Ceramic

Low Pass Filter

LFCN-1282+

50Ω DC[1] to 12800 MHz

CASE STYLE: FV1206-4

The Big Deal

- Small size 3.2mm x 1.6mm
- Wide Pass band (DC-12800 MHz)
- Low Insertion Loss (1.2 dB typical)
- Sharp rejection peaks close to pass band

Product Overview

The LFCN-1282+ 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-12800 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.

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+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

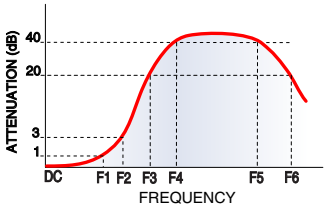
Features

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

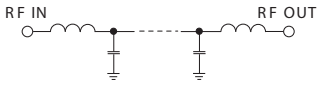
Applications

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

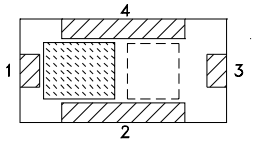
Specification Definition



Functional Schematic



Top View



Pad Connections

Input	1
Output	3
Ground	2,4

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 - 12800	—	1.2	4.0	dB
	Freq. Cut-Off	F2	13900	—	3.0	—	dB
	VSWR	DC-F1	DC - 12800	—	1.7	—	:1
Stop Band	Rejection Loss	F3-F6	16200-19500	20	30	—	dB
		F4-F5	16500-20000	—	40	—	dB
	VSWR	F3-F6	16200-20330	—	40	—	: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-810+.

Maximum Ratings

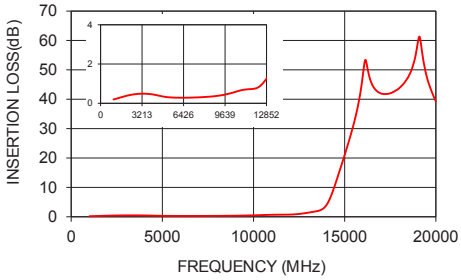
Operating Temperature	-55°C to +100°C
Storage Temperature	-55°C to +100°C
RF Power Input*	8W at 25°C

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

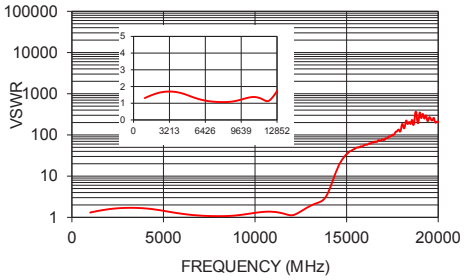
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1000	0.19	1.31
2000	0.38	1.57
5000	0.33	1.44
10000	0.50	1.29
12800	1.21	1.68
13900	3.23	3.34
15800	40.08	52.68
16000	48.40	57.61
18000	43.84	164.64
20000	39.31	206.37

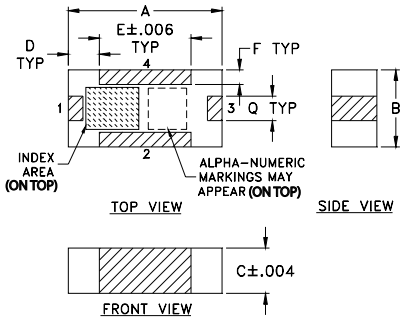
LFCN-1282+
INSERTION LOSS



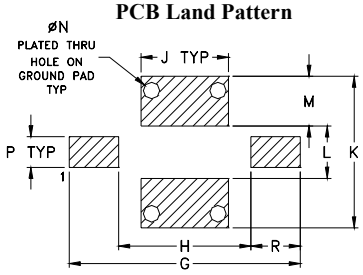
LFCN-1282+
VSWR



Outline Drawing

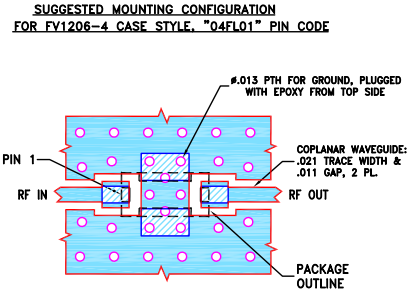


PCB Land Pattern



Suggested Layout,
Tolerance to be within ±.002

Demo Board MCL P/N: TB-810
Suggested PCB Layout (PL-546)



NOTES:
1. TRACE WIDTH & GAP PARAMETERS ARE SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .010±.001. 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.

Pad Connections

Input	1
Output	3
Ground	2,4

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

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