



**THE DATASHEET OF
HFCN-3800+**





CERAMIC

High Pass Filter

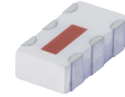
HFCN-3800+

Mini-Circuits

50Ω 4250 to 10000 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	2500	—	30	dB
		3200	20	—	
	Freq. Cut-Off	3800	—	3.0	dB
	VSWR	2500-3200	—	20	:1
Pass Band	Insertion Loss	4250-10000	—	2.0	dB
		4500-9000	—	1.5	dB
	VSWR	3950-10000	—	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.

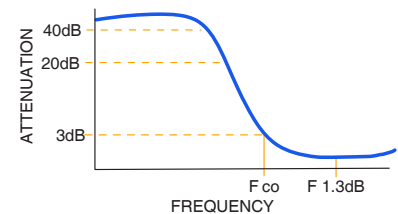
2. Measured on Mini-Circuits Characterization Test Board TB-285.

MAXIMUM RATINGS

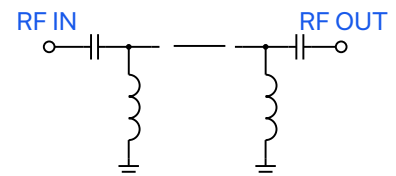
Parameter	Ratings
Operating temperature	-55°C to 100°C
Storage temperature	-55°C to 100°C
RF Power Input ³	7 W max. at 25°C

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. J
ECO-012367
HFCN-3800+
RAV/CP/AM
230822



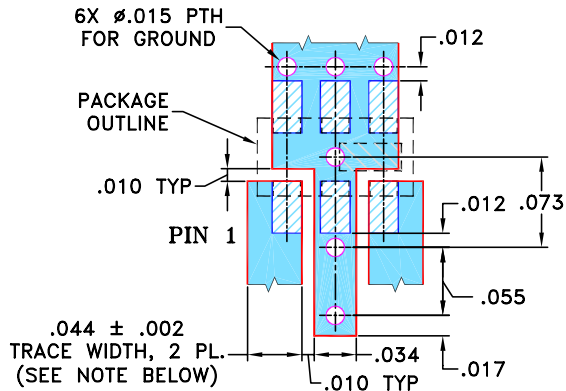


PIN CONNECTIONS

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)

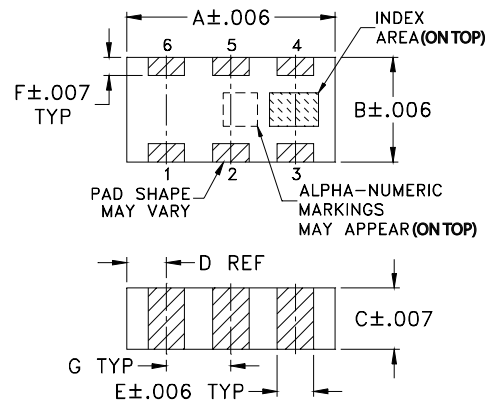


NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS: $.020 \pm .0015$; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.

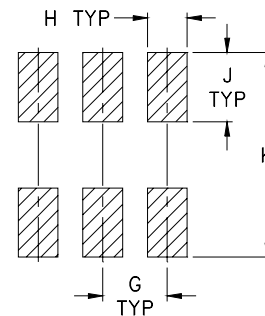
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

- 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



CERAMIC

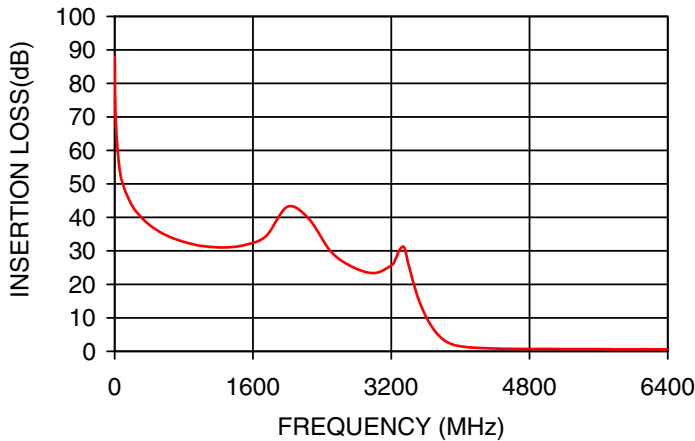
High Pass Filter

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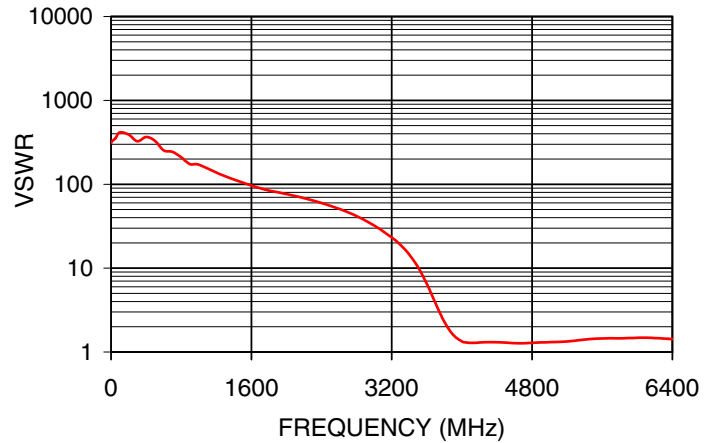
TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50.00	55.55	352.78
500.00	36.00	329.74
1500.00	31.71	104.95
3200.00	25.64	23.24
3400.00	25.91	14.49
3500.00	16.74	10.30
3800.00	3.55	2.30
4000.00	1.50	1.34
4250.00	0.97	1.31
4500.00	0.78	1.29
5000.00	0.70	1.31
5500.00	0.66	1.44
6000.00	0.61	1.48
6400.00	0.59	1.42

INSERTION LOSS



VSWR





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



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