

Frequency Mixer

ADE-35+

Level 7 (LO Power +7 dBm) 1600 to 3500 MHz



Generic photo used for illustration purposes only

CASE STYLE: CD542

+RoHS Compliant

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



Available Tape and Reel at no extra cost

| Reel Size | Devices/Reel |
|-----------|------------------|
| 7" | 20, 50, 100, 200 |
| 13" | 500, 1000 |

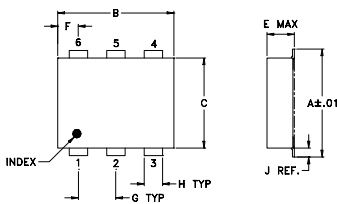
Maximum Ratings

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

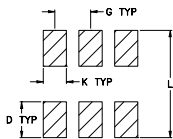
Pin Connections

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

Outline Drawing



PCB Land Pattern

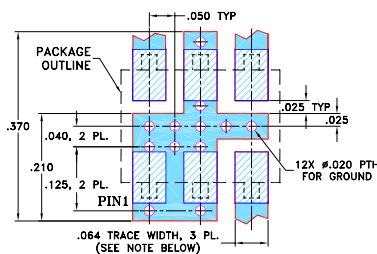


Suggested Layout, Tolerance to be within ±.002

Outline Dimensions (inch/mm)

| A | B | C | D | E | F | G |
|------|------|------|------|-------|------|------|
| .272 | .310 | .220 | .100 | .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 RO4350B WITH DIELECTRIC THICKNESS .050" ± .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.

Notes

- A. 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.
 B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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Features

- low conversion loss, 6.3 dB typ.
- good isolation, 25 dB typ.
- aqueous washable
- protected by U.S. Patent 6,133,525
- low cost

Applications

- MMDS

Electrical Specifications

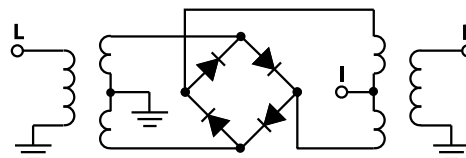
| FREQUENCY (MHz) | CONVERSION LOSS (dB) | LO-RF ISOLATION (dB) | LO-IF ISOLATION (dB) | IP3 at center band (dBm) |
|----------------------|-------------------------|----------------------|----------------------|--------------------------|
| LO/RF $f_L - f_U$ | \bar{X} σ Max. | Typ. Min. | Typ. Min. | Typ. |
| 1600-3500 DC-1500 | 6.3 0.50 9.8 | 25 16 | 22 12 | 11 |

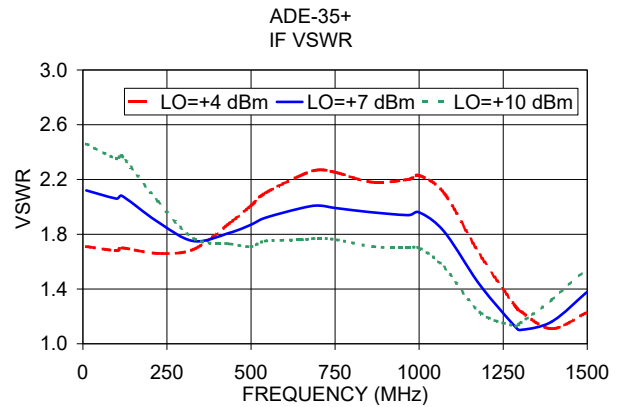
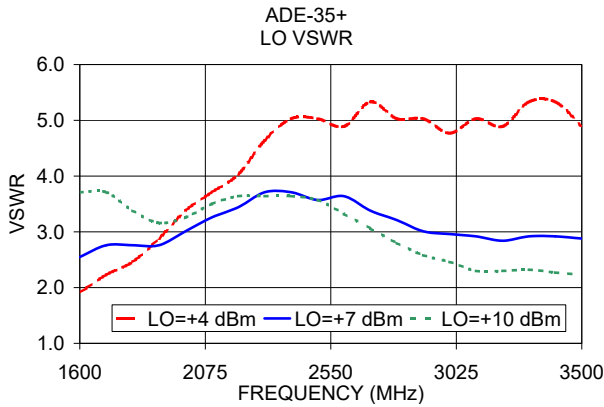
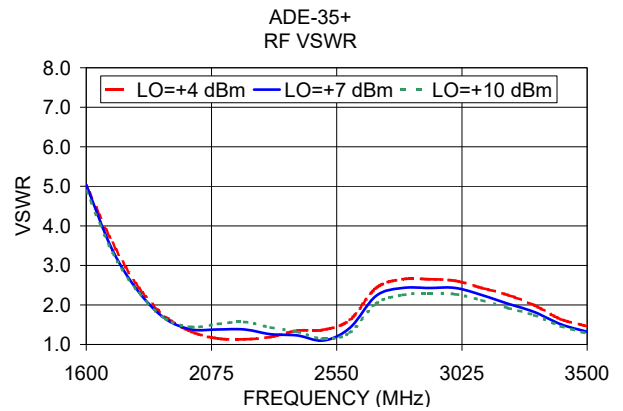
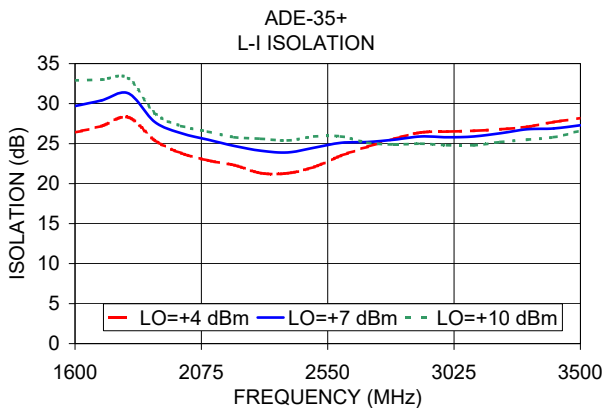
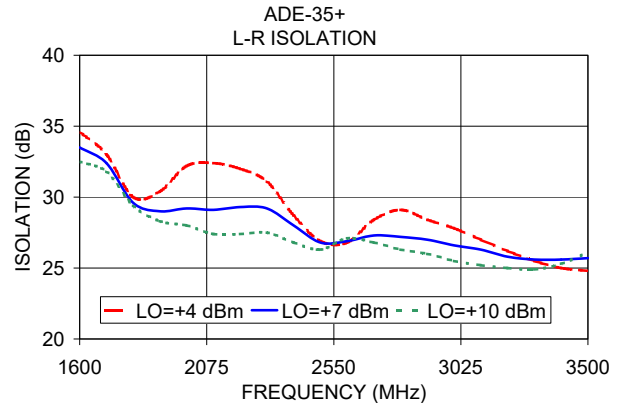
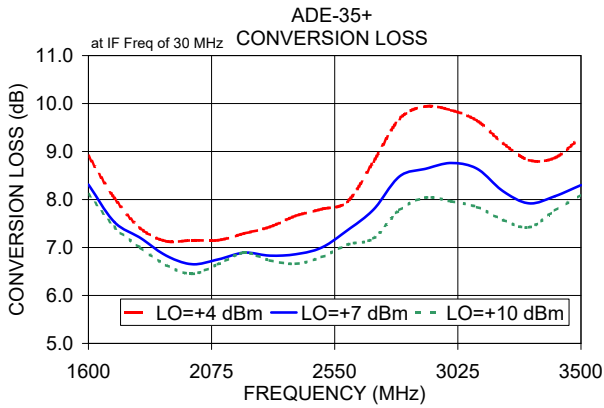
1 dB COMP: +1 dBm typ.
Phase detection, positive polarity

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 +7dBm | LO +7dBm | LO +7dBm | LO +7dBm | LO +7dBm |
| 1600.00 | 1630.00 | 8.31 | 33.50 | 29.70 | 5.03 | 2.55 |
| 1700.00 | 1730.00 | 7.53 | 32.40 | 30.40 | 3.38 | 2.76 |
| 1800.00 | 1830.00 | 7.20 | 29.60 | 31.30 | 2.32 | 2.76 |
| 1900.00 | 1930.00 | 6.83 | 29.00 | 27.70 | 1.65 | 2.76 |
| 2000.00 | 2030.00 | 6.65 | 29.20 | 26.30 | 1.38 | 3.01 |
| 2100.00 | 2130.00 | 6.75 | 29.10 | 25.50 | 1.38 | 3.26 |
| 2200.00 | 2230.00 | 6.89 | 29.30 | 24.70 | 1.38 | 3.44 |
| 2300.00 | 2330.00 | 6.83 | 29.20 | 24.10 | 1.26 | 3.71 |
| 2400.00 | 2430.00 | 6.86 | 28.00 | 23.90 | 1.23 | 3.71 |
| 2500.00 | 2530.00 | 7.00 | 26.80 | 24.50 | 1.10 | 3.57 |
| 2600.00 | 2630.00 | 7.36 | 26.90 | 25.10 | 1.42 | 3.64 |
| 2700.00 | 2730.00 | 7.79 | 27.30 | 25.20 | 2.23 | 3.38 |
| 2800.00 | 2830.00 | 8.48 | 27.20 | 25.50 | 2.43 | 3.21 |
| 2900.00 | 2930.00 | 8.64 | 27.00 | 25.90 | 2.43 | 3.01 |
| 3000.00 | 3030.00 | 8.76 | 26.60 | 25.80 | 2.43 | 2.96 |
| 3100.00 | 3130.00 | 8.64 | 26.30 | 25.90 | 2.25 | 2.92 |
| 3200.00 | 3230.00 | 8.17 | 25.80 | 26.30 | 2.03 | 2.84 |
| 3300.00 | 3330.00 | 7.92 | 25.60 | 26.80 | 1.82 | 2.92 |
| 3400.00 | 3430.00 | 8.07 | 25.60 | 26.90 | 1.51 | 2.92 |
| 3500.00 | 3530.00 | 8.30 | 25.70 | 27.30 | 1.32 | 2.88 |

Electrical Schematic






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