

Surface Mount High Reliability Mixer

ADE-R20+

Level 7 (LO Power +7 dBm) 1500 to 2800 MHz



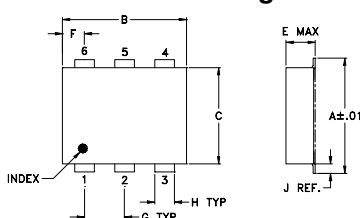
Maximum Ratings

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

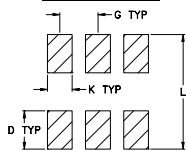
Pin Connections

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

Outline Drawing



PCB Land Pattern



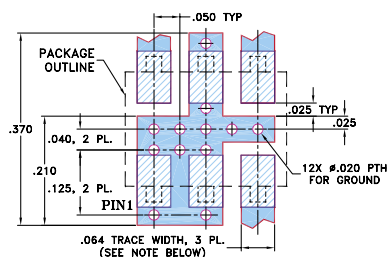
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch)

| A | B | C | D | E | F | G |
|------|------|------|------|------|------|------|
| .272 | .310 | .220 | .100 | .112 | .055 | .100 |
| 6.91 | 7.87 | 5.59 | 2.54 | 2.84 | 1.40 | 2.54 |

| H | J | K | L | wt |
|------|------|------|------|-------|
| .030 | .026 | .065 | .300 | grams |
| 0.76 | 0.66 | 1.65 | 7.62 | 0.20 |

Demo Board MCL P/N: TB-02 Suggested PCB Layout (PL-051)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350B 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

Features

- hermetically sealed ceramic quad
- low conversion loss, 5.8 dB typ.
- excellent L-R isolation, 30 dB typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

Applications

- digital cellular
- digital cordless phone
- PCN

CASE STYLE: CD542
PRICE: \$5.35 ea. QTY. (10-49)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

Electrical Specifications

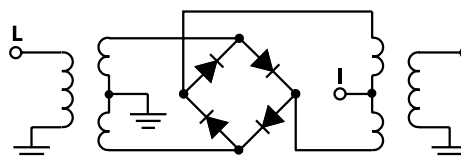
| FREQUENCY (MHz) | CONVERSION LOSS (dB) | LO-RF ISOLATION (dB) | | LO-IF ISOLATION (dB) | | IP3 at center band (dBm) |
|-----------------|----------------------|----------------------|------|----------------------|------|--------------------------|
| | | Typ. | Min. | Typ. | Min. | |
| 1500-2800 | 5.8 | 30 | 22 | 28 | 15 | 12 |

1 dB COMP.: +1 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) |
|-----------------|----------------------|--------------------|--------------------|-------------------|-------------------|
| | | | | | |
| 1460.00 | 6.21 | 37.65 | 20.28 | 1.34 | 1.81 |
| 1560.00 | 5.95 | 37.70 | 22.72 | 1.28 | 1.80 |
| 1660.00 | 5.94 | 36.06 | 25.56 | 1.50 | 1.79 |
| 1740.00 | 5.91 | 35.29 | 27.83 | 1.66 | 1.79 |
| 1840.00 | 5.80 | 33.78 | 30.47 | 1.75 | 1.83 |
| 1920.00 | 5.79 | 32.65 | 32.64 | 1.83 | 1.86 |
| 2020.00 | 5.79 | 31.63 | 35.32 | 1.90 | 1.92 |
| 2100.00 | 5.81 | 30.85 | 37.17 | 1.92 | 1.95 |
| 2200.00 | 5.78 | 30.15 | 39.95 | 1.90 | 2.00 |
| 2280.00 | 5.80 | 29.99 | 41.69 | 1.84 | 2.08 |
| 2380.00 | 5.74 | 30.06 | 43.43 | 1.74 | 2.17 |
| 2460.00 | 5.72 | 30.05 | 44.18 | 1.70 | 2.16 |
| 2560.00 | 5.75 | 29.85 | 45.60 | 1.70 | 2.28 |
| 2640.00 | 5.90 | 30.06 | 45.88 | 1.73 | 2.36 |
| 2740.00 | 6.08 | 30.64 | 44.97 | 1.77 | 2.41 |
| 2820.00 | 6.35 | 31.39 | 43.67 | 1.91 | 2.42 |

Electrical Schematic



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RF/IF MICROWAVE COMPONENTS

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