

Ceramic

# Low Pass Filter

LFCN-9170+

50Ω

DC to 9170 MHz

## The Big Deal

- Rugged, ceramic construction
- Tiny size, 0.12 x 0.06 x 0.04"
- Excellent power handling, 8W



CASE STYLE: FV1206-4

## Product Overview

Mini-Circuits' LFCN-9170+ is an LTCC low pass filter with a passband from DC to 9170 MHz, supporting a variety of applications. This model provides 1.3 dB typical passband insertion loss and 30 dB typical stopband rejection. It handles up to 8W RF input power and provides a wide operating temperature range from -55 to +100°C. Housed in a tiny 1206 ceramic form factor with wraparound terminations, the filter is ideal for dense PCB layouts and with minimal performance variation due to parasitics.

## Key Features

Feature	Advantages
LTCC Construction	Provides repeatable performance in a rugged, ceramic package well suited for tough environments such as high humidity and temperature extremes.
Tiny size (0.12 x 0.06 x 0.04")	Saves space in dense circuit board layouts and minimizes the effects of parasitics.
High power handling, 8W	Supports a wide range of system power requirements.
Wrap-around terminations	Provides excellent solderability and easy visual inspection
Wide operating temperature range, -55 to +100°C	Enables reliable performance in extreme environments.



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DC<sup>(1)</sup> to 9170 MHz

LFCN-9170+



CASE STYLE: FV1206-4

**+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

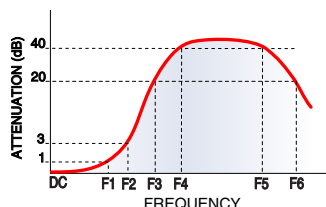
## Features

- excellent power handling, 8W
- small size
- 7 sections
- temperature stable
- hermetically sealed
- LTCC construction
- protected by U.S. Patent 6,943,646

## Applications

- electronic warfare (EW)
- harmonic rejection
- transmitters/receivers
- lab use

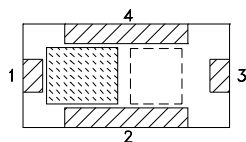
### Specification Definition



### Functional Schematic



### Top View



### Pad Connections

Input	1
Output	3
Ground	2,4

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

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	—	1.0	3.0	dB
	Freq. Cut-Off	F2	—	3.0	—	dB
	VSWR	DC-F1	—	1.6	—	:1
Stop Band	Rejection Loss	F3-F4	20	30	—	dB
		F4-F5	28	38	—	dB
	VSWR	F3-F5	—	30	—	:1

<sup>(1)</sup> In Application where DC voltage is present at either input or output ports, de-coupling capacitors are required.

<sup>(2)</sup> Measured on Mini-Circuits Characterization Test Board TB-810+.

### Maximum Ratings

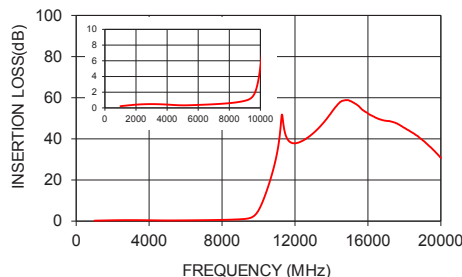
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input*	8W at 25°C

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

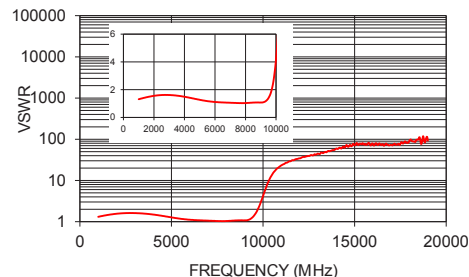
## Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1000	0.22	1.31
2000	0.41	1.56
4000	0.42	1.49
6000	0.38	1.12
9160	1.00	1.09
9800	2.90	2.42
10000	5.24	4.20
11360	47.39	27.89
11620	39.43	31.15
12000	37.84	34.46
14000	52.82	59.27
16000	52.35	76.32
18000	45.35	93.87
18760	41.10	113.28
19000	39.35	92.67

### LFCN-9170+ INSERTION LOSS



### LFCN-9170+ VSWR



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