

# Surface Mount Low Pass Filter

## SCLF-44+

50Ω DC to 44 MHz

### Maximum Ratings

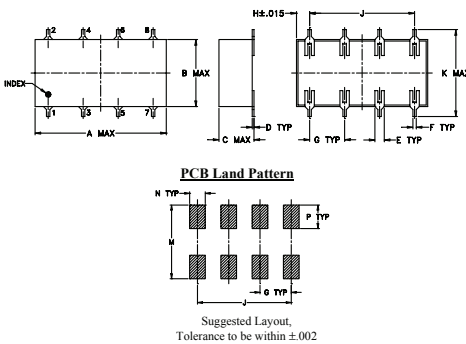
|                       |                |
|-----------------------|----------------|
| Operating Temperature | -40°C to 85°C  |
| Storage Temperature   | -55°C to 100°C |
| RF Power Input        | 0.5W max.      |

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

### Pin Connections

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

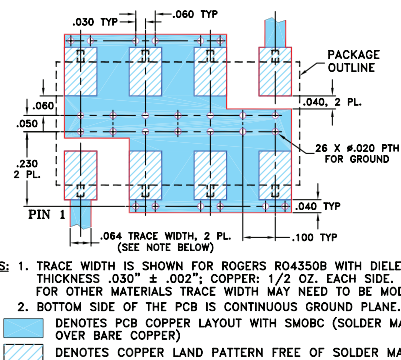
### Outline Drawing



### 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

#### 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-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](http://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



Generic photo used for illustration purposes only  
CASE STYLE: YY161

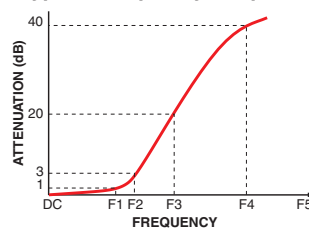
### +RoHS Compliant

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

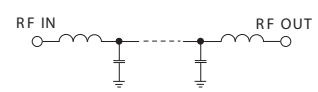
### Electrical Specifications

| 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



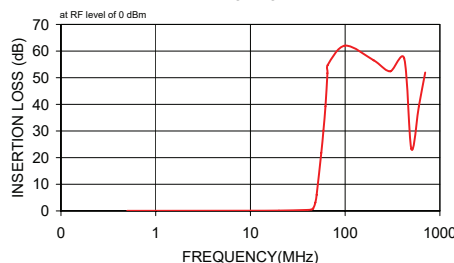
### Electrical Schematic



### Typical Performance Data

| Frequency (MHz) | Insertion Loss (dB) |          | Return Loss (dB) |
|-----------------|---------------------|----------|------------------|
|                 | $\bar{x}$           | $\sigma$ |                  |
| 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             |

### INSERTION LOSS



### RETURN LOSS

