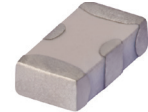


Ceramic

Low Pass Filter

LFCN-180+

50Ω DC⁽¹⁾ to 180 MHz



Generic photo used for illustration purposes only
CASE STYLE: FV1206

Maximum Ratings

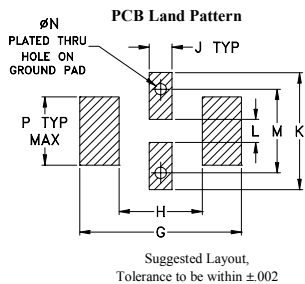
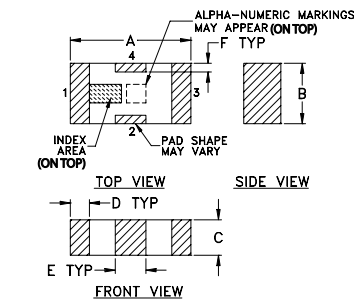
| | |
|-----------------------|-----------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input* | 8W max. at 25°C |

* 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

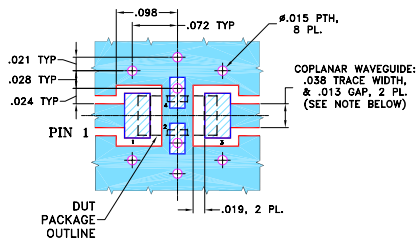


Outline Dimensions (inch)

| 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:
- 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.
 - 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

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.
- 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

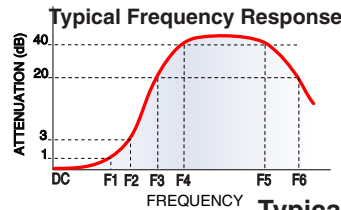
- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

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

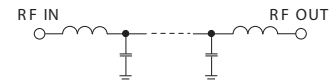
| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit | |
|-----------|----------------|-----------------|-----------|------|------|------|----|
| Pass Band | Insertion Loss | DC-F1 | DC-180 | — | — | 1.0 | dB |
| | Freq. Cut-Off | F2 | 270 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-180 | — | 1.2 | — | :1 |
| Stop Band | Rejection Loss | F3-F4 | 370-525 | 20 | — | — | dB |
| | | F4-F5 | 525-2350 | — | 40 | — | dB |
| | VSWR | F5-F6 | 2350-6400 | — | 20 | — | dB |
| | | F3-F6 | 370-6400 | — | 17 | — | :1 |

(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required.

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



Electrical Schematic



Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 40 | 0.29 | 1.08 |
| 100 | 0.47 | 1.08 |
| 180 | 0.85 | 1.14 |
| 235 | 1.55 | 1.39 |
| 270 | 3.15 | 1.82 |
| 300 | 7.47 | 2.89 |
| 325 | 14.93 | 4.47 |
| 350 | 25.55 | 5.79 |
| 370 | 35.04 | 6.37 |
| 525 | 40.41 | 11.85 |
| 950 | 64.01 | 54.29 |
| 1700 | 47.93 | 69.49 |
| 2350 | 42.01 | 64.35 |
| 4500 | 25.94 | 28.49 |
| 6400 | 20.10 | 27.16 |
| 8500 | 33.14 | 8.12 |
| 12000 | 20.84 | 3.93 |

