

# Ceramic High Pass Filter

## HFCN-1500+

50Ω 1600 to 5500 MHz



CASE STYLE: FV1206

### Maximum Ratings

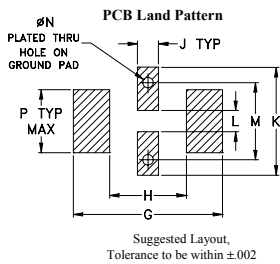
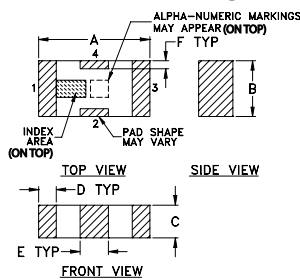
|                       |                 |
|-----------------------|-----------------|
| Operating Temperature | -55°C to 100°C  |
| Storage Temperature   | -55°C to 100°C  |
| RF Power Input*       | 7W max. at 25°C |

\* Passband rating, derate linearly to 3W 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



Suggested Layout, Tolerance to be within ±.002

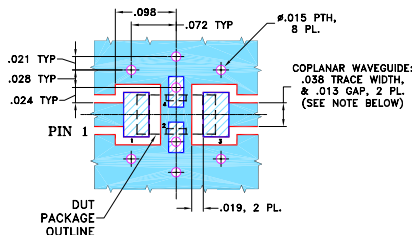
### Outline Dimensions (inch/mm)

| 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 |       |

### 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

### 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-Circuit's 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-Circuit's website at [www.minicircuits.com/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)

### Features

- low cost
- small size
- 7 sections
- temperature stable
- hermetically sealed
- LTCC construction
- excellent power handling, 7W

### Applications

- sub-harmonic rejection
- transmitters/receivers
- lab use

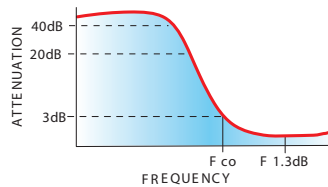
### Electrical Specifications<sup>(1,2)</sup> at 25°C

| STOP BAND (MHz)<br>Min. |  | f <sub>co</sub> , MHz<br>Nom. | PASSBAND (MHz)  |               | VSWR (:1)<br>Typ. | POWER INPUT (W) | NO. OF SECTIONS |
|-------------------------|--|-------------------------------|-----------------|---------------|-------------------|-----------------|-----------------|
| (loss > 40 dB)          |  | (loss 3 dB)                   | (loss < 1.3 dB) | (loss < 2 dB) | Frequency (MHz)   |                 |                 |
| 1060 1250               |  | Typ.                          | Max.            | Typ.          | Stopband 1.5:1    | 7               | 7               |

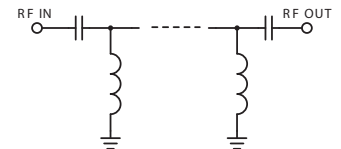
(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required. Alternatively, Mini-Circuit's "D" suffix version of this model will provide >100 MOhm isolation to ground.

(2) Measured on Mini-Circuit's Characterization Test Board TB-270.

### typical frequency response



### electrical schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 1.00            | 105.45              | 1737.18   |
| 100.00          | 63.65               | 579.06    |
| 1060.00         | 48.22               | 46.96     |
| 1250.00         | 31.52               | 28.03     |
| 1400.00         | 14.81               | 12.89     |
| 1480.00         | 7.64                | 5.56      |
| 1550.00         | 3.50                | 2.35      |
| 1600.00         | 2.13                | 1.54      |
| 1620.00         | 1.83                | 1.41      |
| 1850.00         | 1.00                | 1.49      |
| 2000.00         | 0.76                | 1.31      |
| 3450.00         | 0.45                | 1.15      |
| 4400.00         | 0.94                | 1.82      |
| 5500.00         | 2.10                | 3.04      |
| 7000.00         | 3.85                | 4.99      |
| 9000.00         | 5.89                | 5.89      |

