



CERAMIC

High Pass Filter

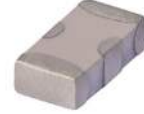
HFCN-2100+

Mini-Circuits

50Ω 2200 to 6000 MHz

THE BIG DEAL

- Low cost
- Small size
- 7 sections
- Temperature stable
- LTCC construction
- Excellent power handling, 7W
- Hermetically sealed



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

APPLICATIONS

- Sub-harmonic rejection
- Transmitters/receivers
- Lab use

ELECTRICAL SPECIFICATIONS^{1,2} AT 25°C

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Units | |
|-----------|-----------------|-----------|------|------|-------|----|
| Stop Band | Rejection Loss | 1050 | 40 | — | — | dB |
| | | 1530 | 20 | — | — | |
| | Freq. Cut-Off | 2100 | — | 3.0 | — | dB |
| | VSWR | 1050-1530 | — | 20 | — | :1 |
| Pass Band | Insertion Loss | 2200-6000 | — | 2.0 | — | dB |
| | | 2500-5000 | — | — | 1.3 | dB |
| | VSWR | 2400-5200 | — | 1.5 | — | :1 |

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

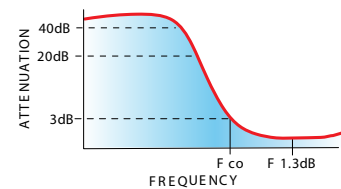
2. Measured on Mini-Circuits Characterization Test Board TB-270.

MAXIMUM RATINGS

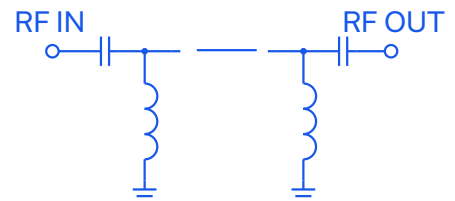
| Parameter | Ratings |
|-----------------------------|-----------------|
| Operating temperature | -55°C to +100°C |
| Storage temperature | -55°C to +100°C |
| RF Power Input ³ | 7W max.at 25°C |

3. Passband rating, derate linearly to 3W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



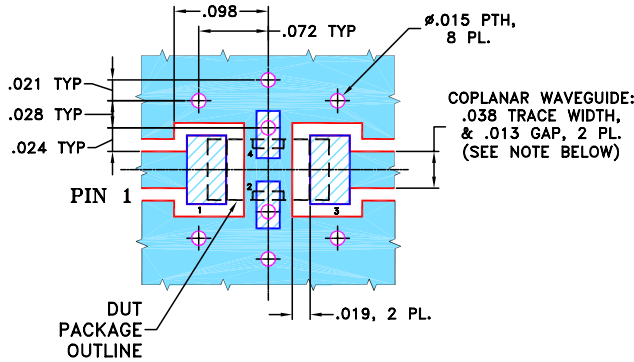


PIN CONNECTIONS

| | |
|--------|-----|
| RF IN | 1 |
| RF OUT | 3 |
| GROUND | 2,4 |

PRODUCT MARKING: N/A

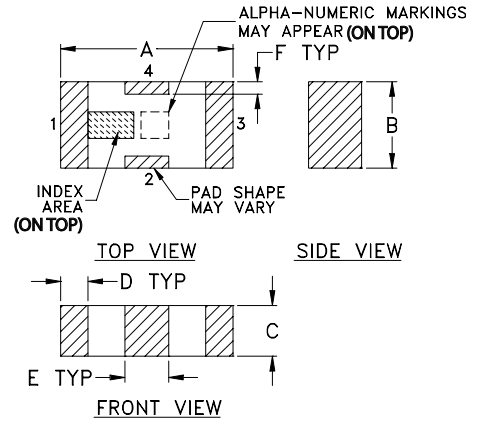
DEMO BOARD MCL P/N: TB-270
SUGGESTED PCB LAYOUT (PL-137)



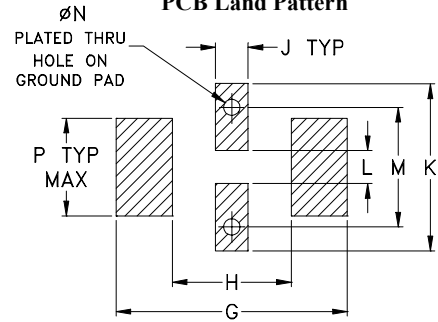
- NOTES:**
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
- DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (Inches 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 | .020 |

TAPE & REEL INFORMATION: F71



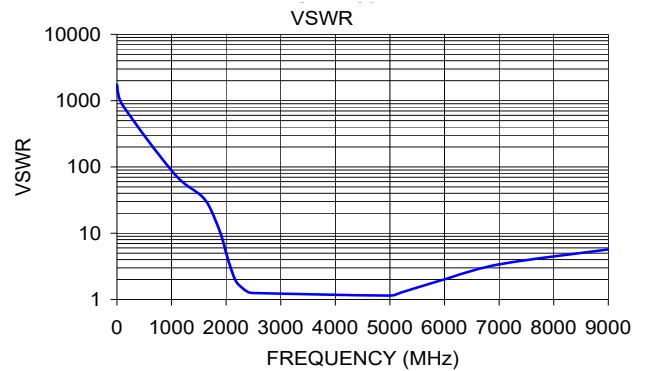
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High Pass Filter

HFCN-2100+

TYPICAL PERFORMANCE DATA AT 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR :1 |
|-----------------|---------------------|---------|
| 1.00 | 87.12 | 1737.18 |
| 100.00 | 65.77 | 868.59 |
| 1050.00 | 62.77 | 78.97 |
| 1530.00 | 26.84 | 37.77 |
| 1700.00 | 18.19 | 24.48 |
| 1900.00 | 8.72 | 9.90 |
| 2000.00 | 5.02 | 5.07 |
| 2100.00 | 2.67 | 2.72 |
| 2200.00 | 1.52 | 1.78 |
| 2400.00 | 0.90 | 1.30 |
| 2500.00 | 0.79 | 1.25 |
| 5000.00 | 0.64 | 1.15 |
| 5200.00 | 0.75 | 1.27 |
| 6000.00 | 1.43 | 2.01 |
| 7000.00 | 2.69 | 3.40 |
| 9000.00 | 4.59 | 5.70 |



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-Circuits 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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

