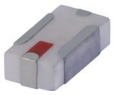
Low Pass Filter LFCN-123+

50Ω DC to 12000 MHz



CASE STYLE: FV1206-4

The Big Deal

- Small size 3.2mm x 1.6mm
- Pass band (DC-12000 MHz)
- Low Insertion Loss (2.0 dB typical)
- Sharp rejection peaks close to stop band

Product Overview

The LFCN-123+ Low Pass Filter gives microwave communication system designers the ability to reject unwanted harmonics using defined RF parameters. The multilayer construction gives high repeatability of performance. Small wrap-around terminations minimize variations in performance due to parasitics. Covering DC-12000 MHz, these units offer low insertion loss and good rejection.

Key Features

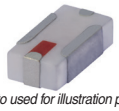
Feature	Advantages
Small Size (3.20mm x1.6 mm)	Allows for high layout density of circuit boards, while minimizing affects of parasitics.
Rejection peaks at harmonic frequencies	Provides good rejection of signals at harmonic frequencies, for improved system performance.
Wrap around termination	Provides 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.

Ceramic

Low Pass Filter

LFCN-123+

50Ω DC[1] to 12000 MHz



Generic photo used for illustration purposes only

CASE STYLE: FV1206-4

Maximum Ratings

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

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

Pin Connections

RF IN	1
RF OUT	3
GROUND	2,4

Product Marking: AP

Features

- excellent power handling, 8W
- small size, 0.12" x .06"
- 7 sections
- temperature stable
- hermetically sealed
- LTCC construction
- protected by U.S. Patent 6,943,646

Applications

- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

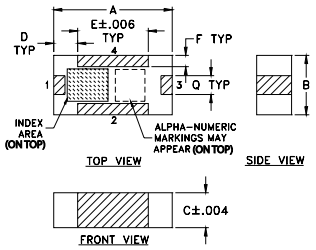
+RoHS Compliant

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

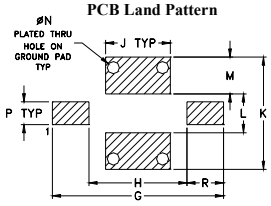
Available Tape and Reel at no extra cost

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

Outline Drawing



PCB Land Pattern



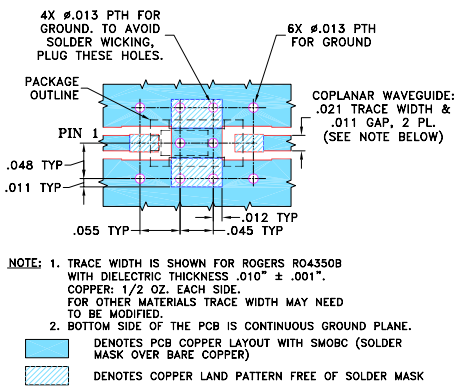
Suggested Layout,
Tolerance to be within ±.002

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J
.126	.063	.037	.026	.075	.012	.182	.104	.069
3.20	1.60	0.94	0.66	1.91	0.30	4.62	2.64	1.75

K	L	M	N	P	Q	R	wt
.119	.041	.039	.013	.024	.020	.039	grams
3.02	1.04	0.99	0.33	0.61	0.51	0.99	.020

Demo Board MCL P/N: TB-618
Suggested PCB Layout (PL-363)



NOTE: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010" ± .001". 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 WITH SMOBC (SOLDER MASK OVER BARE COPPER)

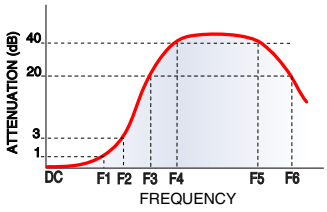
DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Electrical Specifications[1,2] at 25°C

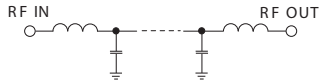
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band *(See Typical Performance Data)*	Insertion Loss	DC-F1	DC - 12000	—	—	2.5	dB
	Freq. Cut-Off	F2	13000	—	3.0	—	dB
	VSWR	DC-F1	DC - 12000	—	1.6	—	:1
Stop Band	Rejection Loss	F3	15000	20	—	—	dB
		F4-F5	15500 - 20000	—	40	—	dB
	VSWR	F3-F6	15500 - 20000	—	17	—	: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-618.

Typical Frequency Response

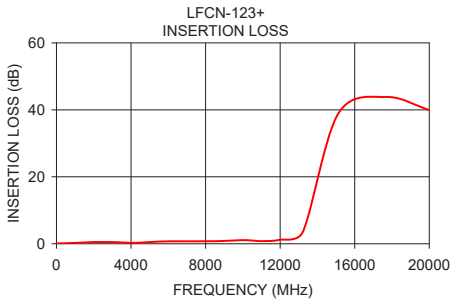


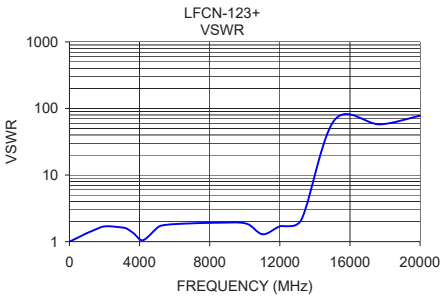
Electrical Schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10.00	0.07	1.00
1280.00	0.31	1.44
1550.00	0.39	1.55
2080.00	0.51	1.70
3140.00	0.48	1.61
4200.00	0.26	1.05
5000.00	0.48	1.61
5330.00	0.62	1.76
6260.00	0.73	1.85
8450.00	0.77	1.92
10070.00	1.07	1.87
11020.00	0.78	1.29
12010.00	1.23	1.70
13220.00	3.56	2.12
15120.00	38.92	67.22
17710.00	43.82	57.85
20000.00	39.95	78.02





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

Mini-Circuits®
www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

Click to view similar products for Signal Conditioning ***category:***

Click to view products by Mini-Circuits ***manufacturer:***

Other Similar products are found below :

MAPDCC0001 MAPDCC0004 PD0409J5050S2HF 880157 HHS-109-PIN DC1417J5005AHF AFS14A30-2185.00-T3 AFS14A35-1591.50-T3 DS-323-PIN B39321R801H210 1A0220-3 JP510S LFB212G45SG8C341 LFB322G45SN1A504 LFL182G45TC3B746 SF2159E 30057 FM-104-PIN CER0813B MAPDCC0005 3A325 40287 41180 ATB3225-75032NCT BD0810N50100AHF BD2425J50200AHF C5060J5003AHF JHS-115-PIN JP503AS DC0710J5005AHF DC2327J5005AHF DC3338J5005AHF 43020 LFB2H2G60BB1C106 LFL15869MTC1B787 X3C19F1-20S XC3500P-20S 10013-20 SF2194E CDBLB455KCAX39-B0 TGL2208-SM, EVAL RF1353C PD0922J5050D2HF 1E1305-3 1G1304-30 B0922J7575AHF 2020-6622-20 TP-102-PIN TP-103-PIN BD1222J50200AHF