



Mini-Circuits®

CERAMIC

High Pass Filter

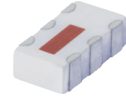
HFCN-7971AT+

50Ω

8560 to 12800 MHz

FEATURES

- Small size
- Temperature stable
- Excellent power handling, 7 W
- Hermetically sealed
- Low cost
- LTCC construction
- Protected by US Patent 7,760,485
- AEC-Q200 qualified component family



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

- Automotive

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

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Stop Band	Rejection Loss	DC-F1	DC-5500	25	30	—
		F1-F2	5500-6945	17	22	—
	Freq. Cut-Off	F3	8000	—	3.4	—
	VSWR	DC-F2	DC-6945	—	40	—
Pass Band	Insertion Loss	F4-F7	8560-12800	—	1.4	4.0
		F5-F6	9975-12350	—	1.0	2.0
	VSWR	F4-F7	8560-12800	—	1.7	—

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

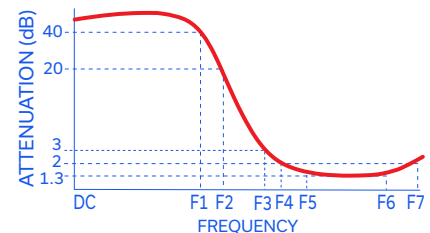
2. Measured on Mini-Circuits Characterization Test Board TB-285+ using HFCN-7971+.

ABSOLUTE MAXIMUM RATINGS

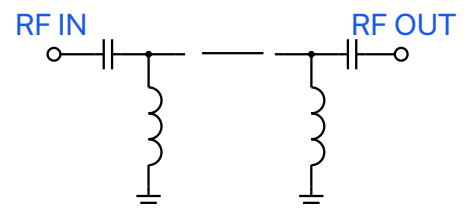
Parameter	Ratings
Operating temperature	-40°C to +105°C
Storage temperature	-40°C to +105°C
RF Power Input ³	7 W max. at +25°C

3. Passband rating, derate linearly to 3 W at +105°C ambient.
Permanent damage may occur if any of these limits are exceeded.

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



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REV. OR
NPO-005331
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MCL NY
250610

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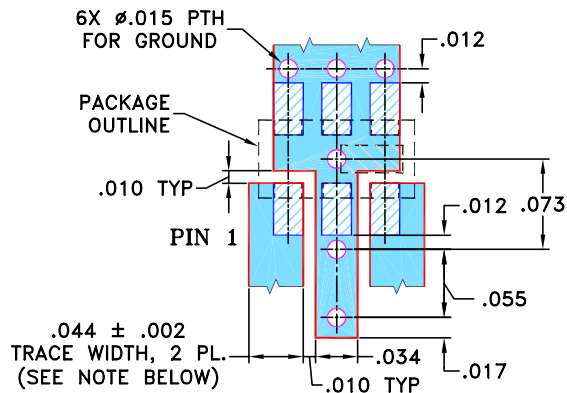
8560 to 12800 MHz

PIN CONNECTIONS

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

PRODUCT MARKING: H7

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



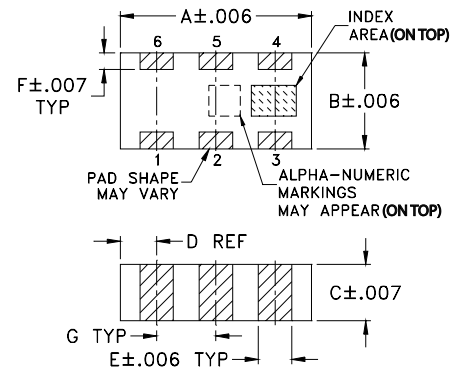
- NOTE:** 1. TRACE WIDTH IS SHOWN FOR ROGERS R04350 WITH DIELECTRIC THICKNESS: .020 ± .0015; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.



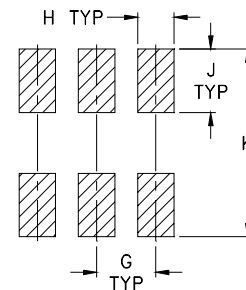
DENOTES PCB COPPER LAYOUT

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (Inches)

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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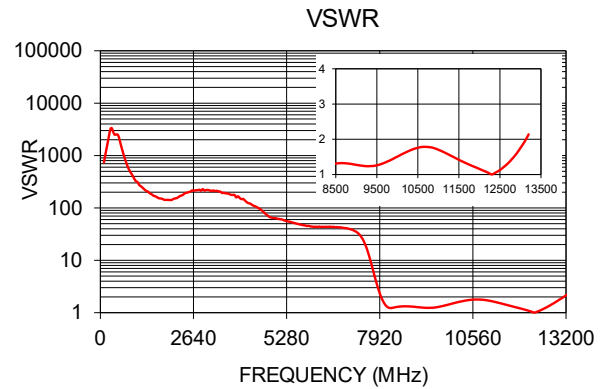
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TYPICAL PERFORMANCE DATA AT +25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR :1
100	56.76	435.00
500	42.89	487.79
1000	37.15	591.02
2700	31.94	156.03
3000	32.72	134.81
4400	35.68	69.56
5500	29.76	35.88
6000	11.10	10.02
6700	2.14	1.97
7550	1.41	1.65
9100	1.07	1.53
9700	1.11	1.89
11500	0.43	1.13
13000	1.76	2.36
15000	4.35	3.90
16500	2.73	3.34
17000	1.77	1.81
17100	1.77	1.52



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-Circuits' 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/terms/viewterm.html

