

50Ω DC to 44 MHz

Maximum Ratings

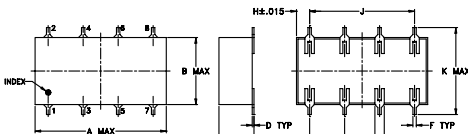
| | |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input | 0.5W max. |

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

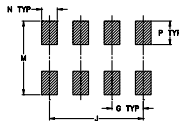
Pin Connections

| | |
|--------|-------------|
| INPUT | 1 |
| OUTPUT | 8 |
| GROUND | 2,3,4,5,6,7 |

Outline Drawing



PCB Land Pattern

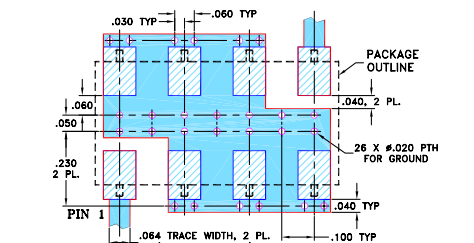


Outline Dimensions (inch)

| A | B | C | D | E | F | G |
|-------|------|------|------|------|------|------|
| 0.75 | 0.38 | 0.28 | 0.01 | 0.05 | 0.02 | 0.2 |
| 19.05 | 9.65 | 7.11 | 0.25 | 1.27 | 0.51 | 5.08 |

| H | J | K | M | N | P | wt |
|-------|-------|-------|-------|------|------|-------|
| 0.075 | 0.6 | 0.45 | 0.47 | 0.1 | 0.15 | grams |
| 1.91 | 15.24 | 11.43 | 11.94 | 2.54 | 3.81 | 1.60 |

Demo Board MCL P/N: TB-187+ Suggested PCB Layout (PL-049)



- NOTES:
- 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.
 - 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

- 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-Circuit's applicable established test performance criteria and measurement instructions.
- The parts covered by this specification document are subject to Mini-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- wide selection of cut-off frequencies
- excellent rejection
- custom models available

Applications

- defense communications
- receivers/transmitters
- harmonic rejection of VCOs

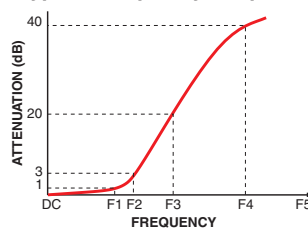


CASE STYLE: YY161

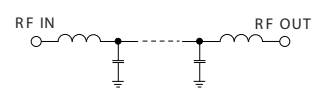
Electrical Specifications

| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit | |
|-----------|----------------|-----------------|----------|------|------|------|----|
| Pass Band | Insertion Loss | DC-F1 | DC-44 | — | — | 1.0 | dB |
| | Freq. Cut-Off | F2 | 48.5 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-44 | — | 1.3 | — | :1 |
| Stop Band | Rejection Loss | F3-F4 | 59-65.5 | 20 | — | — | dB |
| | | F4-F5 | 65.5-420 | 40 | — | — | dB |
| | VSWR | F3-F5 | 59-420 | — | 18 | — | :1 |

Typical Frequency Response



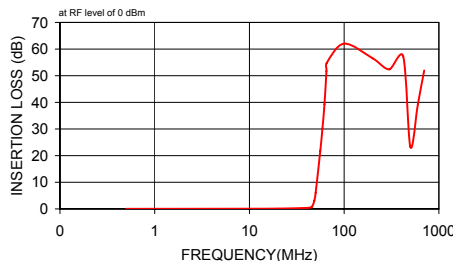
Electrical Schematic



Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) | | Return Loss (dB) |
|-----------------|---------------------|----------|------------------|
| | \bar{x} | σ | |
| 0.50 | 0.03 | 0.00 | 49.30 |
| 10.00 | 0.07 | 0.01 | 26.00 |
| 20.00 | 0.12 | 0.00 | 28.39 |
| 40.00 | 0.36 | 0.02 | 22.17 |
| 44.00 | 0.52 | 0.02 | 26.21 |
| 46.00 | 0.92 | 0.12 | 13.84 |
| 48.50 | 3.16 | 0.45 | 4.71 |
| 50.00 | 6.03 | 0.64 | 2.29 |
| 56.00 | 21.84 | 0.84 | 0.35 |
| 59.00 | 30.18 | 0.95 | 0.24 |
| 62.00 | 39.28 | 1.26 | 0.19 |
| 65.00 | 51.71 | 2.71 | 0.17 |
| 65.50 | 54.80 | 3.59 | 0.16 |
| 100.00 | 62.05 | 3.71 | 0.13 |
| 200.00 | 56.52 | 3.69 | 0.18 |
| 300.00 | 52.40 | 2.98 | 0.21 |
| 420.00 | 57.26 | 1.51 | 0.26 |
| 500.00 | 23.28 | 1.04 | 0.72 |
| 600.00 | 39.26 | 1.89 | 0.29 |
| 700.00 | 51.96 | 4.10 | 0.36 |
| 800.00 | 8.66 | 0.78 | 7.16 |

SCLF-44 INSERTION LOSS



SCLF-44 RETURN LOSS

