

# Ceramic High Pass Filter

## HFCN-880D+

50Ω 950 to 3200 MHz



CASE STYLE: FV1206

### Maximum Ratings

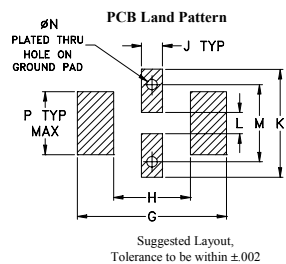
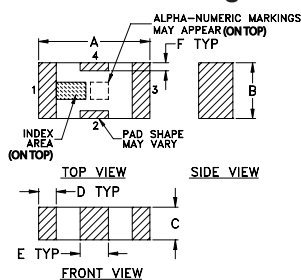
|                             |                 |
|-----------------------------|-----------------|
| Operating Temperature       | -55°C to 100°C  |
| Storage Temperature         | -55°C to 100°C  |
| RF Power Input*             | 7W max. at 25°C |
| Max. DC Voltage at pins 1&3 | 25 VDC          |

\* 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

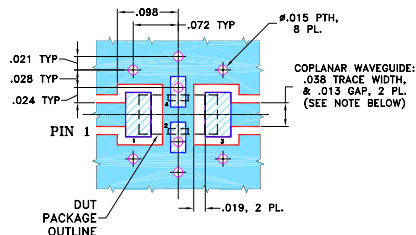
### Outline Dimensions (inch)

| 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

### 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

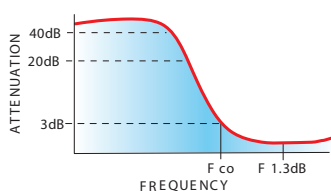
- sub-harmonic rejection
- transmitters/receivers
- lab use

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

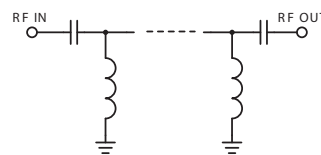
| STOP BAND (MHz) Min.          | f <sub>co</sub> , MHz Nom. | PASSBAND (MHz)                          | VSWR (:1) Typ.                 | POWER INPUT (W) | NO. OF SECTIONS |
|-------------------------------|----------------------------|---|--------------------------------|-----------------|-----------------|
| (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 |                 |                 |
| 500 640                       | 880                        | 1060-2500 950-3200                      | 20:1 970-2400                  | 7               | 7               |

1. DC Resistance to ground is 100 Mohms min.  
 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            | 82.28               | 868.59    |
| 100.00          | 78.78               | 868.59    |
| 500.00          | 45.84               | 56.04     |
| 640.00          | 23.68               | 24.14     |
| 750.00          | 10.22               | 8.68      |
| 810.00          | 4.85                | 3.84      |
| 880.00          | 1.97                | 1.83      |
| 950.00          | 1.17                | 1.36      |
| 970.00          | 1.06                | 1.32      |
| 1060.00         | 0.83                | 1.26      |
| 2400.00         | 0.52                | 1.46      |
| 2500.00         | 0.60                | 1.58      |
| 3200.00         | 1.42                | 2.62      |
| 5000.00         | 5.12                | 7.87      |

