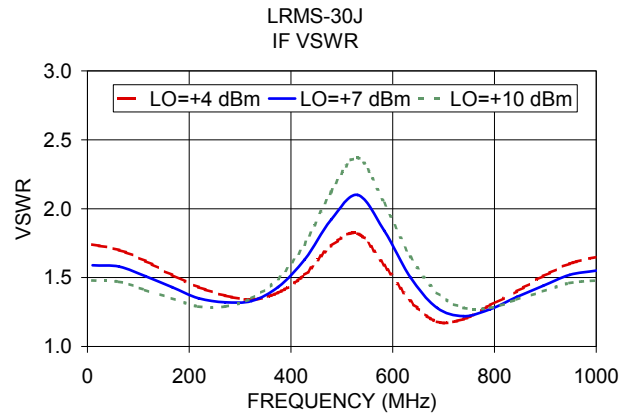
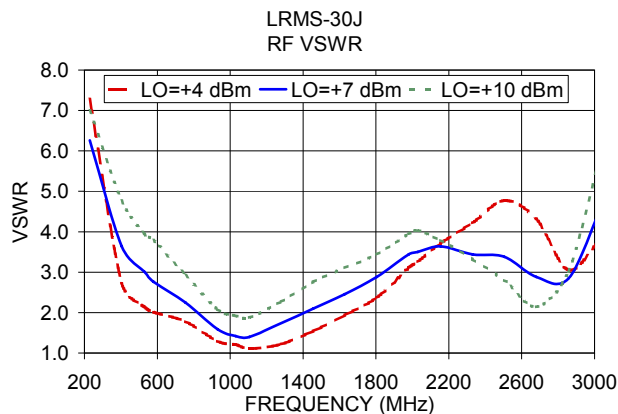
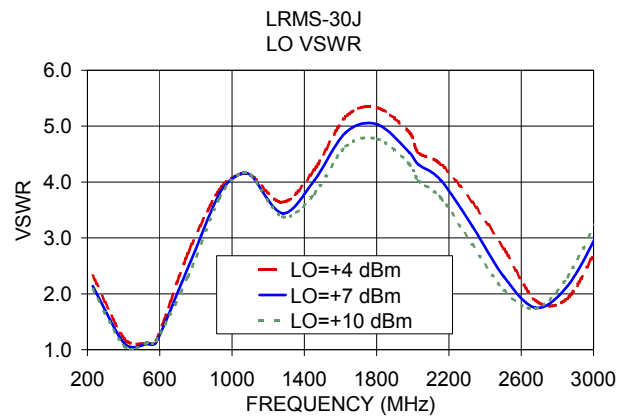
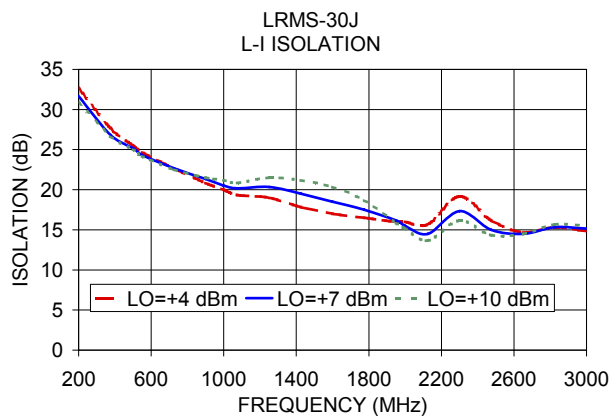
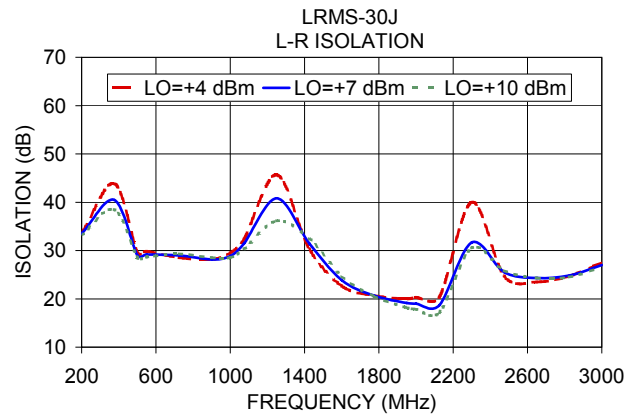
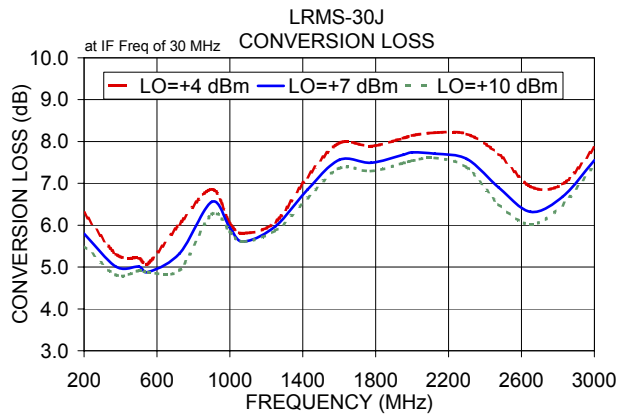
Typical Performance Data

| Frequency (MHz) | Conversion Loss (dB) | Isolation L-R (dB) | Isolation L-I (dB) | VSWR RF Port (:1) | VSWR LO Port (:1) |
|-----------------|----------------------|--------------------|--------------------|-------------------|-------------------|
| | | | | | |
| 200.00 | 230.00 | 5.80 | 33.50 | 6.26 | 2.14 |
| 375.00 | 405.00 | 5.01 | 40.50 | 26.84 | 1.11 |
| 500.00 | 530.00 | 5.01 | 29.00 | 25.17 | 1.10 |
| 550.00 | 580.00 | 4.88 | 29.16 | 24.33 | 2.76 |
| 725.00 | 755.00 | 5.33 | 29.00 | 22.67 | 2.25 |
| 900.00 | 930.00 | 6.56 | 28.17 | 21.34 | 1.59 |
| 1000.00 | 1030.00 | 5.94 | 28.84 | 20.50 | 1.42 |
| 1075.00 | 1105.00 | 5.61 | 31.50 | 20.17 | 1.40 |
| 1250.00 | 1280.00 | 5.97 | 40.83 | 20.33 | 1.74 |
| 1425.00 | 1455.00 | 6.85 | 31.50 | 19.50 | 2.10 |
| 1600.00 | 1630.00 | 7.56 | 23.84 | 18.50 | 2.46 |
| 1775.00 | 1805.00 | 7.49 | 20.66 | 17.50 | 2.88 |
| 1950.00 | 1980.00 | 7.68 | 19.16 | 16.16 | 3.44 |
| 2000.00 | 2030.00 | 7.74 | 19.00 | 15.50 | 3.50 |
| 2125.00 | 2155.00 | 7.71 | 18.67 | 14.50 | 3.64 |
| 2300.00 | 2330.00 | 7.58 | 31.66 | 17.33 | 3.44 |
| 2475.00 | 2505.00 | 6.90 | 25.50 | 15.00 | 3.38 |
| 2650.00 | 2680.00 | 6.32 | 24.34 | 14.50 | 2.88 |
| 2825.00 | 2855.00 | 6.68 | 24.83 | 15.33 | 2.84 |
| 3000.00 | 3030.00 | 7.55 | 27.00 | 15.17 | 4.53 |

Electrical Schematic



Performance Charts



Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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