

Surface Mount

High Reliability Mixer

ADE-R272MH+

Level 13 (LO Power +13 dBm) 1300 to 2700 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 | 3 |
| IF | 2 |
| GROUND | 1,4,5 |

Features

- hermetically sealed ceramic quad
- low conversion loss, 5.6 dB typ.
- good L-R isolation, 34 dB typ.
- low profile package
- aqueous washable
- protected by US Patent 6,133,525

Applications

- wireless/VSAT system
- ISM
- cellular

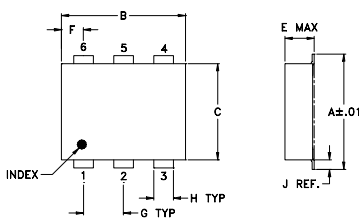
CASE STYLE: CD636

PRICE: \$3.35 ea. QTY. (10-49)

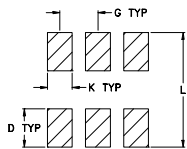
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Outline Drawing



PCB Land Pattern



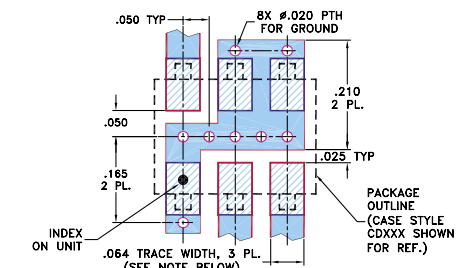
Suggested Layout, Tolerance to be within ±.002

Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G |
|------|------|------|------|------|------|------|
| .272 | .310 | .220 | .100 | .162 | .055 | .100 |
| 6.91 | 7.87 | 5.59 | 2.54 | 4.11 | 1.40 | 2.54 |

| H | J | K | L | wt |
|------|------|------|------|-------|
| .030 | .026 | .065 | .300 | grams |
| 0.76 | 0.66 | 1.65 | 7.62 | 0.25 |

Demo Board MCL P/N: TB-03 Suggested PCB Layout (PL-052)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B 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

Electrical Specifications

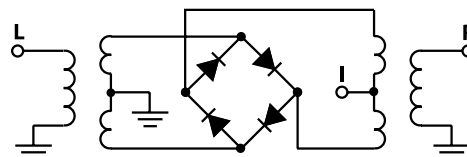
| FREQUENCY (MHz) | | CONVERSION LOSS (dB) | | | LO-RF ISOLATION (dB) | | LO-IF ISOLATION (dB) | | IP3 at center band (dBm) |
|-----------------|--------|----------------------|----------|------|----------------------|-----------|----------------------|------|--------------------------|
| LO/RF | IF | \bar{X} | σ | Max. | Typ. Min. | Typ. Min. | Typ. Min. | Typ. | |
| 1300-2700 | DC-600 | 5.6 | 0.10 | 9.5 | 34 24 | 25 11 | | 18 | |

1 dB COMP.: +9 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 +13dBm | LO +13dBm | LO +13dBm | LO +13dBm | LO +13dBm |
| 1300.00 | 1330.00 | 5.54 | 30.22 | 17.16 | 1.61 | 1.59 |
| 1360.00 | 1390.00 | 5.60 | 30.43 | 17.96 | 1.56 | 1.54 |
| 1480.00 | 1510.00 | 6.00 | 32.56 | 20.17 | 2.04 | 1.60 |
| 1560.00 | 1590.00 | 5.99 | 32.30 | 20.81 | 2.14 | 1.65 |
| 1620.00 | 1650.00 | 5.99 | 32.76 | 21.37 | 2.37 | 1.72 |
| 1700.00 | 1730.00 | 6.07 | 33.19 | 21.93 | 2.61 | 1.85 |
| 1760.00 | 1790.00 | 6.02 | 33.60 | 22.58 | 2.43 | 1.89 |
| 1840.00 | 1870.00 | 5.78 | 33.69 | 23.20 | 2.43 | 1.96 |
| 1900.00 | 1930.00 | 5.88 | 33.81 | 23.76 | 2.76 | 2.05 |
| 1980.00 | 2010.00 | 5.84 | 34.08 | 24.42 | 2.68 | 2.16 |
| 2040.00 | 2070.00 | 5.69 | 33.99 | 24.82 | 2.39 | 2.18 |
| 2180.00 | 2210.00 | 5.46 | 34.22 | 26.30 | 2.18 | 2.42 |
| 2260.00 | 2290.00 | 5.47 | 37.67 | 27.12 | 1.87 | 2.62 |
| 2320.00 | 2350.00 | 5.46 | 36.58 | 27.49 | 1.97 | 2.80 |
| 2400.00 | 2430.00 | 5.30 | 34.50 | 27.91 | 2.02 | 2.99 |
| 2460.00 | 2490.00 | 5.23 | 33.51 | 28.36 | 1.86 | 3.12 |
| 2540.00 | 2570.00 | 5.29 | 33.30 | 29.10 | 1.70 | 3.29 |
| 2600.00 | 2630.00 | 5.39 | 33.21 | 29.68 | 1.78 | 3.44 |
| 2680.00 | 2710.00 | 5.71 | 33.33 | 30.43 | 2.15 | 3.67 |
| 2740.00 | 2770.00 | 6.09 | 33.60 | 30.88 | 2.73 | 3.75 |

Electrical Schematic



Mini-Circuits®
ISO 9001 ISO 14001 CERTIFIED

ALL NEW
minicircuits.com

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

RF/IF MICROWAVE COMPONENTS

REV. OR
M109914
ADE-R272MH+
ED-12874/4
WL/TD/QL
070516
Page 1 of 2

