



**THE DATASHEET OF
LFCN-6400D+**





CERAMIC

Low Pass Filter

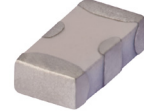
LFCN-6400D+

Mini-Circuits

50Ω DC to 6400 MHz

FEATURES

- Excellent power handling, 8W
- Small size
- 7 sections
- Temperature stable
- Hermetically sealed
- LTCC construction
- Protected by U.S Patent 6,943,646



Generic photo used for illustration purposes only

CASE STYLE: FV1206

+RoHS Compliant

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

APPLICATIONS

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

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

| Parameter | F# | Frequency (MHz) | Min. | Typ. | Max. | Units | |
|-----------|----------------|-----------------|-------------|------|------|-------|----|
| Passband | Insertion Loss | DC-F1 | DC-6400 | — | — | 2.0 | dB |
| | Freq. Cut-Off | F2 | 7200 | — | 3.0 | — | dB |
| | VSWR | DC-F1 | DC-6400 | — | 1.2 | — | :1 |
| Stop Band | Rejection Loss | F3 | 8300 | 20 | — | — | dB |
| | | F4-F5 | 7700-10200 | — | 30 | — | |
| | VSWR | F6 | 10200-12500 | — | 20 | — | :1 |
| | | F3-F6 | 8300-12500 | — | 17 | — | |

1. DC Resistance to ground is 100 Mohms min.

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

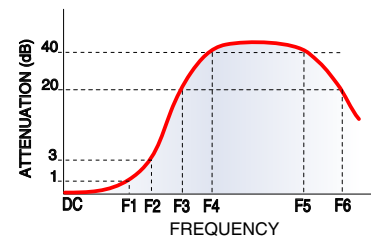
MAXIMUM RATINGS

| Parameter | Ratings |
|-----------------------------|-------------------|
| Operating temperature | -55°C to 100°C |
| Storage temperature | -55°C to 100°C |
| RF Power Input ³ | 8 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 |

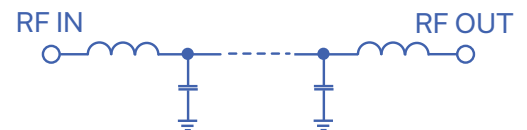
3. Derate linearly to 3W at 100°C ambient.

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

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



REV. B
 ECO-011362
 LFCN-6400D+
 EDR-8033/3U
 RVN/AD/CP/AM
 220107





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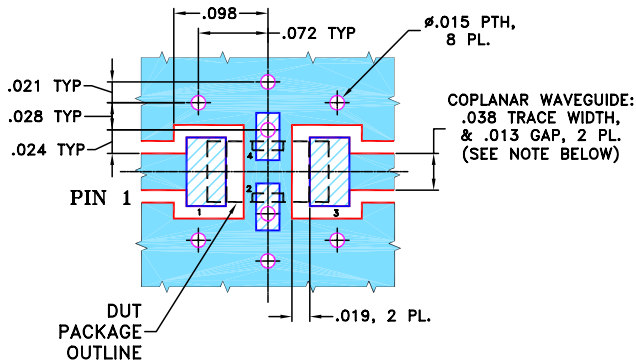
LFCN-6400D+

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



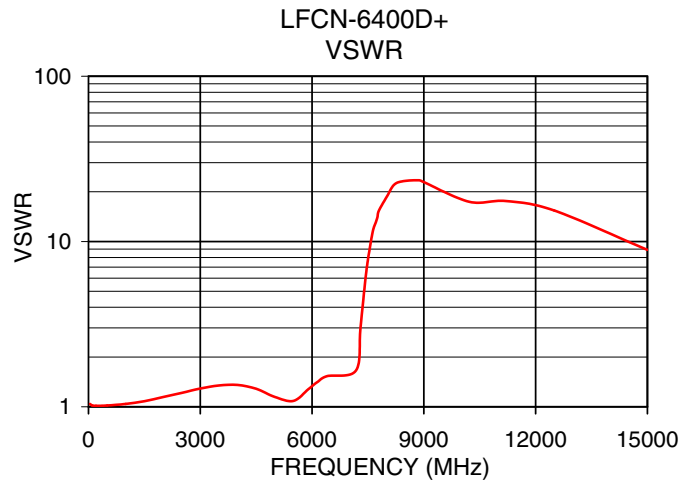
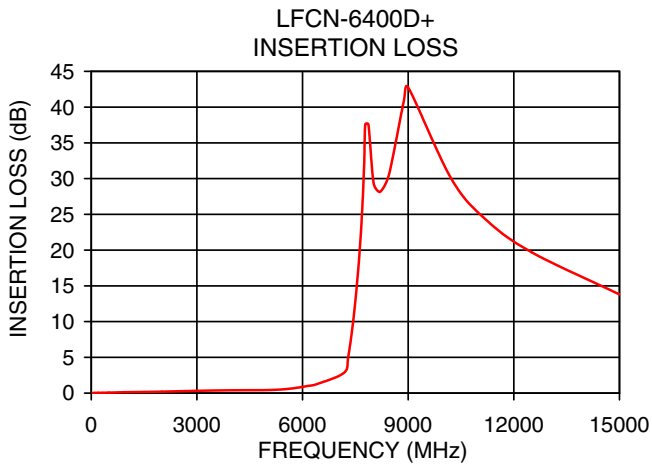
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TYPICAL PERFORMANCE DATA AT 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 40 | 0.02 | 1.04 |
| 500 | 0.07 | 1.02 |
| 2000 | 0.20 | 1.14 |
| 4000 | 0.40 | 1.36 |
| 5500 | 0.55 | 1.09 |
| 6400 | 1.25 | 1.53 |
| 7000 | 1.76 | 1.10 |
| 7200 | 3.12 | 1.81 |
| 7350 | 6.62 | 3.90 |
| 7500 | 12.86 | 7.76 |
| 7680 | 24.39 | 12.35 |
| 7770 | 35.48 | 14.62 |
| 8300 | 28.71 | 22.29 |
| 10200 | 30.17 | 16.89 |
| 11000 | 25.43 | 17.75 |
| 12500 | 19.72 | 15.39 |
| 15000 | 13.80 | 8.90 |





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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