

Ceramic Low Pass Filter

50Ω DC to 575 MHz

LFCN-575D+



CASE STYLE: FV1206

Maximum Ratings

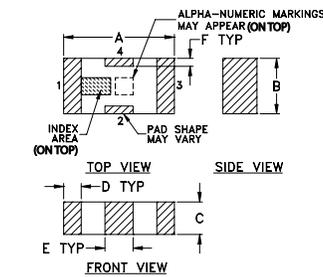
| | |
|-----------------------------|-------------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input* | 8.5W max. at 25°C |
| Max. DC Voltage at pins 1&3 | 25 VDC |
| DC Current Input to Output | 0.5A max. at 25°C |

* 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



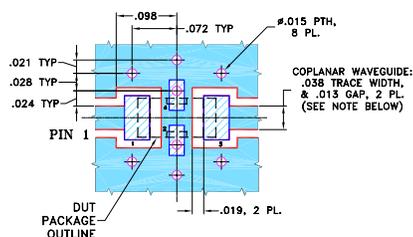
Suggested Layout,
Tolerance to be within ±0.02

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 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.

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/MCLStore/terms.jsp

Features

- excellent power handling, 8.5W
- small size
- 7 sections
- temperature stable
- LTCC construction
- protected by U.S. Patent 6,943,646

Applications

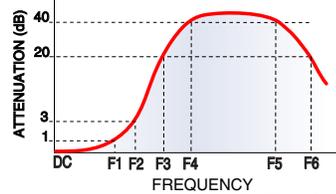
- harmonic rejection
- VHF/UHF transmitters/receivers
- RF suppression for DC lines on PCB
- anti-aliasing for A/D converter

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

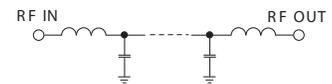
| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit | |
|-----------|----------------|-----------------|-----------|------|------|------|----|
| Pass Band | Insertion Loss | DC-F1 | DC-575 | — | — | 1.0 | dB |
| | Freq. Cut-Off | F2 | 770 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-575 | — | 1.2 | — | :1 |
| Stop Band | Rejection Loss | F3 | 945 | 20 | — | — | dB |
| | | F4-F5 | 1050-3200 | — | 40 | — | dB |
| | | F6 | 5500 | — | 20 | — | dB |
| | VSWR | F3-F6 | 920-5500 | — | 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) |
|-----------------|---------------------|-----------|
| 1.00 | 0.07 | 1.01 |
| 100.00 | 0.21 | 1.03 |
| 250.00 | 0.36 | 1.00 |
| 400.00 | 0.53 | 1.04 |
| 575.00 | 0.84 | 1.08 |
| 680.00 | 1.25 | 1.30 |
| 770.00 | 2.04 | 1.66 |
| 945.00 | 26.78 | 11.71 |
| 1050.00 | 35.93 | 16.26 |
| 2000.00 | 51.19 | 41.85 |
| 3000.00 | 48.54 | 47.85 |
| 4000.00 | 37.25 | 42.08 |
| 5000.00 | 20.11 | 21.33 |
| 5500.00 | 22.12 | 24.18 |

