

Surface Mount Frequency Mixer

MBA-25LH+ MBA-25LH

Level 10 (LO Power +10 dBm) 2200 to 3600 MHz



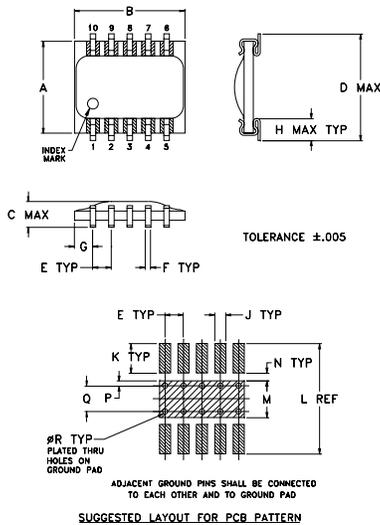
Maximum Ratings

| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power | 50mW |
| IF Current | 40mA |

Pin Connections

| | |
|--------|---------------|
| LO | 10 |
| RF | 5 |
| IF | 3 |
| GROUND | 1,2,4,6,7,8,9 |

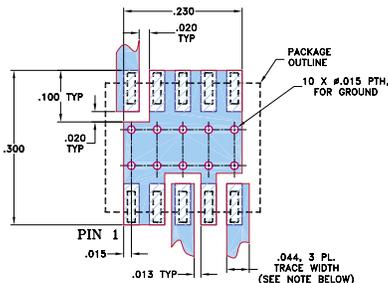
Outline Drawing



Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G | H | |
|------|------|------|------|------|------|------|------|-------|
| .250 | .300 | .070 | .290 | .050 | .015 | .050 | .060 | |
| 6.35 | 7.62 | 1.78 | 7.37 | 1.27 | 0.38 | 1.27 | 1.52 | |
| J | K | L | M | N | P | Q | R | wt |
| .030 | .080 | .300 | .100 | .020 | .015 | .070 | .014 | grams |
| 0.76 | 2.03 | 7.62 | 2.54 | 0.51 | 0.38 | 1.78 | 0.36 | 0.3 |

Demo Board MCL P/N: TB-99 Suggested PCB Layout (PL-066)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS 0.020" ± 0.0015". 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

- excellent temperature stability
- excellent performance repeatability
- leads with strain relief
- very low cost
- ultra low height, 0.07"
- aqueous washable
- protected by US Patent 5,534,830

Applications

- PCN/PCS/wideband CDMA
- satellite communication
- wireless local loop
- WLAN
- GPS
- PCMCIA

CASE STYLE: SM2
PRICE: \$6.95 ea. QTY (10-49)

+ 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.

Electrical Specifications

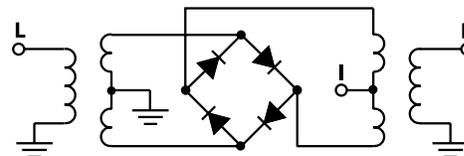
| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | LO-RF ISOLATION (dB) | | LO-IF ISOLATION (dB) | | IP3 at center band (dBm) |
|-----------------|--------|----------------------|----------|------|----------------------|------|----------------------|------|--------------------------|
| LO/RF | IF | \bar{X} | σ | Max. | Typ. | Min. | Typ. | Min. | Typ. |
| 2200-3600 | DC-500 | 7.0 | 0.1 | 9.2 | 32 | 21 | 20 | 10 | 12 |

1 dB COMP.: +4 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 |
| 2200.00 | 2230.00 | 7.89 | 27.70 | 12.40 | 2.92 | 2.30 |
| 2300.00 | 2330.00 | 7.72 | 28.80 | 13.80 | 2.65 | 2.25 |
| 2400.00 | 2430.00 | 7.51 | 31.00 | 15.70 | 2.37 | 2.20 |
| 2427.50 | 2457.50 | 7.44 | 32.00 | 16.40 | 2.35 | 2.01 |
| 2500.00 | 2530.00 | 7.20 | 34.60 | 18.20 | 2.20 | 2.10 |
| 2560.00 | 2590.00 | 6.95 | 36.70 | 19.50 | 2.14 | 2.27 |
| 2600.00 | 2630.00 | 6.88 | 37.10 | 20.80 | 2.08 | 2.01 |
| 2692.50 | 2722.50 | 6.83 | 32.20 | 23.10 | 1.85 | 1.97 |
| 2700.00 | 2730.00 | 6.87 | 32.10 | 23.00 | 1.82 | 1.99 |
| 2800.00 | 2830.00 | 6.88 | 30.50 | 25.40 | 1.59 | 1.94 |
| 2825.00 | 2855.00 | 7.05 | 30.10 | 26.50 | 1.52 | 1.92 |
| 2900.00 | 2930.00 | 7.16 | 30.80 | 29.90 | 1.34 | 1.87 |
| 2957.00 | 2987.00 | 7.23 | 32.10 | 32.50 | 1.20 | 1.89 |
| 3000.00 | 3030.00 | 7.24 | 32.60 | 33.00 | 1.13 | 1.89 |
| 3090.00 | 3120.00 | 7.21 | 34.10 | 28.80 | 1.03 | 1.91 |
| 3200.00 | 3230.00 | 7.02 | 36.60 | 23.90 | 1.13 | 2.20 |
| 3222.50 | 3252.50 | 6.98 | 37.00 | 22.90 | 1.15 | 2.18 |
| 3355.00 | 3385.00 | 7.08 | 37.00 | 20.20 | 1.33 | 1.96 |
| 3400.00 | 3430.00 | 6.97 | 35.80 | 18.90 | 1.40 | 2.08 |
| 3600.00 | 3630.00 | 7.07 | 33.00 | 16.00 | 1.59 | 1.75 |

Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

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EE-7756/12
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Performance Charts

MBA-25LH+ MBA-25LH

