

# Ceramic Low Pass Filter

50Ω DC to 105 MHz

## LFCN-105+ LFCN-105



### Maximum Ratings

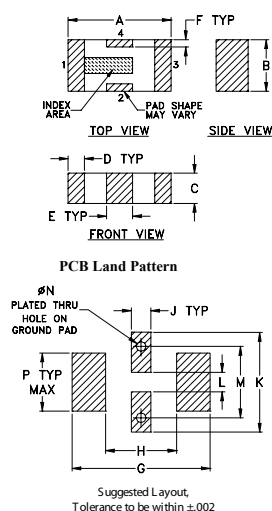
|                       |                   |
|-----------------------|-------------------|
| Operating Temperature | -55°C to 100°C    |
| Storage Temperature   | -55°C to 100°C    |
| RF Power Input*       | 8.5W max. at 25°C |

\* Passband rating, derate linearly to 3.5W 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



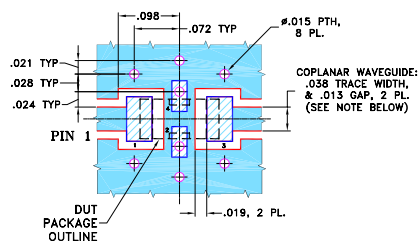
### Outline Dimensions (inch)

| 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, 8.5W
- small size
- 7 sections
- temperature stable
- protected by U.S. Patent 6,943,646

### Applications

- harmonic rejection
- VHF/UHF transmitters/receivers
- RF suppression for DC lines on PCB
- anti-aliasing for A/D converter

CASE STYLE: FV1206

| Model     | Price  | Qty.    |
|-----------|--------|---------|
| LFCN-105+ | \$3.99 | (10-49) |
| LFCN-105  | \$3.99 | (10-49) |

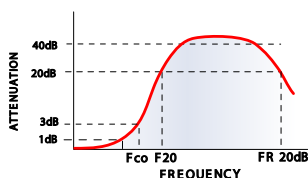
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

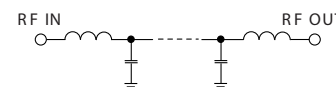
### Electrical Specifications (T<sub>AMB</sub>=25°C)

| PASSBAND (MHz)<br>(loss < 1 dB) | f <sub>co</sub> , MHz<br>Nom.<br>(loss 3 dB) | STOP BAND (MHz)<br>(loss, dB) |          |       | VSWR (:1) |          | NO. OF SECTIONS |
|---------------------------------|--|-------------------------------|----------|-------|-----------|----------|-----------------|
|                                 |  | F 20                          | 40       | FR 20 | Stopband  | Passband |                 |
| Max.                            | Typ.   | Min.                          | Typ.     | Typ.  | Typ.      | Typ.     |                 |
| DC-105                          | 180  | 250                           | 265-1650 | 4750  | 20        | 1.2      | 7               |

### typical frequency response

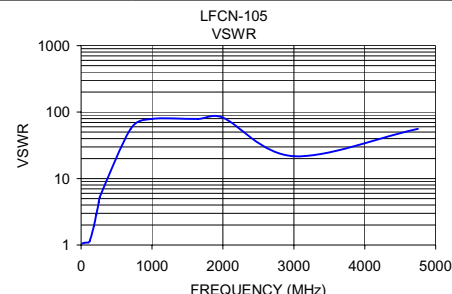
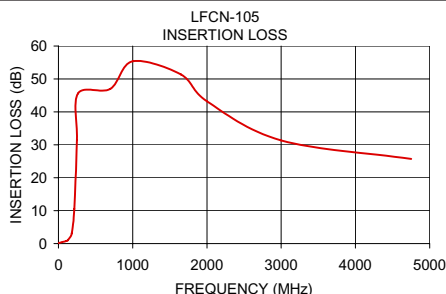


### electrical schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 1.00            | 0.17                | 1.04      |
| 50.00           | 0.44                | 1.08      |
| 100.00          | 0.73                | 1.08      |
| 105.00          | 0.78                | 1.09      |
| 125.00          | 0.98                | 1.16      |
| 180.00          | 3.08                | 1.92      |
| 215.00          | 10.55               | 2.88      |
| 250.00          | 31.43               | 4.46      |
| 265.00          | 45.61               | 5.31      |
| 700.00          | 46.98               | 56.04     |
| 1000.00         | 55.37               | 78.97     |
| 1650.00         | 51.39               | 78.97     |
| 2000.00         | 43.21               | 82.73     |
| 3000.00         | 31.32               | 21.73     |
| 4750.00         | 25.73               | 56.04     |



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IF/RF MICROWAVE COMPONENTS

REV. F  
M121640  
LFCN-105  
ED-11690/3  
RVN/AD/CP/AM  
090218