



Mini-Circuits®

MINIATURE SURFACE MOUNT

Fixed Attenuator

LAT-5+

50Ω 0.5 W 5 dB DC to 2.5 GHz

FEATURES

- Wideband, DC to 2.5 GHz
- Excellent VSWR Through Entire Band
- Miniature Size, SOT143 Package
- Aqueous Washable

APPLICATIONS

- Cellular
- PCS
- ISM
- VHF/UHF



Generic photo used for illustration purposes only

CASE STYLE: MMM168

+RoHS Compliant

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

ELECTRICAL SPECIFICATIONS AT +25°C

| Parameter | Condition (GHz) | Min. | Typ. | Max. | Unit |
|------------------------------------|-----------------|------|-------|------|------|
| Frequency Range | | DC | | 2.5 | GHz |
| Attenuation, Nominal | | | 5±0.3 | | dB |
| Attenuation, Flatness ¹ | DC - 0.5 | | | 0.3 | dB |
| | DC - 1 | | | 0.4 | |
| | DC - 2.5 | | | 0.7 | |
| VSWR | DC - 0.5 | | | 1.3 | :1 |
| | DC - 1 | | | 1.3 | |
| | DC - 2.5 | | | 1.5 | |
| Input Power ² | | | | 0.5 | W |

1. Flatness = variation over band divided by 2.

2. RF power at +25°C case temperature: ½ Watt. Derate linearly to 0.2 Watt at +85°C.

ABSOLUTE MAXIMUM RATINGS

| Parameter | Ratings |
|-----------------------|-----------------|
| Operating Temperature | -55°C to +85°C |
| Storage Temperature | -55°C to +100°C |

Permanent damage may occur if any of these limits are exceeded.

REV. G
ECO-024218
LAT-5+
MCL NY
250113





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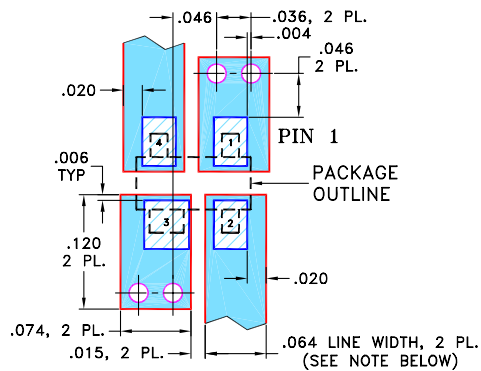
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PAD CONNECTIONS

| | |
|--------|-----|
| INPUT | 4 |
| OUTPUT | 2 |
| GROUND | 1,3 |

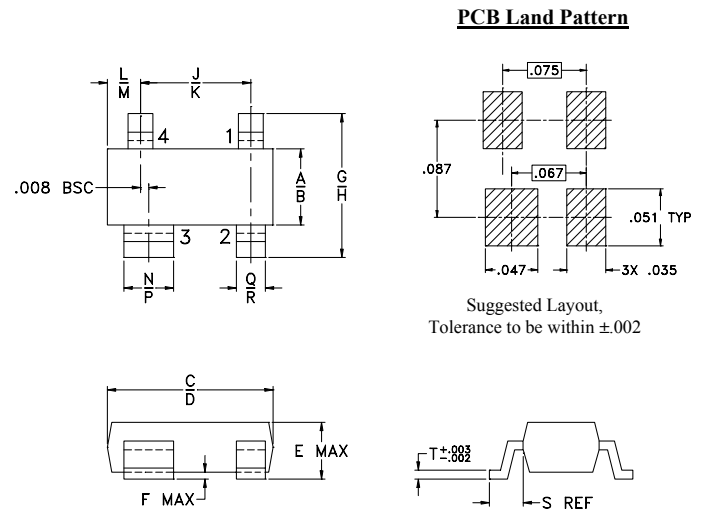
DEMO BOARD MCL P/N: TB-39
SUGGESTED PCB LAYOUT (PL-225)



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

OUTLINE DRAWING

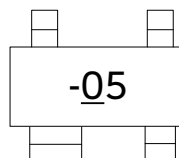


OUTLINE DIMENSIONS (Inch/mm)

| A | B | C | D | E | F | G | H | J | K |
|------|------|------|------|------|------|------|------|-------|------|
| .045 | .055 | .105 | .120 | .047 | .005 | .083 | .104 | .070 | .080 |
| 1.14 | 1.40 | 2.67 | 3.05 | 1.19 | 0.13 | 2.11 | 2.64 | 1.78 | 2.03 |
| L | M | N | P | Q | R | S | T | wt | |
| .018 | .024 | .030 | .036 | .015 | .021 | .023 | .005 | grams | |
| 0.46 | 0.61 | 0.76 | 0.91 | 0.38 | 0.53 | 0.58 | 0.13 | | 0.01 |

TAPE & REEL INFORMATION: F8

PRODUCT MARKING



Marking may contain other features or characters for internal lot control

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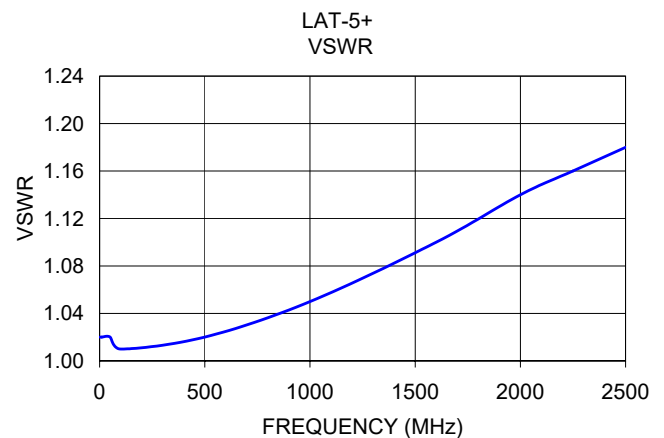
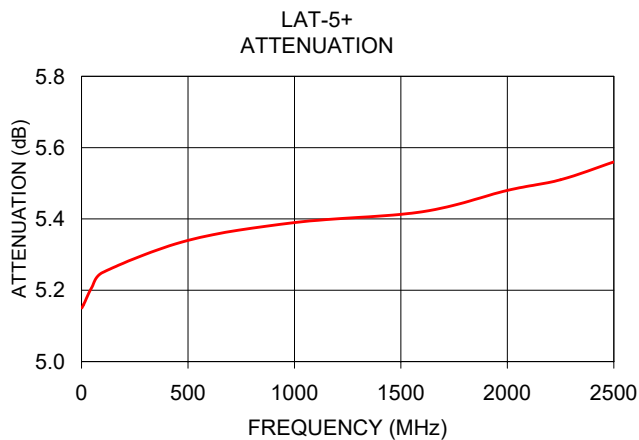
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TYPICAL PERFORMANCE DATA AND CHARTS

| Frequency (MHz) | Attenuation (dB) | VSWR (:1) |
|-----------------|------------------|-----------|
| 1.00 | 5.15 | 1.02 |
| 10.00 | 5.16 | 1.02 |
| 50.00 | 5.21 | 1.02 |
| 100.00 | 5.25 | 1.01 |
| 500.00 | 5.34 | 1.02 |
| 1000.00 | 5.39 | 1.05 |
| 1600.00 | 5.42 | 1.10 |
| 2000.00 | 5.48 | 1.14 |
| 2250.00 | 5.51 | 1.16 |
| 2500.00 | 5.56 | 1.18 |



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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuits' standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the standard terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/terms/viewterm.html

