



Mini-Circuits®

CERAMIC

## Low Pass Filter

50Ω

DC to 1000 MHz

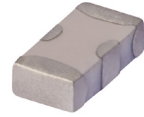
LFCN-1000D+

## 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



Generic photo used for illustration purposes only

CASE STYLE: FV1206

**+RoHS Compliant**

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

ELECTRICAL SPECIFICATIONS<sup>1,2</sup> AT 25°C

| Parameter |                | F#    | Frequency (MHz) | Min. | Typ. | Max. | Units |
|-----------|----------------|-------|-----------------|------|------|------|-------|
| Passband  | Insertion Loss | DC-F1 | DC-1000         | —    | —    | 1.0  | 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   | —    |       |
|           |                | F6    | 5500            | —    | 20   | —    |       |
|           | VSWR           | F3-F6 | 1600-5500       | —    | 20   | —    | :1    |

<sup>1</sup>. DC Resistance to ground is 100 Mohms min.<sup>2</sup>. Measured on Mini-Circuits Characterization Test Board TB-270.

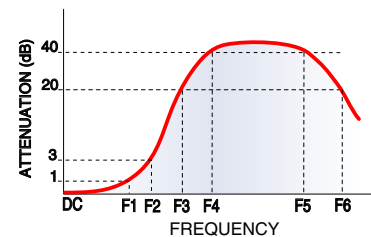
## MAXIMUM RATINGS

| Parameter                   | Ratings           |
|-----------------------------|-------------------|
| Operating temperature       | -55°C to 100°C    |
| Storage temperature         | -55°C to 100°C    |
| RF Power Input <sup>3</sup> | 10 W max. at 25°C |
| Max. DC Voltage at pins 1&3 | 25 VDC            |
| DC Current Input to Output  | 0.5A max. at 25°C |

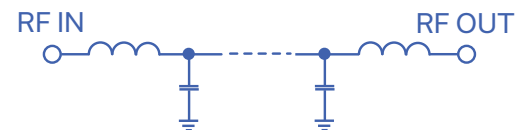
<sup>3</sup>. Derate linearly to 3.5W at 100°C ambient.

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

## TYPICAL FREQUENCY RESPONSE



## FUNCTIONAL SCHEMATIC



REV. G  
ECO-011331  
LFCN-1000D+  
RVN/AD/CP/AM  
220104

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**LFCN-1000D+**

## PIN CONNECTIONS

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

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-270  
SUGGESTED PCB LAYOUT (PL-137)



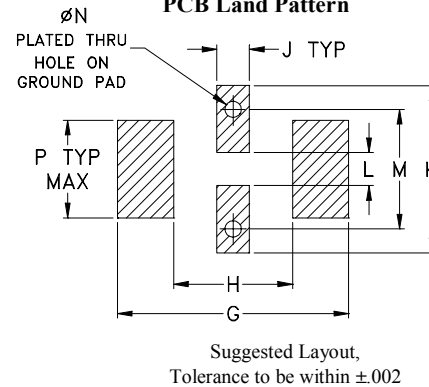
**NOTES:** 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015".  
COPPER: 1/2 OZ. EACH SIDE.  
FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.

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

## OUTLINE DRAWING



## PCB Land Pattern



## OUTLINE DIMENSIONS (Inches 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  |

## TAPE & REEL INFORMATION: F71



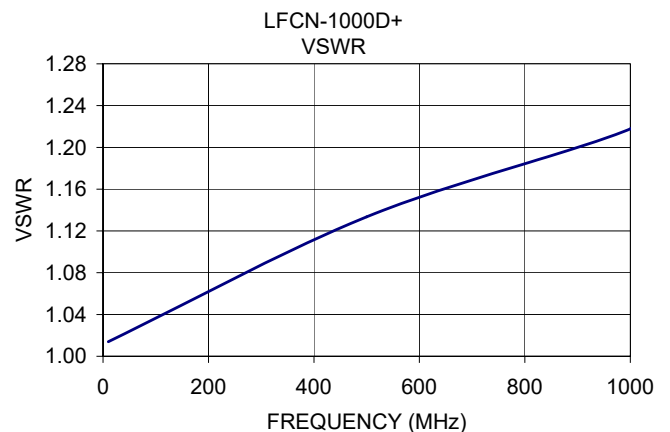
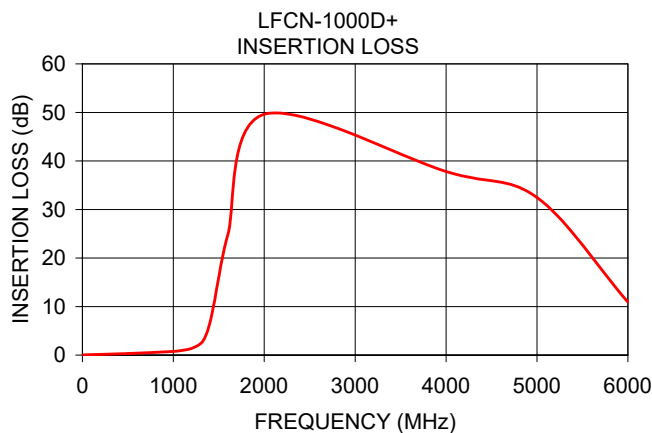
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## TYPICAL PERFORMANCE DATA AT 25°C

| 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      |



### 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.
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