

# Ceramic High Pass Filter

# HFCN-2000+ HFCN-2000

50Ω 2260 to 6250 MHz



CASE STYLE: FV1206

## Maximum Ratings

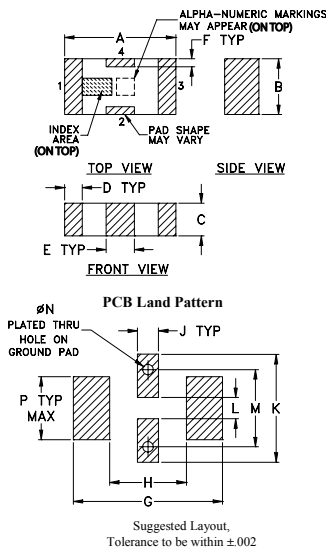
|                       |                 |
|-----------------------|-----------------|
| Operating Temperature | -55°C to 100°C  |
| Storage Temperature   | -55°C to 100°C  |
| RF Power Input*       | 7W max. at 25°C |

\* 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



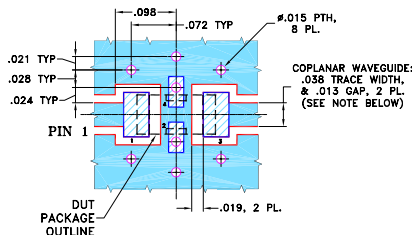
## Outline Dimensions (inch)

| 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 |       |

## 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

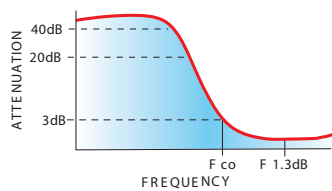
## Electrical Specifications<sup>(1,2)</sup> at 25°C

| STOP BAND (MHz) Min.          | f <sub>co</sub> , MHz Nom. | PASSBAND (MHz)                          | VSWR (:1) Typ.                 | POWER INPUT (W) | NO. OF SECTIONS |
|-------------------------------|----------------------------|---|--------------------------------|-----------------|-----------------|
| (loss > 40 dB) (loss > 20 dB) | (loss 3 dB) Typ.           | (loss < 1.3 dB) (loss < 2 dB) Max. Typ. | Frequency (MHz) Stopband 1.5:1 |                 |                 |
| 1300 1530                     | 2000                       | 2410-5550 2260-6250                     | 20:1 2400-5600                 | 7               | 7               |

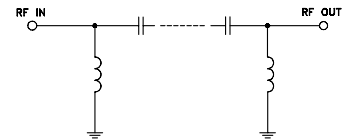
(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required.

(2) Measured on Mini-Circuits 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            | 99.34               | 434.30    |
| 100.00          | 74.05               | 144.77    |
| 1300.00         | 43.12               | 34.07     |
| 1530.00         | 23.93               | 24.48     |
| 1700.00         | 12.72               | 12.61     |
| 1800.00         | 7.49                | 6.78      |
| 2000.00         | 2.31                | 2.31      |
| 2260.00         | 1.12                | 1.61      |
| 2400.00         | 0.95                | 1.55      |
| 2410.00         | 0.95                | 1.54      |
| 5550.00         | 0.84                | 1.47      |
| 5600.00         | 0.86                | 1.52      |
| 6250.00         | 1.65                | 2.29      |
| 7000.00         | 2.96                | 3.73      |
| 9000.00         | 6.69                | 8.12      |

