

Ceramic

# Low Pass Filter

50Ω DC to 1500 MHz

LFCN-1500D+



CASE STYLE: FV1206  
PRICE: \$2.99 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

## 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 |

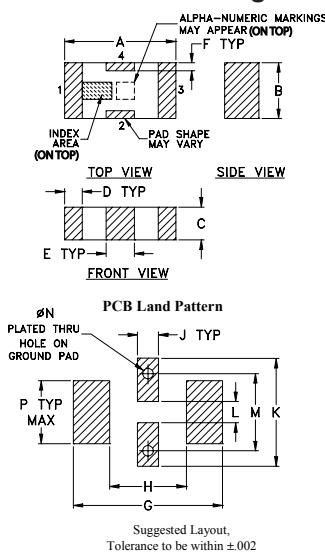
\* Passband rating, derate linearly to 3.5W at 100°C ambient.  
Permanent damage may occur if any of these limits are exceeded.

## Pin Connections

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

## Product Marking: EJ

### Outline Drawing



### Outline Dimensions (inch/mm)

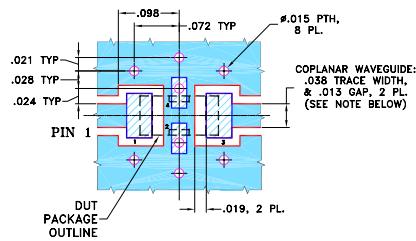
| A    | B    | C    | D    | E    | F    | G    |
|------|------|------|------|------|------|------|
| .126 | .063 | .037 | .020 | .032 | .009 | .169 |
| 3.20 | 1.60 | 0.94 | 0.51 | 0.81 | 0.23 | 4.29 |

| 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 R04350B 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)

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-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

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

|           | Parameter      | F#    | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-----------|----------------|-------|-----------------|------|------|------|------|
| Pass Band | Insertion Loss | DC-F1 | DC-1500         | —    | —    | 1.0  | dB   |
|           | Freq. Cut-Off  | F2    | 1825            | —    | 3.0  | —    | dB   |
|           | VSWR           | DC-F1 | DC-1500         | —    | 1.2  | —    | :1   |
| Stop Band | Rejection Loss | F3    | 2100            | 20   | —    | —    | dB   |
|           |                | F4-F5 | 2150-6600       | —    | 30   | —    | dB   |
|           |                | F6    | 6800            | —    | 20   | —    | dB   |
|           | VSWR           | F3-F6 | 2100-6800       | —    | 20   | —    | :1   |

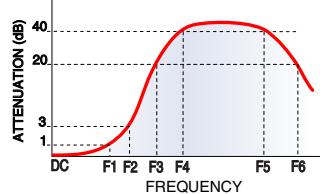
(1) DC Resistance to ground is 100 Mohms min.

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

## Electrical Schematic



### Typical Frequency Response



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 1.00            | 0.02                | 1.01      |
| 1450.00         | 0.61                | 1.19      |
| 1500.00         | 0.65                | 1.19      |
| 1600.00         | 0.77                | 1.22      |
| 1700.00         | 0.99                | 1.30      |
| 1800.00         | 1.46                | 1.51      |
| 1850.00         | 1.93                | 1.73      |
| 1900.00         | 2.79                | 2.16      |
| 1950.00         | 4.33                | 2.96      |
| 2000.00         | 6.94                | 4.38      |
| 2050.00         | 10.75               | 6.44      |
| 2100.00         | 15.74               | 8.77      |
| 2175.00         | 25.66               | 11.93     |
| 6600.00         | 37.65               | 20.95     |
| 7000.00         | 29.43               | 17.75     |

