

Ceramic Low Pass Filter

50Ω DC to 4400 MHz

LFCN-4400D+



CASE STYLE: FV1206

Maximum Ratings

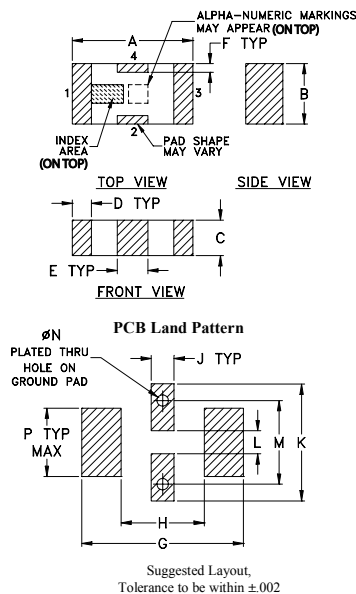
| | |
|-------------------------------|-------------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input* | 8W max. at 25°C |
| Max. DC Voltage at pins 1 & 3 | 25 VDC |
| DC Current Input to Output | 0.5A max. at 25°C |

* Passband rating, derate linearly to 3W 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



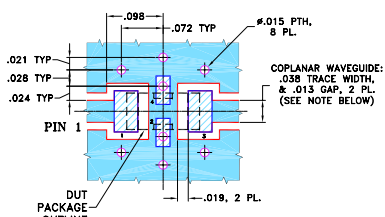
Outline Dimensions (inch)

| 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.

3. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

4. 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

Features

- excellent power handling, 8W
- small size
- 7 sections
- temperature stable
- hermetically sealed
- LTCC construction
- protected by U.S. Patent 6,943,646

Applications

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

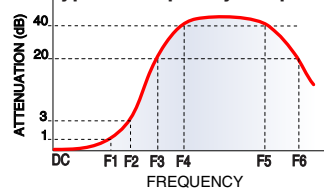
Electrical Specifications^{1,2} at 25°C

| Parameter | | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit |
|-----------|----------------|-------|-----------------|------|------|------|------|
| Pass Band | Insertion Loss | DC-F1 | DC-4400 | — | — | 1 | dB |
| | Freq. Cut-Off | F2 | 5290 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-4400 | — | 1.2 | — | :1 |
| Stop Band | Rejection Loss | F3 | 6700 | 20 | — | — | dB |
| | | F4-F5 | 6280-9800 | — | 30 | — | dB |
| | | F5-F6 | 9800-13000 | — | 20 | — | dB |
| | VSWR | F3-F6 | 6700-13000 | — | 17 | — | :1 |

1. DC Resistance to ground is 100 Mohms min.

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

Typical Frequency Response



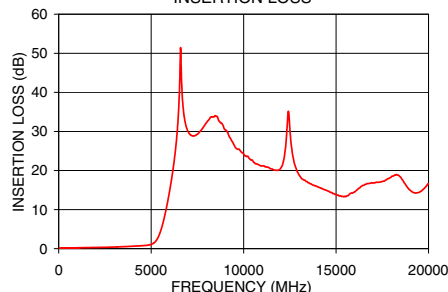
Electrical Schematic



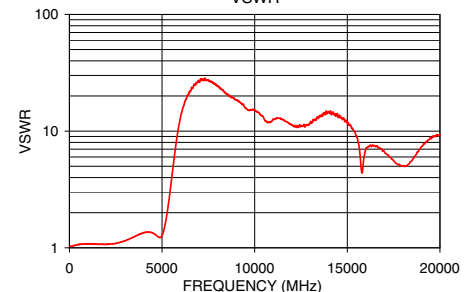
Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 50 | 0.04 | 1.03 |
| 320 | 0.12 | 1.06 |
| 1340 | 0.24 | 1.08 |
| 3740 | 0.57 | 1.33 |
| 4400 | 0.75 | 1.39 |
| 5170 | 1.98 | 1.88 |
| 5290 | 2.99 | 2.62 |
| 5580 | 7.66 | 6.63 |
| 5860 | 14.61 | 13.09 |
| 6280 | 31.47 | 21.20 |
| 6700 | 31.52 | 26.33 |
| 7400 | 28.90 | 26.33 |
| 9800 | 24.24 | 14.26 |
| 13000 | 19.94 | 12.80 |
| 20000 | 17.61 | 11.53 |

LFCN-4400D+ INSERTION LOSS



LFCN-4400D+ VSWR



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M151107
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