

# Ceramic Low Pass Filter

50Ω

DC to 6000 MHz

## LFCN-6000+ LFCN-6000



### Maximum Ratings

|                            |                   |
|----------------------------|-------------------|
| Operating Temperature      | -55°C to 100°C    |
| Storage Temperature        | -55°C to 100°C    |
| RF Power Input*            | 9W max. at 25°C   |
| DC Current Input to Output | 0.5A max. at 25°C |

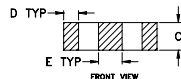
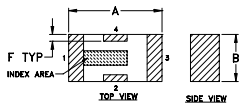
\* Passband rating, derate linearly to 3W at 100°C ambient.

### Pin Connections

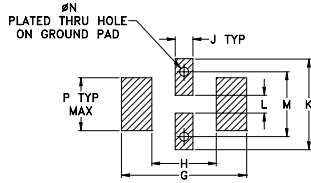
|        |     |
|--------|-----|
| RF IN  | 1** |
| RF OUT | 3** |
| GROUND | 2,4 |

\*\* RF IN & RF OUT can be interchanged

### Outline Drawing



PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch)

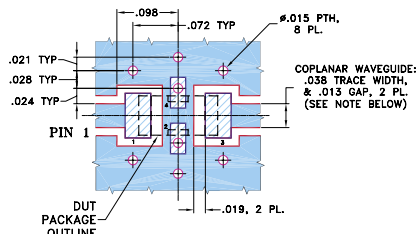
| A    | B    | C    | D    | E    | F    | G    |
|------|------|------|------|------|------|------|
| .126 | .063 | .037 | .020 | .032 | .009 | .169 |
| 3.20 | 1.60 | 0.94 | 0.51 | 0.81 | 0.23 | 4.29 |

| 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, 9W
- small size
- 7 sections
- temperature stable
- protected by U.S. Patent 6,943,646

### Applications

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

CASE STYLE: FV1206

| Model       | Price  | Qty.    |
|-------------|--------|---------|
| LFCN-6000+  | \$1.99 | (10-49) |
| LFCN-6000   | \$1.99 | (10-49) |
| LFCN-6000D+ | \$2.49 | (10-49) |
| LFCN-6000D  | \$2.49 | (10-49) |

**+ RoHS compliant in accordance with EU Directive (2002/95/EC)**

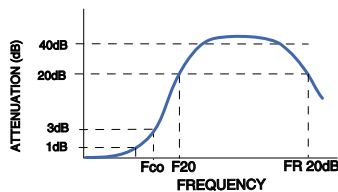
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Electrical Specifications<sup>1</sup> (T<sub>AMB</sub> = 25°C)

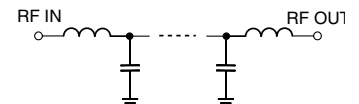
| PASSBAND<br>(MHz)<br><br>(loss < 1.2 dB)<br><br>Max. | fco, MHz<br>Nom.<br><br>(loss 3 dB)<br><br>Typ. | STOP BAND (MHz)<br>(loss, dB) |                |                   | VSWR<br>(:1)<br><br>Stopband      Passband |      | NO. OF<br>SECTIONS |
|------------------------------------------------------|-------------------------------------------------|-------------------------------|----------------|-------------------|--------------------------------------------|------|--------------------|
|                                                      |                                                 | F 20<br><br>Min.              | 30<br><br>Typ. | FR 20<br><br>Typ. | Typ.                                       | Typ. |                    |
| DC-6000                                              | 6800                                            | 8500                          | 8700-10500     | 18000             | 20                                         | 1.3  | 7                  |

1. For applications requiring DC voltage to be applied to the Input or output, use LFCN-6000D (DC Resistance to ground is 100 Mohms min.)

### typical frequency response

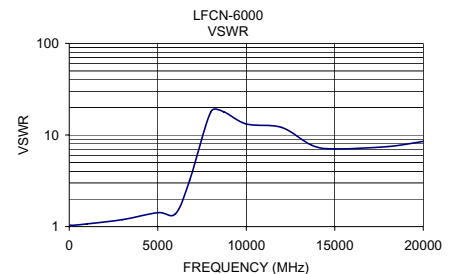
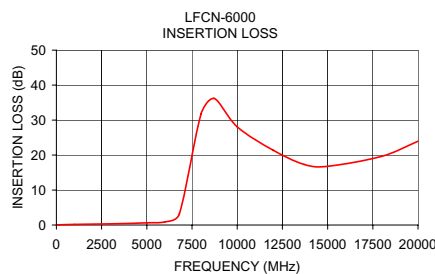


### electrical schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 50.00           | 0.06                | 1.04      |
| 100.00          | 0.05                | 1.03      |
| 1000.00         | 0.17                | 1.07      |
| 3000.00         | 0.34                | 1.19      |
| 5000.00         | 0.62                | 1.42      |
| 6000.00         | 0.92                | 1.38      |
| 6800.00         | 3.17                | 3.20      |
| 8000.00         | 31.72               | 17.93     |
| 8720.00         | 36.21               | 17.93     |
| 10000.00        | 28.08               | 13.19     |
| 12000.00        | 21.34               | 12.09     |
| 13700.00        | 17.33               | 7.73      |
| 15000.00        | 16.79               | 7.05      |
| 18000.00        | 19.65               | 7.47      |
| 20000.00        | 23.96               | 8.51      |



designers kit available

| Kit No. | No. of Units in Kit | Description                                                                          | Price \$ per Kit |
|---------|---------------------|--------------------------------------------------------------------------------------|------------------|
| K2-LFCN | 60                  | 5 of each: LFCN-800,-900,-1000,-1200,-1325,-1700,-2000,-2250,-2400,-5000,-6000,-6700 | 119.95           |

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