

Ceramic Low Pass Filter

LFCN-1800D-1+

50Ω DC to 1800 MHz



CASE STYLE: FV1206

+RoHS Compliant

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Maximum Ratings

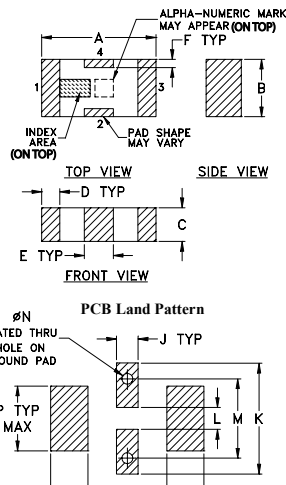
| | |
|-----------------------------|-------------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input* | 10W max. at 25°C |
| Max. DC Voltage at pins 1&3 | 25 VDC |
| DC Current Input to Output | 0.5A max. at 25°C |

* 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 |

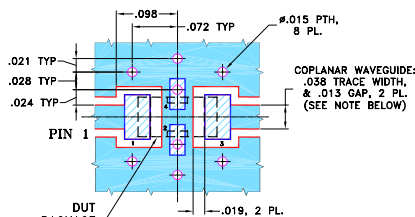
Outline Drawing



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:**
- 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

- 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, 10W
- small size
- 7 sections
- temperature stable
- LTCC construction
- protected by U.S. Patent 6,943,646

Applications

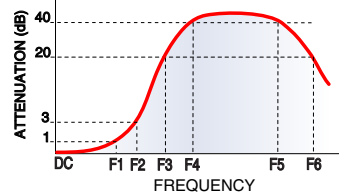
- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

Electrical Specifications¹ at 25°C

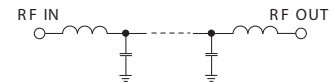
| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit | |
|-----------|----------------|-----------------|-----------|------|------|------|----|
| Pass Band | Insertion Loss | DC-F1 | DC-1800 | — | — | 1.0 | dB |
| | Freq. Cut-Off | F2 | 2125 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-1800 | — | 1.2 | — | :1 |
| Stop Band | Rejection Loss | F3 | 2550 | 20 | — | — | dB |
| | | F4-F5 | 3000-7200 | — | 40 | — | dB |
| | VSWR | F6 | 8600 | — | 20 | — | dB |
| | | F3-F6 | 2550-8650 | — | 20 | — | :1 |

1. DC Resistance to ground is 100 Mohms min.

Typical Frequency Response



Electrical Schematic



Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 1.00 | 0.03 | 1.01 |
| 1000.00 | 0.41 | 1.27 |
| 1800.00 | 0.74 | 1.06 |
| 1900.00 | 0.86 | 1.06 |
| 2000.00 | 1.06 | 1.08 |
| 2100.00 | 1.46 | 1.22 |
| 2200.00 | 2.72 | 1.88 |
| 2300.00 | 6.84 | 4.29 |
| 2400.00 | 15.18 | 9.33 |
| 2500.00 | 28.34 | 14.03 |
| 3000.00 | 47.02 | 21.46 |
| 4000.00 | 36.22 | 28.03 |
| 5000.00 | 41.86 | 44.55 |
| 8000.00 | 25.75 | 15.81 |
| 9000.00 | 21.86 | 14.03 |

