



# THE DATASHEET OF LFCN-3000+





CERAMIC

# Low Pass Filter

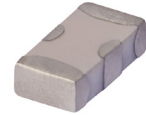
## LFCN-3000+

Mini-Circuits

50Ω DC<sup>1</sup> to 3000 MHz

### FEATURES

- Excellent power handling, 10W
- Small size
- 7 sections
- Temperature stable
- LTCC construction
- Protected by U.S. Patent 6,943,646



Generic photo used for illustration purposes only

CASE STYLE: FV1206

### 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

### ELECTRICAL SPECIFICATIONS<sup>1,2</sup> AT 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Units	
Passband	Insertion Loss	DC-F1	DC-3000	—	—	1.2	dB
	Freq. Cut-Off	F2	3600	—	3.0	—	dB
	VSWR	DC-F1	DC-3000	—	1.2	—	:1
Stop Band	Rejection Loss	F3	4550	20	—	—	dB
		F4-F5	4780-7500	—	30	—	
	VSWR	F6	10000	—	20	—	:1
		F3-F6	4550-10000	—	20	—	

1. In Applications where DC isolation to ground is required, coupling capacitors are recommended to avoid DC leakage. Alternatively, if DC pass IN-OUT is required, Mini-Circuits' "D" suffix version of this model will support DC IN-OUT, and provide >100 MOhm isolation to ground.

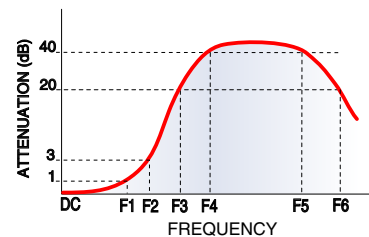
2. Measured on Mini-Circuits Characterization Test Board TB-270.

### MAXIMUM RATINGS

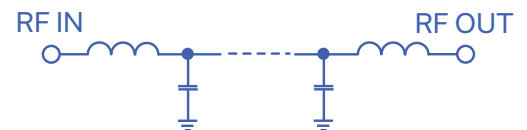
Parameter	Ratings
Operating temperature	-55°C to 100°C
Storage temperature	-55°C to 100°C
RF Power Input <sup>3</sup>	10 W max. at 25°C

3. Passband rating, derate linearly to 3.5W at 100°C ambient. Permanent damage may occur if any of these limits are exceeded.

### TYPICAL FREQUENCY RESPONSE



### FUNCTIONAL SCHEMATIC



REV. L  
ECO-011761  
LFCN-3000+  
AD/CP/AM  
220128

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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-270  
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



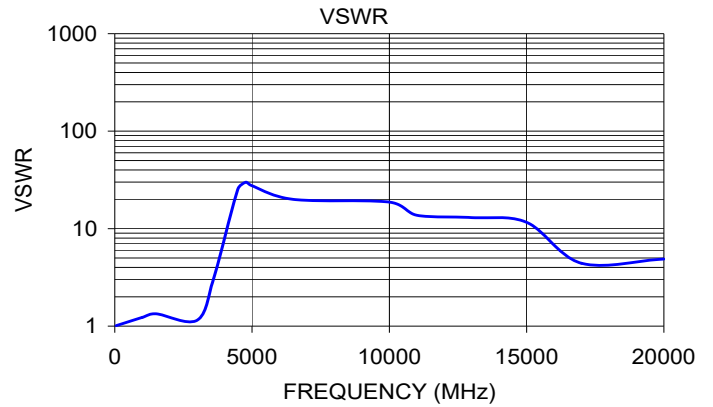
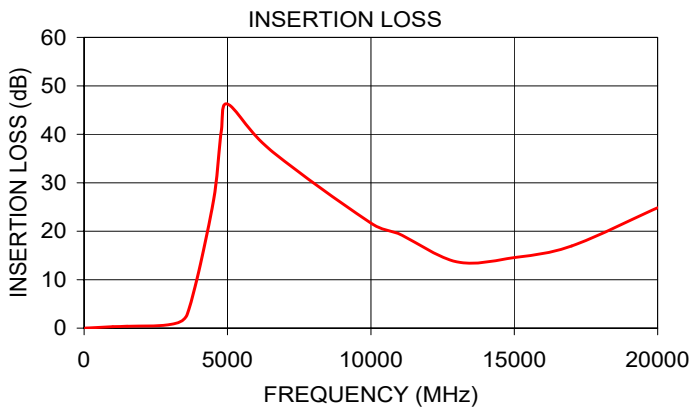
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## LFCN-3000+

### TYPICAL PERFORMANCE DATA AT 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	0.03	1.01
1000	0.29	1.23
1500	0.40	1.34
3000	0.77	1.15
3600	2.96	3.08
4480	25.24	25.19
4780	40.44	29.96
5000	46.26	27.59
6500	36.73	19.98
10000	21.68	18.70
11000	19.41	13.70
13000	13.67	12.99
15000	14.56	11.61
17000	16.94	4.41
20000	24.85	4.88



#### 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/MCLStore/terms.jsp](http://www.minicircuits.com/MCLStore/terms.jsp)



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