

# Miniature Surface Mount Fixed Attenuator

50Ω 0.5W 7dB DC to 2500 MHz

## LAT-7+



### Maximum Ratings

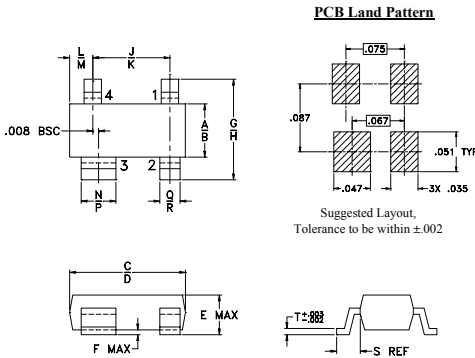
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -55°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |

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

### Pin Connections

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

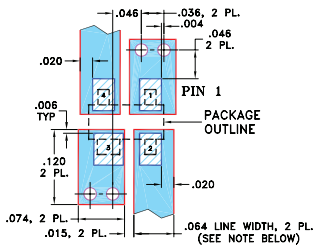
### Outline Drawing



### 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  |

### 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

#### 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.  
C. 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- wideband, DC to 2500 MHz
- excellent VSWR, through entire band
- miniature size, SOT143 package
- aqueous washable

### Applications

- cellular
- PCS
- ISM
- VHF/UHF

CASE STYLE: MMM168  
PRICE: \$1.95 ea. QTY (20)

#### +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, 500, 1000, 2000, 3000 |

### Electrical Specifications at 25°C

| FREQ. RANGE (MHz) | ATTENUATION (dB)<br>Flatness, Max. | VSWR (:1)<br>Max. |          |            | MAX. INPUT POWER <sup>1</sup> (W) |
|-------------------|------------------------------------|-------------------|----------|------------|-----------------------------------|
|                   |                                    | DC-0.5 GHz        | DC-1 GHz | DC-2.5 GHz |                                   |
| $f_L$ - $f_U$     | Norm.                              | DC-0.5 GHz        | DC-1 GHz | DC-2.5 GHz |                                   |
| DC-2500           | 7±0.3                              | 0.3               | 0.4      | 0.7        | 0.5                               |

1. RF power at 25°C case temperature: ½Watt. Derate linearly to 0.2 Watt at 85°C.  
2. Flatness= variation over band divided by 2

### Typical Performance Data

| Frequency (MHz) | Attenuation (dB) | VSWR (:1) |
|-----------------|------------------|-----------|
| 1.00            | 6.98             | 1.07      |
| 10.00           | 7.00             | 1.07      |
| 50.00           | 7.03             | 1.07      |
| 100.00          | 7.07             | 1.07      |
| 500.00          | 7.11             | 1.07      |
| 1000.00         | 7.15             | 1.08      |
| 1600.00         | 7.19             | 1.13      |
| 2000.00         | 7.25             | 1.16      |
| 2250.00         | 7.19             | 1.17      |
| 2500.00         | 7.25             | 1.19      |

