

# Ceramic High Pass Filter

## HFCN-1300+

50Ω 1400 to 5000 MHz



Generic photo used for illustration purposes only  
CASE STYLE: FV1206

**+RoHS Compliant**

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



Available Tape and Reel at no extra cost

| Reel Size | Devices/Reel                      |
|-----------|-----------------------------------|
| 7"        | 20, 50, 100, 200, 500, 1000, 3000 |

### Maximum Ratings

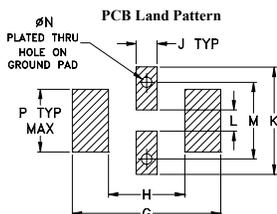
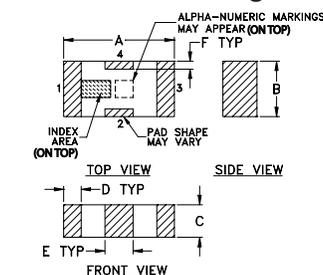
|                       |                 |
|-----------------------|-----------------|
| Operating Temperature | -55°C to 100°C  |
| Storage Temperature   | -55°C to 100°C  |
| RF Power Input*       | 7W max. at 25°C |

\* 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

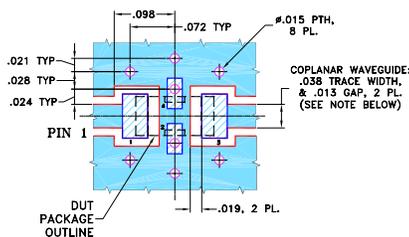


Suggested Layout, Tolerance to be within ±0.02

### 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

### 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

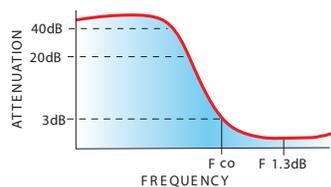
### Electrical Specifications<sup>(1,2)</sup> at 25°C

| 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) | Frequency (MHz)   |                 |                 |
| (loss > 20 dB)          | Typ.                          | (loss < 2 dB)   | Stopband 1.5:1    |                 |                 |
| 690                     | 1300                          | 1510-4000       | 1400-4000         | 7               | 7               |

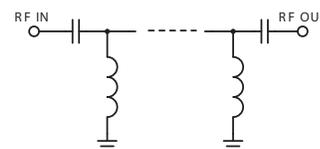
(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required. Alternatively, Mini-Circuit's "D" suffix version of this model will provide >100 MΩ isolation to ground.

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

### typical frequency response

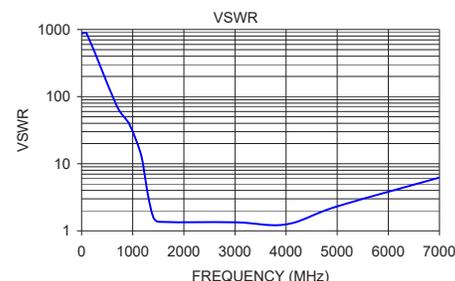


### electrical schematic



### Typical Performance Data at 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 1.00            | 89.20               | 868.59    |
| 100.00          | 68.18               | 868.59    |
| 690.00          | 49.67               | 72.39     |
| 930.00          | 28.30               | 39.49     |
| 1150.00         | 12.20               | 14.74     |
| 1230.00         | 6.92                | 7.11      |
| 1300.00         | 3.49                | 3.39      |
| 1400.00         | 1.44                | 1.61      |
| 1510.00         | 1.01                | 1.36      |
| 3000.00         | 0.51                | 1.34      |
| 4000.00         | 0.53                | 1.25      |
| 5000.00         | 1.39                | 2.32      |
| 7000.00         | 4.70                | 6.24      |



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