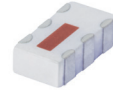


Ceramic

# High Pass Filter

50Ω 8560 to 12800 MHz

HFCN-7971+



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

Available Tape and Reel at no extra cost!

Reel Size	Devices/Reel
7"	20, 50, 100, 200, 500, 1000, 3000

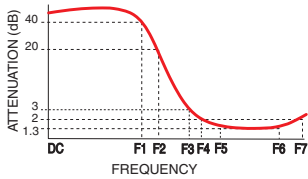
## Features

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

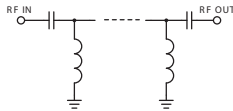
## Applications

- Point-to-point radio
- Sub-harmonic rejection
- Transmitters / receivers

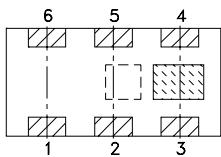
## Specification Definition



## Functional Schematic



## Top View



## Pad Connections

Input	1
Output	3
Ground	2,4,5,6

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

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Stop Band	DC-F1	DC-5500	25	30	—	dB
	Rejection Loss	F1-F2	5500-6945	17	22	dB
	Freq. Cut-Off	F3	8000	—	3.4	dB
	VSWR	DC-F2	DC-6945	—	40	:1
Pass Band	Insertion Loss	F4-F7	8560-12800	—	1.4	dB
		F5-F6	9975-12350	—	1.0	dB
	VSWR	F4-F7	8560-12800	—	1.7	:1

(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required.

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

## Maximum Ratings

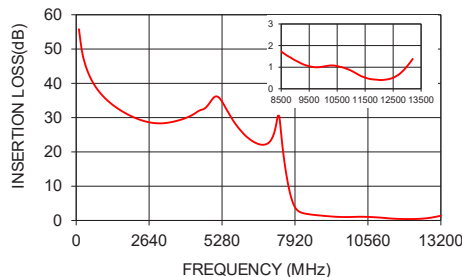
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input*	7W at 25°C

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

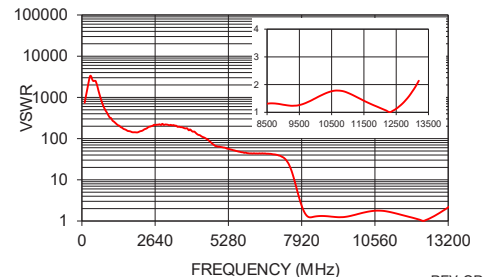
## Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
100	55.79	739.28
500	41.87	2462.98
1000	36.02	326.19
2000	30.39	141.40
3000	28.32	220.17
4000	30.01	147.06
5500	31.60	51.55
6500	22.61	43.87
6900	22.32	41.48
7000	22.90	40.62
8000	3.02	1.73
8500	1.73	1.31
11500	0.52	1.42
13000	1.05	1.75
13200	1.39	2.14

HFCN-7971+  
INSERTION LOSS



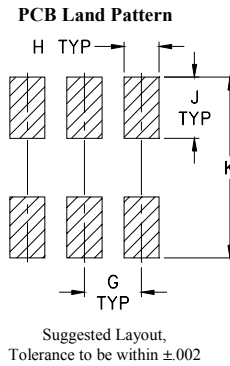
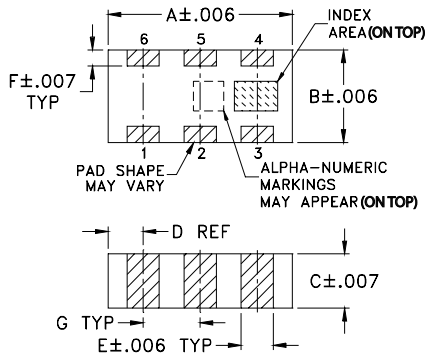
HFCN-7971+  
VSWR



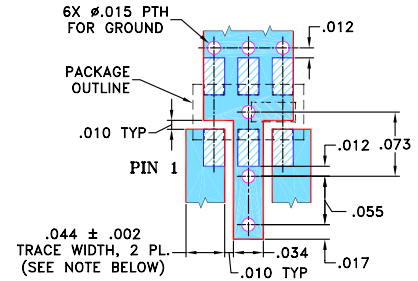
# High Pass Filter

# HFCN-7971+

## Outline Drawing



## 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 ± .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

## Pad Connections

Input	1
Output	3
Ground	2,4,5,6

## Product Marking: FW

## Outline Dimensions ( $\frac{\text{inch}}{\text{mm}}$ )

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

## Additional 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](http://www.minicircuits.com/MCLStore/terms.jsp)

