*Surface Mount*

# Low Pass Filter

## SCLF-8+
## SCLF-8

50Ω DC to 8 MHz

CASE STYLE: YY161
PRICE: $12.95 ea. QTY (1-9)

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

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

### Maximum Ratings

| | |
|---|---|
| Operating Temperature | -40°C to 85°C |
| Storage Temperature | -55°C to 100°C |
| 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 |

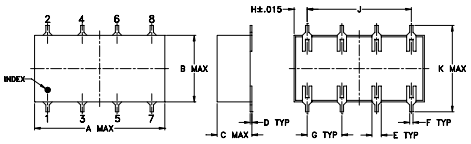
### Features

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

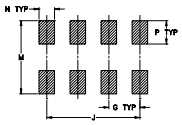
### Applications

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

### Outline Drawing




**PCB Land Pattern**



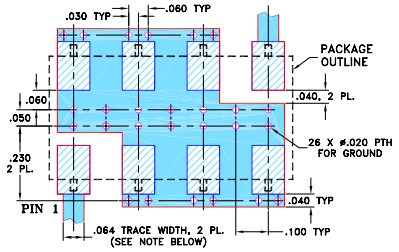

Suggested Layout,
Tolerance to be within ±.002

### Outline Dimensions (inch / mm)

| 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: 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.

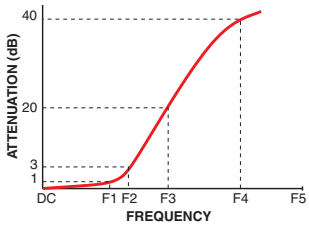
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

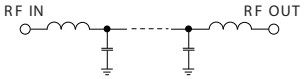
### Electrical Specifications

| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|---|
| Pass Band | Insertion Loss | DC-F1 | DC-8 | — | — | 1.0 | dB |
| | Freq. Cut-Off | F2 | 9.2 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-8 | — | 1.7 | — | :1 |
| Stop Band | Rejection Loss | F3-F4 | 12.5-16.5 | 20 | — | — | dB |
| | | F4-F5 | 16.5-200 | 40 | — | — | dB |
| | VSWR | F3-F5 | 12.5-200 | — | 18 | — | :1 |

### Typical Frequency Response



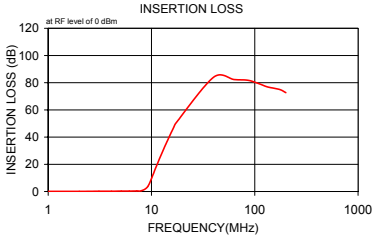

### Electrical Schematic



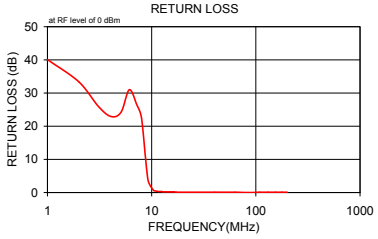

### Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) x̄ | Insertion Loss (dB) σ | Return Loss (dB) | Frequency (MHz) | Group Delay (nsec) |
|---|---|---|---|---|---|
| 1.00 | 0.10 | 0.00 | 40.10 | 1.00 | 91.50 |
| 2.00 | 0.10 | 0.00 | 33.40 | 1.10 | 91.70 |
| 3.10 | 0.20 | 0.00 | 25.90 | 1.20 | 93.50 |
| 4.10 | 0.20 | 0.00 | 22.90 | 1.40 | 93.60 |
| 5.10 | 0.30 | 0.00 | 24.30 | 1.50 | 90.70 |
| 6.10 | 0.30 | 0.00 | 31.00 | 1.60 | 94.50 |
| 7.20 | 0.40 | 0.00 | 26.50 | 1.80 | 92.90 |
| 8.00 | 0.60 | 0.10 | 22.40 | 2.00 | 92.60 |
| 9.20 | 3.60 | 0.70 | 4.00 | 2.20 | 94.00 |
| 10.40 | 12.70 | 1.10 | 0.70 | 2.40 | 93.60 |
| 10.80 | 15.90 | 1.10 | 0.50 | 2.70 | 93.50 |
| 11.20 | 18.90 | 1.10 | 0.40 | 2.90 | 94.60 |
| 11.70 | 22.40 | 1.10 | 0.30 | 3.30 | 96.10 |
| 12.10 | 25.00 | 1.10 | 0.30 | 3.60 | 96.70 |
| 12.50 | 27.50 | 1.00 | 0.30 | 4.00 | 97.50 |
| 12.90 | 29.90 | 1.00 | 0.20 | 4.40 | 99.90 |
| 13.60 | 33.90 | 1.00 | 0.20 | 4.80 | 103.20 |
| 14.30 | 37.50 | 1.00 | 0.20 | 5.20 | 105.90 |
| 15.10 | 41.40 | 1.00 | 0.20 | 5.80 | 110.60 |
| 15.80 | 44.50 | 1.00 | 0.20 | 6.30 | 116.80 |
| 16.50 | 47.50 | 1.00 | 0.20 | 7.00 | 126.30 |
| 17.20 | 50.20 | 0.90 | 0.10 | 8.00 | 160.20 |
| 40.10 | 84.10 | 6.10 | 0.10 | 8.40 | 182.20 |
| 62.90 | 82.30 | 3.00 | 0.10 | 9.20 | 193.10 |
| 85.80 | 81.80 | 3.90 | 0.00 | 10.10 | 124.10 |
| 108.60 | 79.40 | 2.00 | 0.10 | 11.10 | 74.80 |
| 131.50 | 77.00 | 1.90 | 0.10 | 12.50 | 43.80 |
| 154.30 | 75.90 | 2.00 | 0.10 | 13.40 | 34.60 |
| 177.20 | 74.80 | 1.50 | 0.10 | 14.70 | 25.30 |
| 200.00 | 72.70 | 1.10 | 0.10 | 16.10 | 20.40 |

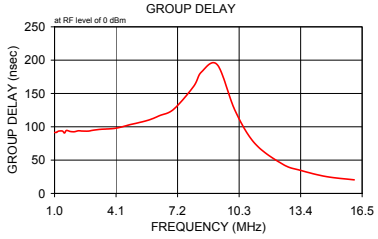
SCLF-8
INSERTION LOSS




SCLF-8
RETURN LOSS




SCLF-8
GROUP DELAY




*For detailed performance specs & shopping online see web site*




**Notes: 1.** Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. **2.** Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. **3.** The parts covered by this specification sheet 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.



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