

# Ceramic Low Pass Filter

50Ω DC to 2800 MHz

## LFCN-2850+ LFCN-2850



### Maximum Ratings

|                            |                   |
|----------------------------|-------------------|
| Operating Temperature      | -55°C to 100°C    |
| Storage Temperature        | -55°C to 100°C    |
| RF Power Input*            | 10W max. at 25°C  |
| DC Current Input to Output | 0.5A max. at 25°C |

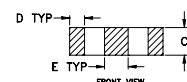
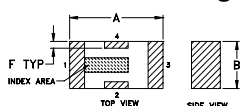
\* Passband rating, derate linearly to 3.5W at 100°C ambient.

### Pin Connections

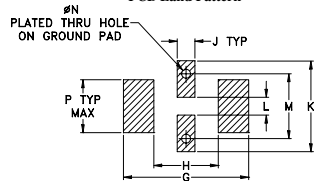
|        |     |
|--------|-----|
| RF IN  | 1** |
| RF OUT | 3** |
| GROUND | 2,4 |

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

### Outline Drawing



#### PCB Land Pattern

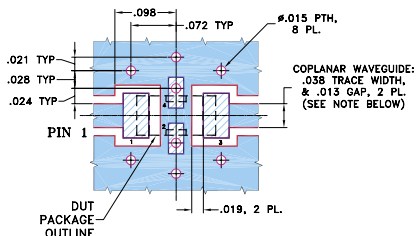


Suggested Layout, Tolerance to be within ±.002

### Outline Dimensions (inch)

| A    | B    | C    | D    | E    | F    | G    | H    | J    | K    | L    | M    | N    | P    | wt    |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| .126 | .063 | .037 | .020 | .032 | .009 | .169 | .087 | .024 | .122 | .024 | .087 | .012 | .071 | grams |
| 3.20 | 1.60 | 0.94 | 0.51 | 0.81 | 0.23 | 4.29 | 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, 10W
- small size
- 7 sections
- temperature stable
- hermetically sealed
- protected by U.S. Patent 6,943,646

### Applications

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

CASE STYLE: FV1206

| Model       | Price  | Qty.    |
|-------------|--------|---------|
| LFCN-2850+  | \$1.99 | (10-49) |
| LFCN-2850   | \$1.99 | (10-49) |
| LFCN-2850D+ | \$2.49 | (10-49) |
| LFCN-2850D  | \$2.49 | (10-49) |

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

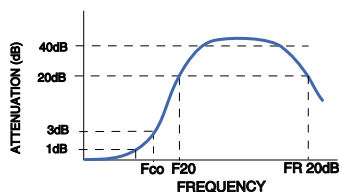
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

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

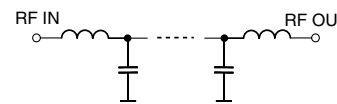
| PASSBAND (MHz)<br>(loss < 1.2 dB) | fco, MHz<br>Nom.<br>(loss 3 dB) | STOP BAND (MHz)<br>(loss, dB) |           |       | VSWR (:1) |          | NO. OF SECTIONS |
|-----------------------------------|---------------------------------|-------------------------------|-----------|-------|-----------|----------|-----------------|
|                                   |                                 | F 20                          | 30        | FR 20 | Stopband  | Passband |                 |
| Max.                              | Typ.                            | Min.                          | Typ.      | Typ.  | Typ.      | Typ.     |                 |
| DC-2800                           | 3300                            | 4000                          | 4200-7400 | 9000  | 20        | 1.2      | 7               |

1. For applications requiring DC voltage to be applied to the Input or output, use LFCN-2850D (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              | 0.04                | 1.02      |
| 1000            | 0.24                | 1.08      |
| 1500            | 0.36                | 1.20      |
| 2740            | 0.80                | 1.32      |
| 3320            | 3.00                | 2.86      |
| 3760            | 15.16               | 15.53     |
| 4080            | 31.03               | 27.16     |
| 4500            | 44.67               | 25.94     |
| 5000            | 39.17               | 26.74     |
| 7000            | 29.02               | 24.83     |
| 10000           | 20.75               | 20.45     |
| 12000           | 15.45               | 13.29     |
| 15000           | 11.89               | 8.77      |
| 18000           | 14.80               | 5.00      |
| 20000           | 20.40               | 8.51      |

