

Ceramic Low Pass Filter

50Ω DC⁽¹⁾ to 575 MHz

LFCN-575+



Maximum Ratings

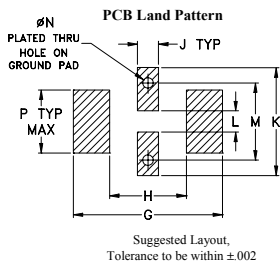
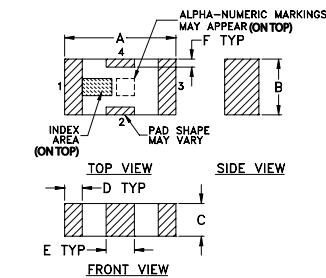
| | |
|-----------------------|-------------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input* | 8.5W max. at 25°C |

* 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 |

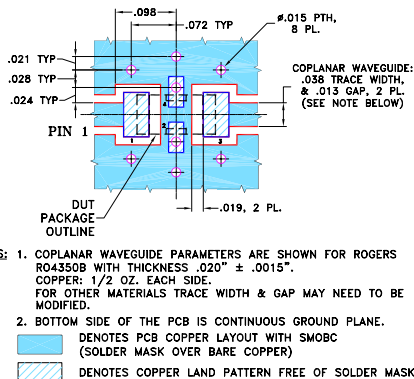
Outline Drawing



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 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

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

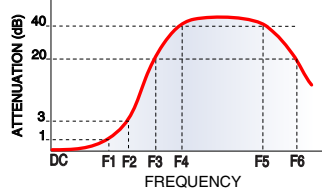
Electrical Specifications^(1,2) at 25°C

| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit | |
|-----------|----------------|-----------------|-----------|------|------|------|----|
| Pass Band | Insertion Loss | DC-F1 | DC-575 | — | — | 1.2 | dB |
| | Freq. Cut-Off | F2 | 770 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-575 | — | 1.2 | — | :1 |
| Stop Band | Rejection Loss | F3 | 900 | 20 | — | — | dB |
| | | F4-F5 | 1050-3200 | — | 40 | — | dB |
| | | F6 | 5500 | — | 20 | — | dB |
| | VSWR | F3-F6 | 900-5500 | — | 20 | — | :1 |

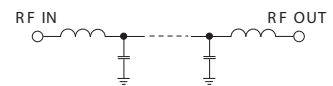
(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required. Alternatively, if DC pass IN-OUT is required, Mini-Circuits "D" suffix version of this model will support DC IN-OUT, and provide >100 MOhm isolation to ground.

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

Typical Frequency Response

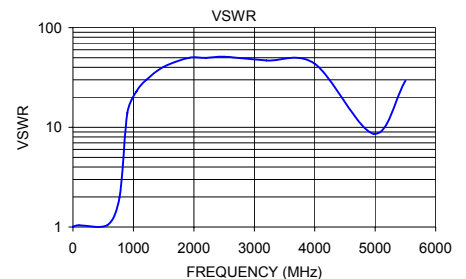


Electrical Schematic



Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 1.00 | 0.05 | 1.01 |
| 100.00 | 0.20 | 1.04 |
| 575.00 | 0.81 | 1.05 |
| 770.00 | 2.92 | 1.99 |
| 900.00 | 33.14 | 13.92 |
| 1050.00 | 47.43 | 22.87 |
| 1215.00 | 36.74 | 29.96 |
| 1500.00 | 43.94 | 40.41 |
| 1915.00 | 71.13 | 49.64 |
| 2200.00 | 62.28 | 49.64 |
| 2500.00 | 52.63 | 51.10 |
| 3200.00 | 47.83 | 46.96 |
| 4000.00 | 38.32 | 43.44 |
| 4970.00 | 16.59 | 8.64 |
| 5500.00 | 25.11 | 29.46 |



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

