CERAMIC

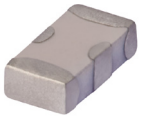
High Pass Filter

HFCN-1080+

50Ω 1140 to 4240 MHz

THE BIG DEAL

- Low Cost
- Small Size
- 7 Sections
- Temperature Stable
- Excellent Power Handling, 7 W
- Hermetically Sealed



Generic photo used for illustration purposes only

CASE STYLE: FV1206

+RoHS Compliant

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

APPLICATIONS

- Sub-Harmonic Rejection
- Transmitters/Receivers
- Lab Use

PRODUCT OVERVIEW

The HFCN-1080+ LTCC High Pass Filter is constructed with 12 layers in order to achieve a miniature size and high repeatability of performance. Wrap-around terminations minimize variations in performance due to parasitics. Covering 1140-4240 MHz, these units offer low insertion loss and good rejection.

KEY FEATURES

Feature	Advantages
Small Size (3.20x1.6 mm)	Allows for high layout density of circuit boards, while minimizing affects of parasitics.
Rejection Peaks at Harmonic Frequencies	Provides good rejection of signals at harmonic frequencies, for improved system performance.
Wrap-Around Termination	Provides excellent solderability and easy visual inspection capability.
LTCC Construction	Provides a rugged package that is well suited for tough environments including high humidity and high temperature extremes.

REV. B
ECO-011980
HFCN-1080+
MCL NY
250702

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ELECTRICAL SPECIFICATIONS [1,2] AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Stopband	Rejection Loss	DC-F1	DC-600	40			dB
		F1-F2	DC-700	20			
	Freq. Cut-Off	F3	1080		3.0		dB
	VSWR	DC-F2	DC-780		20		:1
Passband	Insertion Loss	F4-F7	1140-4240			2.0	dB
		F5-F6	1250-3730			1.4	dB
	VSWR	F4-F7	1140-4240		1.5		:1

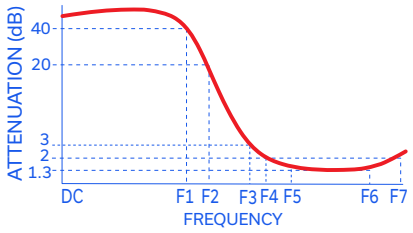
1. In Application where DC voltage is present at either input or output ports, coupling capacitors are required.
2. Measured on Mini-Circuits Characterization Test Board TB-HFCN-1080+.

ABSOLUTE MAXIMUM RATINGS

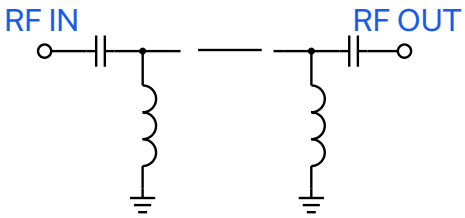
Parameter	Ratings
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input[3]	7 W max. at +25°C

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

TYPICAL FREQUENCY RESPONSE



FUNCTIONAL SCHEMATIC



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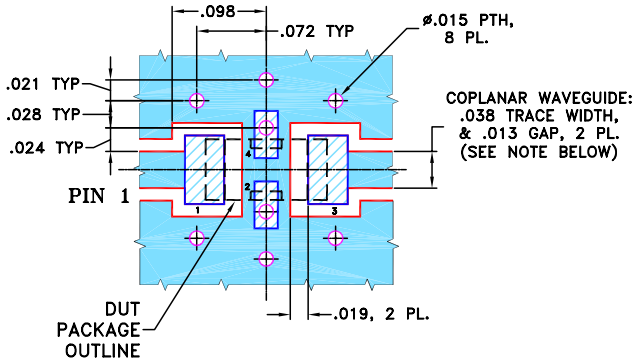
PIN CONNECTIONS

RF IN	1
RF OUT	3
GROUND	2,4

PRODUCT MARKING: N/A

DEMO BOARD MCL P/N: TB-HFCN-1080+

SUGGESTED PCB LAYOUT (PL-137)

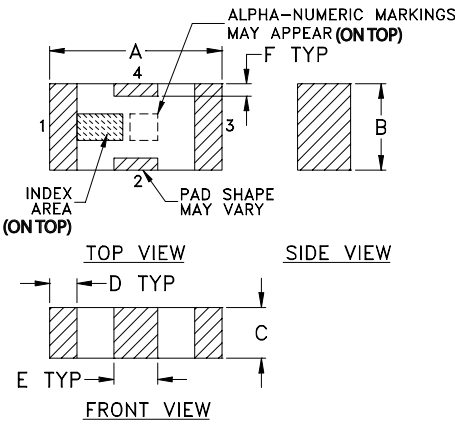


NOTES:
1. COPLANAR WAVEGUIDE PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH THICKNESS .020" ± .0015". COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH & GAP MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE.

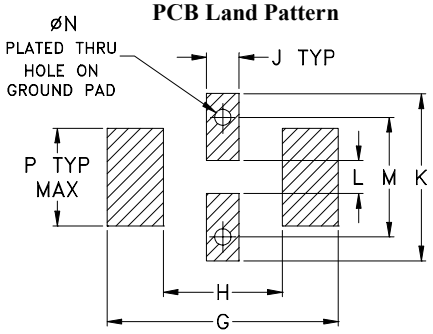
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

OUTLINE DRAWING



PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

OUTLINE DIMENSIONS (Inches / mm)

A	B	C	D	E	F	G
.126	.063	.037	.020	.032	.009	.169
3.20	1.60	0.94	0.51	0.81	0.23	4.29

H	J	K	L	M	N	P	wt
.087	.024	.122	.024	.087	.012	.071	grams
2.21	0.61	3.10	0.61	2.21	0.30	1.80	.020

TAPE & REEL INFORMATION: F71

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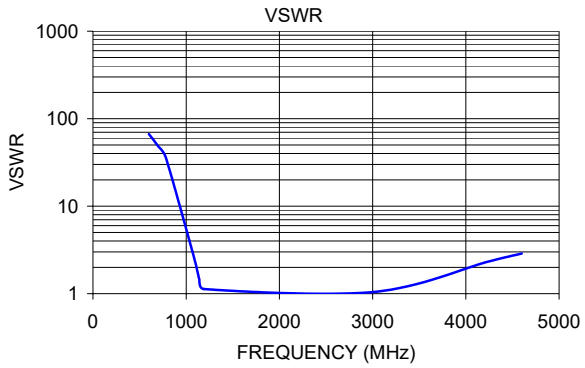
TYPICAL PERFORMANCE DATA AT +25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	94.10	0.00
600	49.17	66.82
700	37.65	48.26
780	29.42	36.20
1080	3.02	2.68
1140	1.49	1.46
1190	1.08	1.13
3010	0.35	1.05
4240	1.18	2.33
4600	1.64	2.88





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/terms/viewterm.html