



**THE DATASHEET OF
LFCN-1700D+**





CERAMIC

Low Pass Filter

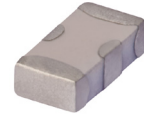
LFCN-1700D+

Mini-Circuits

50Ω DC to 1700 MHz

FEATURES

- Excellent power handling, 10W
- Small size
- 7 sections
- Temperature stable
- LTCC construction
- Protected by U.S Patent 6,943,646



Generic photo used for illustration purposes only

CASE STYLE: FV1206

APPLICATIONS

- Harmonic rejection
- VHF/UHF transmitters/receivers
- Lab use

+RoHS Compliant

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

ELECTRICAL SPECIFICATIONS^{1,2} AT 25°C

| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Units | |
|-----------|----------------|-----------------|-----------|------|------|-------|----|
| Passband | Insertion Loss | DC-F1 | DC-1700 | — | — | 1.0 | dB |
| | Freq. Cut-Off | F2 | 2050 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-1700 | — | 1.2 | — | :1 |
| Stop Band | Rejection Loss | F3 | 2375 | 20 | — | — | dB |
| | | F4-F5 | 2500-6500 | — | 30 | — | |
| | VSWR | F6 | 7000 | — | 20 | — | :1 |
| | | F3-F6 | 2375-7000 | — | 20 | — | |

1. DC Resistance to ground is 100 Mohms min..

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

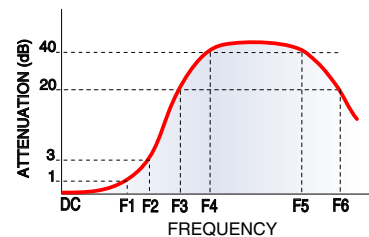
MAXIMUM RATINGS

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

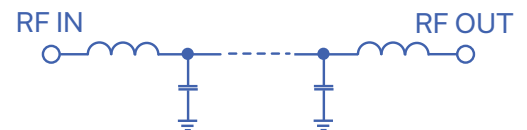
3. Derate linearly to 3.5W at 100°C ambient.

Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



REV. J
ECO-011696
LFCN-1700D+
AD/CP/AM
220126

Mini-Circuits



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PIN CONNECTIONS

| | |
|--------|-----|
| RF IN | 1 |
| RF OUT | 3 |
| GROUND | 2,4 |

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-270
SUGGESTED PCB LAYOUT (PL-137)



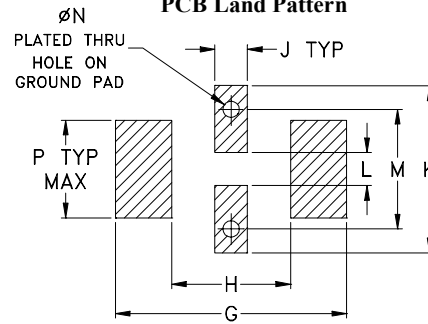
- NOTES:**
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

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

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (Inches 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 |

TAPE & REEL INFORMATION: F71



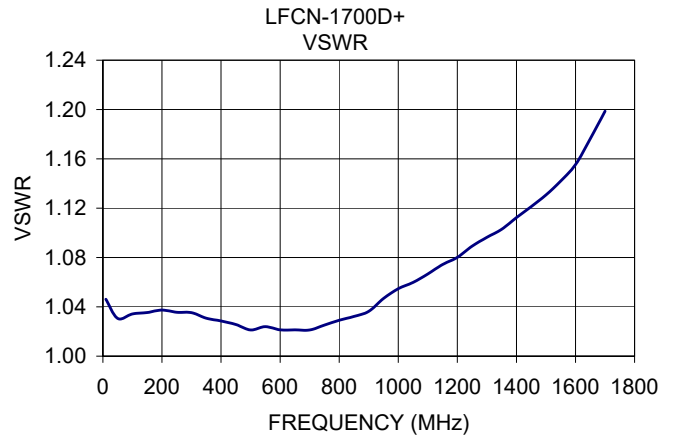
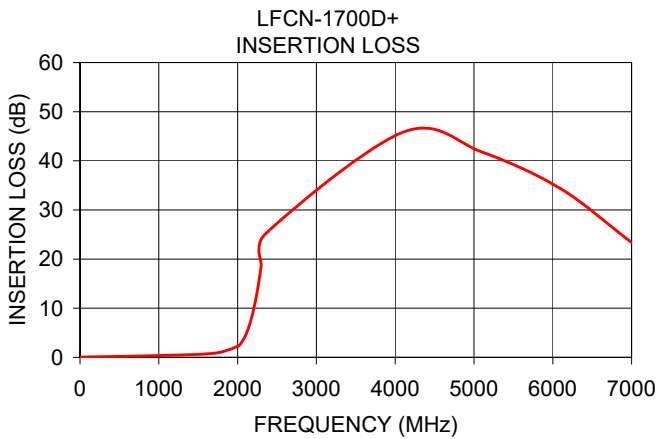
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TYPICAL PERFORMANCE DATA AT 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 10.00 | 0.06 | 1.05 |
| 1000.00 | 0.37 | 1.05 |
| 1700.00 | 0.83 | 1.20 |
| 2000.00 | 2.24 | 1.81 |
| 2050.00 | 3.07 | 2.19 |
| 2100.00 | 4.43 | 2.83 |
| 2150.00 | 6.53 | 3.82 |
| 2200.00 | 9.56 | 5.17 |
| 2250.00 | 13.56 | 6.76 |
| 2300.00 | 18.64 | 8.27 |
| 2350.00 | 25.08 | 9.58 |
| 4100.00 | 45.82 | 34.75 |
| 5100.00 | 41.80 | 43.44 |
| 6100.00 | 34.32 | 34.75 |
| 7000.00 | 23.37 | 22.58 |



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



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