

Ceramic

# Low Pass Filter

50Ω

DC to 1000 MHz

LFCN-1000D+



## Maximum Ratings

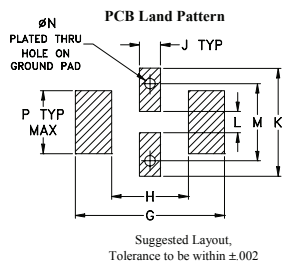
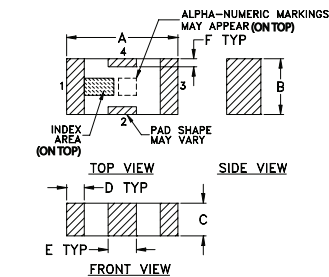
|                             |                   |
|-----------------------------|-------------------|
| Operating Temperature       | -55°C to 100°C    |
| Storage Temperature         | -55°C to 100°C    |
| RF Power Input*             | 10W max. at 25°C  |
| Max. DC Voltage at pins 1&3 | 25 VDC            |
| DC Current Input to Output  | 0.5A max. at 25°C |

\* Derate linearly to 3.5W at 100°C ambient.  
Permanent damage may occur if any of these limits are exceeded.

## Pin Connections

|        |     |
|--------|-----|
| RF IN  | 1   |
| RF OUT | 3   |
| GROUND | 2,4 |

## Outline Drawing



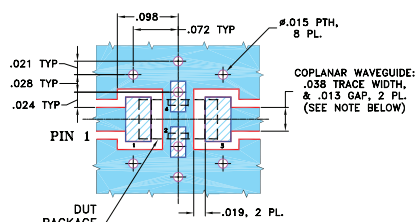
## Outline Dimensions (inch)

| A    | B    | C    | D    | E    | F    | G    |
|------|------|------|------|------|------|------|
| .126 | .063 | .037 | .020 | .032 | .009 | .169 |
| 3.20 | 1.60 | 0.94 | 0.51 | 0.81 | 0.23 | 4.29 |

| H    | J    | K    | L    | M    | N    | P    | wt    |
|------|------|------|------|------|------|------|-------|
| .087 | .024 | .122 | .024 | .087 | .012 | .071 | grams |
| 2.21 | 0.61 | 3.10 | 0.61 | 2.21 | 0.30 | 1.80 | .020  |

## Demo Board MCL P/N: TB-270 Suggested PCB Layout (PL-137)



NOTES: 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP 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-Circuits' 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

- excellent power handling, 10W
- small size
- 7 sections
- temperature stable
- LTCC construction
- protected by U.S Patent 6,943,646

## Applications

- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

CASE STYLE: FV1206

PRICE: \$2.49 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, 3000 |

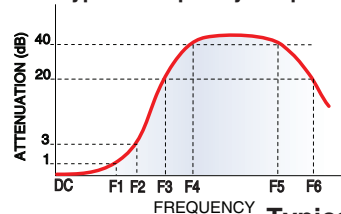
## Electrical Specifications<sup>1,2</sup> at 25°C

| Parameter | F#             | Frequency (MHz) | Min.      | Typ. | Max. | Unit |
|-----------|----------------|-----------------|-----------|------|------|------|
| Pass Band | Insertion Loss | DC-F1           | DC-1000   | —    | —    | dB   |
|           | Freq. Cut-Off  | F2              | 1300      | 3.0  | —    | dB   |
|           | VSWR           | DC-F1           | DC-1000   | 1.3  | —    | :1   |
| Stop Band | Rejection Loss | F3              | 1600      | 20   | —    | dB   |
|           |                | F4-F5           | 1900-5000 | 30   | —    | dB   |
|           | VSWR           | F6              | 5500      | 20   | —    | dB   |
|           |                | F3-F6           | 1600-5500 | 20   | —    | :1   |

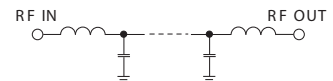
(1) DC Resistance to ground is 100 Mohms min.

(2) Measured on Mini-Circuits Characterization Test Board TB-270.

## Typical Frequency Response



## Electrical Schematic



## Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 10.00           | 0.05                | 1.01      |
| 500.00          | 0.33                | 1.13      |
| 1000.00         | 0.76                | 1.22      |
| 1100.00         | 0.98                | 1.26      |
| 1200.00         | 1.37                | 1.27      |
| 1300.00         | 2.37                | 1.40      |
| 1350.00         | 3.74                | 1.82      |
| 1400.00         | 6.46                | 2.55      |
| 1450.00         | 10.77               | 3.25      |
| 1500.00         | 16.09               | 3.74      |
| 1600.00         | 24.80               | 6.17      |
| 2000.00         | 49.62               | 30.49     |
| 4000.00         | 37.82               | 59.91     |
| 5000.00         | 32.47               | 31.60     |
| 6000.00         | 10.92               | 5.17      |

