



CERAMIC

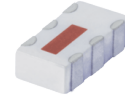
High Pass Filter

HFCN-3500+

50Ω 3900 to 9800 MHz

THE BIG DEAL

- Small size
- 5 sections
- Temperature stable
- Excellent power handling, 7W
- Hermetically sealed
- LTCC construction
- Low cost
- Protected by US Patent 7,760,485



Generic photo used for illustration purposes only

CASE STYLE: FV1206-1

+RoHS Compliant

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

APPLICATIONS

- Sub-harmonic rejection
- Transmitters/receivers

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

| Parameter | Frequency (MHz) | Min. | Typ. | Max. | Units | |
|-----------|-----------------|-----------|------|------|-------|----|
| Stop Band | Rejection Loss | 2900 | — | 30 | — | dB |
| | | 2800 | 20 | — | — | |
| | Freq. Cut-Off | 3500 | — | 3.0 | — | |
| | VSWR | 2800-2900 | — | 20 | — | |
| Pass Band | Insertion Loss | 3900-9800 | — | — | 2.0 | dB |
| | | 4000-8800 | — | — | 1.5 | dB |
| | VSWR | 3650-9500 | — | 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.

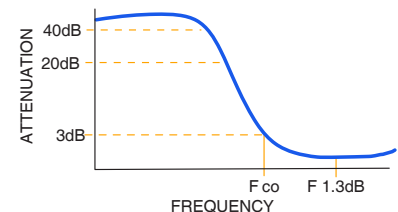
2. Measured on Mini-Circuits Characterization Test Board TB-285.

MAXIMUM RATINGS

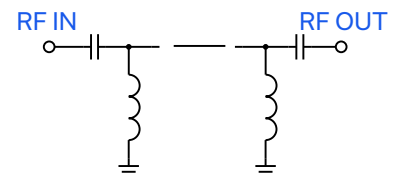
| Parameter | Ratings |
|-----------------------------|------------------|
| Operating temperature | -55°C to 100°C |
| Storage temperature | -55°C to 100°C |
| RF Power Input ³ | 7 W max. at 25°C |

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



REV. F
ECO-012367
HFCN-3500+
RAV/CP/AM
230822





PIN CONNECTIONS

| | |
|--------|---------|
| RF IN | 1 |
| RF OUT | 3 |
| GROUND | 2,4,5,6 |

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-285
SUGGESTED PCB LAYOUT (PL-158)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS: $.020 \pm .0015$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- DENOTES PCB COPPER LAYOUT
- DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within $\pm .002$

OUTLINE DIMENSIONS (Inches mm)

| | | | | | |
|------|------|------|------|-------|------|
| A | B | C | D | E | F |
| .126 | .063 | .035 | .024 | .022 | .011 |
| 3.20 | 1.60 | 0.89 | 0.61 | 0.56 | 0.28 |
| G | H | J | K | wt | |
| .039 | .024 | .042 | .123 | grams | |
| 0.99 | 0.61 | 1.07 | 3.12 | .020 | |

TAPE & REEL INFORMATION: F75



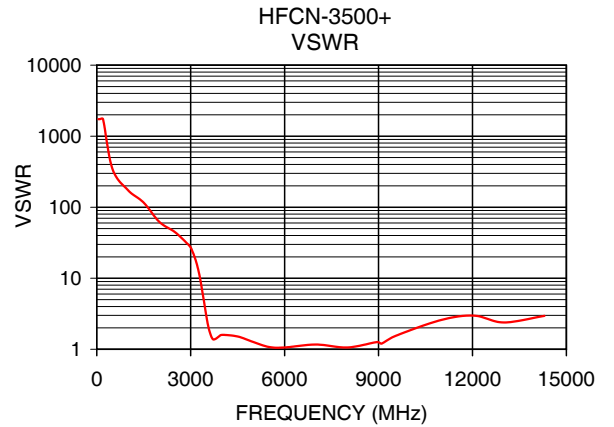
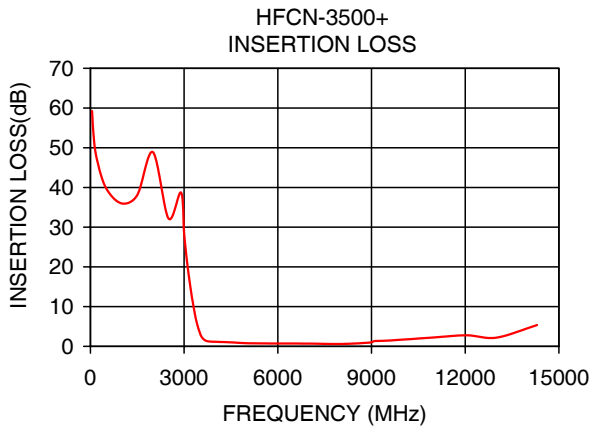
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High Pass Filter

HFCN-3500+

TYPICAL PERFORMANCE DATA AT 25°C

| Frequency (MHz) | Insertion Loss (dB) | VSWR (:1) |
|-----------------|---------------------|-----------|
| 50 | 59.26 | 1737.18 |
| 400 | 41.60 | 434.30 |
| 1500 | 38.09 | 115.81 |
| 2800 | 35.62 | 34.75 |
| 2900 | 38.74 | 30.49 |
| 3050 | 24.44 | 24.14 |
| 3250 | 12.48 | 12.61 |
| 3400 | 6.15 | 5.42 |
| 3500 | 3.42 | 2.92 |
| 3650 | 1.63 | 1.53 |
| 3900 | 1.17 | 1.51 |
| 4000 | 1.14 | 1.59 |
| 6000 | 0.71 | 1.06 |
| 8800 | 0.74 | 1.23 |
| 9500 | 1.36 | 1.48 |
| 9800 | 1.41 | 1.87 |
| 14000 | 2.60 | 1.49 |



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

