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CERAMIC

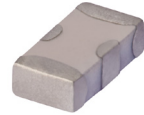
## Low Pass Filter

LFCN-160+

50Ω DC<sup>1</sup> to 160 MHz

## FEATURES

- Excellent power handling, 8W
- Small size
- 7 sections
- Temperature stable
- Hermetically sealed
- LTCC construction
- Protected by U.S Patent 6,943,646



Generic photo used for illustration purposes only

CASE STYLE: FV1206

**+RoHS Compliant**The +Suffix identifies RoHS Compliance.  
See our website for methodologies and qualifications

## 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. | Units |
|-----------|----------------|-------|-----------------|------|------|------|-------|
| Passband  | Insertion Loss | DC-F1 | DC-160          | —    | —    | 1.0  | dB    |
|           | Freq. Cut-Off  | F2    | 230             | —    | 3.0  | —    | dB    |
|           | VSWR           | DC-F1 | DC-160          | —    | 1.2  | —    | :1    |
| Stop Band | Rejection Loss | F3-F4 | 330-480         | 20   | —    | —    | dB    |
|           |                | F4-F5 | 480-2700        | —    | 35   | —    |       |
|           |                | F5-F6 | 2700-6100       | —    | 20   | —    |       |
|           | VSWR           | F3-F6 | 330-6100        | —    | 17   | —    | :1    |

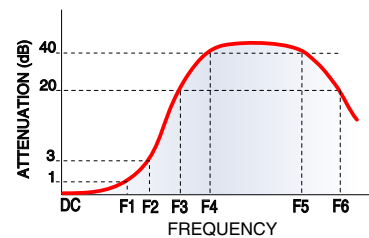
<sup>1</sup>. In Application where DC voltage is present at either input or output ports, coupling capacitors are required.<sup>2</sup>. Measured on Mini-Circuits Characterization Test Board TB-270.

## ABSOLUTE MAXIMUM RATINGS

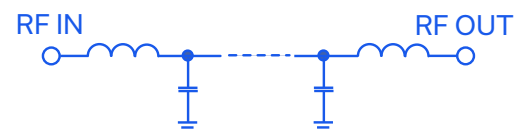
| Parameter                   | Ratings          |
|-----------------------------|------------------|
| Operating temperature       | -55°C to 100°C   |
| Storage temperature         | -55°C to 100°C   |
| RF Power Input <sup>3</sup> | 8 W max. at 25°C |

<sup>3</sup>. Passband rating, derate linearly to 3W at 100°C ambient.  
Permanent damage may occur if any of these limits are exceeded.

## TYPICAL FREQUENCY RESPONSE



## FUNCTIONAL SCHEMATIC

REV. H  
ECO-023234  
LFCN-160+  
MCL NY  
241010

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LFCN-160+

50Ω DC<sup>1</sup> to 160 MHz

## PIN CONNECTIONS

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

PRODUCT MARKING: RC

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



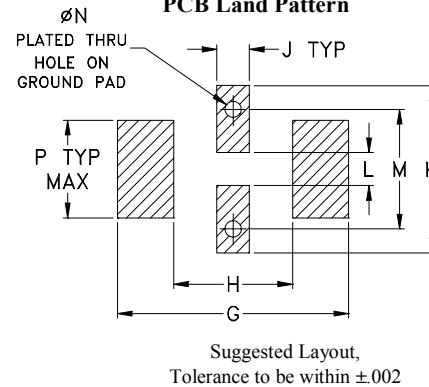
**NOTES:** 1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015".  
COPPER: 1/2 OZ. EACH SIDE.  
FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.

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 &amp; REEL INFORMATION: F71

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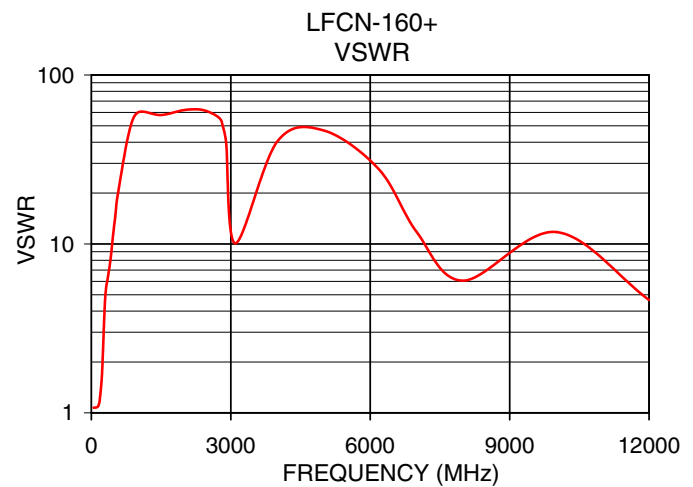
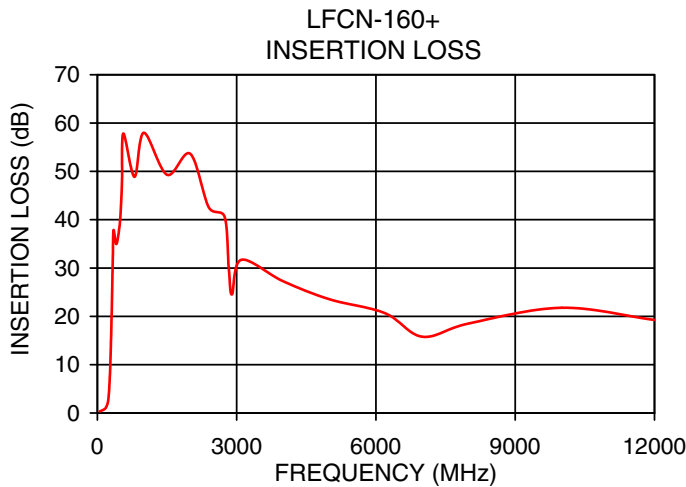
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## TYPICAL PERFORMANCE DATA AT 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 40              | 0.29                | 1.07      |
| 100             | 0.53                | 1.07      |
| 150             | 0.77                | 1.09      |
| 160             | 0.85                | 1.11      |
| 210             | 1.60                | 1.41      |
| 230             | 2.50                | 1.74      |
| 260             | 5.92                | 2.80      |
| 280             | 10.64               | 3.89      |
| 310             | 21.67               | 5.22      |
| 330             | 30.84               | 5.74      |
| 350             | 37.58               | 6.13      |
| 480             | 39.25               | 12.26     |
| 1000            | 54.13               | 59.91     |
| 2700            | 41.64               | 56.04     |
| 6100            | 20.85               | 27.59     |
| 9000            | 33.07               | 14.03     |
| 12000           | 19.52               | 4.50      |



## 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-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/terms/viewterm.html](http://www.minicircuits.com/terms/viewterm.html)

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