

Ceramic Low Pass Filter

LFCN-5500D+

50Ω DC to 5500 MHz



CASE STYLE: FV1206

+RoHS Compliant

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



Available Tape and Reel at no extra cost

| Reel Size | Devices/Reel |
|-----------|-----------------------------------|
| 7" | 20, 50, 100, 200, 500, 1000, 3000 |

Maximum Ratings

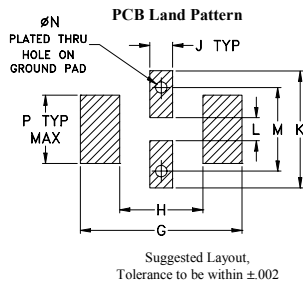
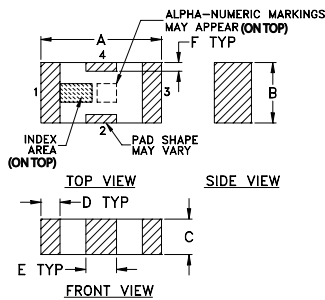
| | |
|-------------------------------|-------------------|
| Operating Temperature | -55°C to 100°C |
| Storage Temperature | -55°C to 100°C |
| RF Power Input* | 8W max. at 25°C |
| Max. DC Voltage at pins 1 & 3 | 25 VDC |
| DC Current Input to Output | 0.5A max. at 25°C |

* 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

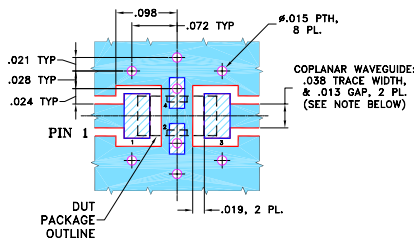


Outline Dimensions (Inch)

| 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.
- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
 - DENOTES COPPER LAND PATTERN (FREE OF SOLDER MASK)

Features

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

Applications

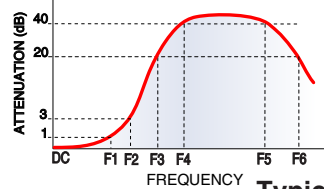
- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

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

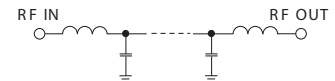
| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Unit | |
|-----------|----------------|-----------------|------------|------|------|------|----|
| Pass Band | Insertion Loss | DC-F1 | DC-5500 | — | — | 2.0 | dB |
| | Freq. Cut-Off | F2 | 6200 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-5500 | — | 1.3 | — | :1 |
| Stop Band | Rejection Loss | F3 | 7200 | 20 | — | — | dB |
| | | F4-F5 | 6770-9500 | — | 30 | — | dB |
| | | F5-F6 | 9500-12100 | — | 20 | — | dB |
| | VSWR | F3-F6 | 7200-12100 | — | 17 | — | :1 |

1. DC Resistance to ground is 100 Mohms min.
2. Measured on Mini-Circuits Characterization Test Board TB-270.

Typical Frequency Response



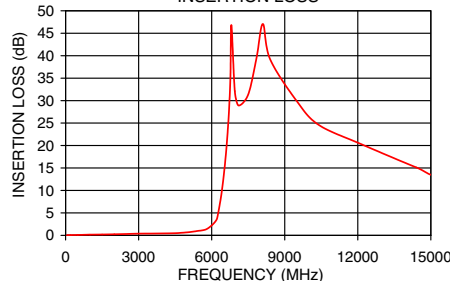
Electrical Schematic



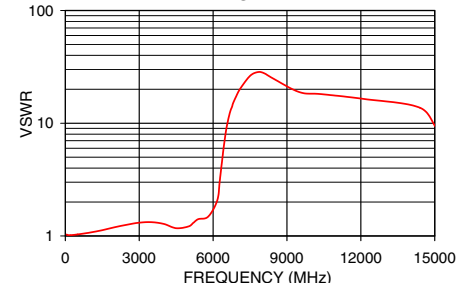
Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 40 | 0.02 | 1.04 |
| 500 | 0.09 | 1.03 |
| 1500 | 0.20 | 1.11 |
| 3000 | 0.38 | 1.36 |
| 4800 | 0.56 | 1.16 |
| 5500 | 1.09 | 1.53 |
| 6000 | 1.88 | 1.32 |
| 6200 | 3.68 | 1.79 |
| 6350 | 7.44 | 3.91 |
| 6550 | 16.23 | 9.63 |
| 6700 | 26.76 | 13.81 |
| 6770 | 35.64 | 15.53 |
| 7200 | 28.62 | 23.49 |
| 9500 | 29.85 | 19.54 |
| 10500 | 24.08 | 18.30 |
| 12100 | 20.36 | 17.22 |
| 15000 | 14.53 | 9.38 |

LFCN-5500D+ INSERTION LOSS



LFCN-5500D+ VSWR



Notes: A. Dimensions and electrical specifications 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.
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