



Mini-Circuits®

CERAMIC

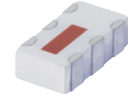
High Pass Filter

50Ω 9000 to 13000 MHz

HFCN-8400D+

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 web site for RoHS Compliance 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	5700	—	30	dB
		6000	20	—	
	Freq. Cut-Off	8400	—	3.0	dB
	VSWR	5700-6000	—	20	
Pass Band					:1
	Insertion Loss	9000-13000	—	3.0	dB
		9500-13000	—	2.5	
	VSWR	9000-13000	—	1.5	:1

1. DC Resistance to ground is 100 Mohms min.

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

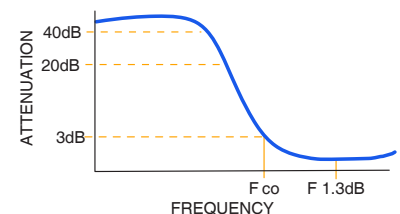
MAXIMUM RATINGS

Parameter	Ratings
Operating temperature	-55°C to +100°C
Storage temperature	-55°C to +100°C
RF Power Input ³	7W max.at 25°C
Max. DC Voltage at pins 1&3	25 VDC

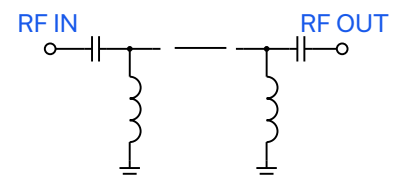
3. Passband rating, derate linearly to 3W at 100°C ambient.

Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



REV. C
ECO-012367
HFCN-8400D+
RAV/CP/AM
230822

Mini-Circuits®

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High Pass Filter

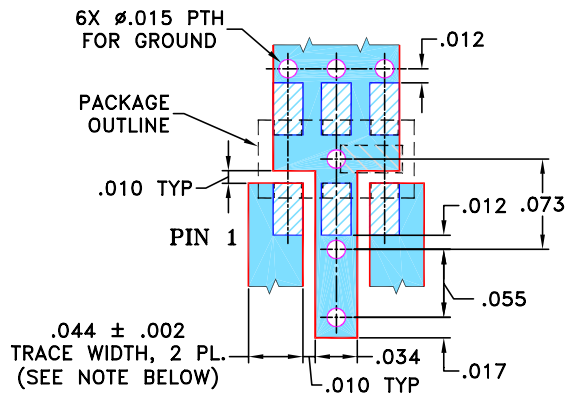
HFCN-8400D+

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)



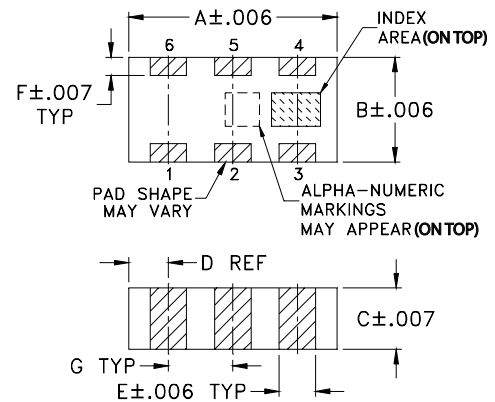
- NOTE:** 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS: $.020 \pm .0015$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.



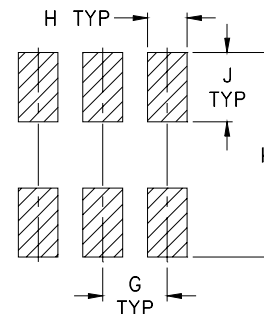
DENOTES PCB COPPER LAYOUT

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

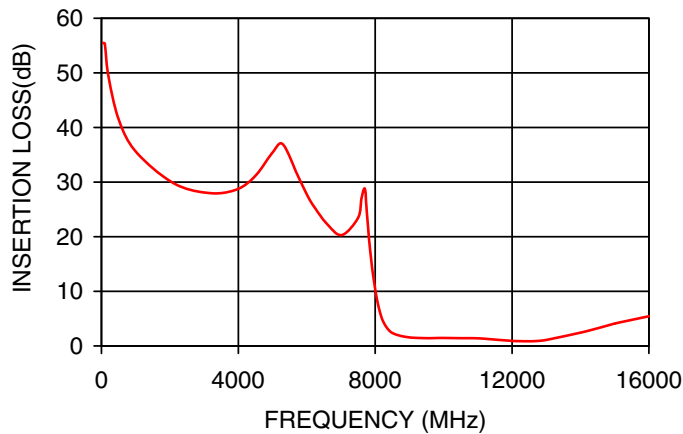
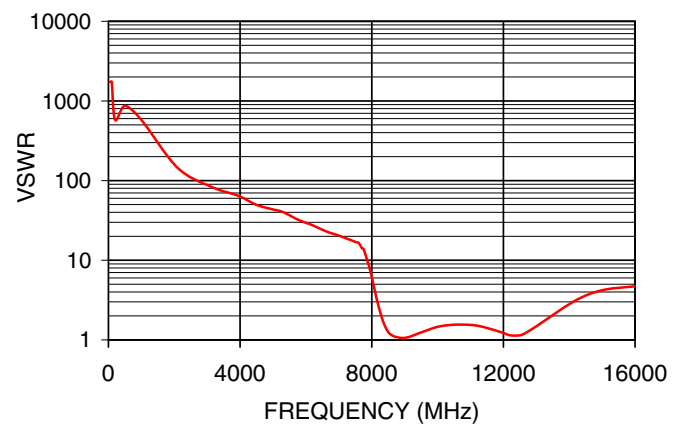


High Pass Filter

HFCN-8400D+

TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	55.48	1737.18
500	41.57	868.59
4500	31.17	49.64
5700	36.69	31.60
6000	27.78	29.46
7500	23.46	17.05
8020	9.65	5.68
8400	2.88	1.50
8600	2.11	1.15
9000	1.57	1.06
9500	1.43	1.24
10000	1.47	1.46
12000	0.92	1.22
13000	1.10	1.48
16000	5.43	4.72

HFCN-8400D+
INSERTION LOSSHFCN-8400D+
VSWR

NOTES

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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

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