

# Ceramic Low Pass Filter

50Ω DC<sup>(1)</sup> to 530 MHz

## LFCN-530+



Generic photo used for illustration purposes only  
CASE STYLE: FV1206

### Maximum Ratings

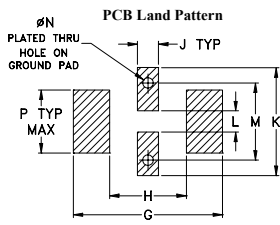
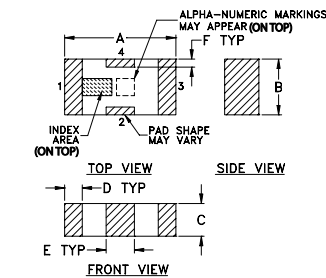
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	8.5W max. at 25°C

\* Passband rating, derate linearly to 3.5W 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

### Outline Drawing

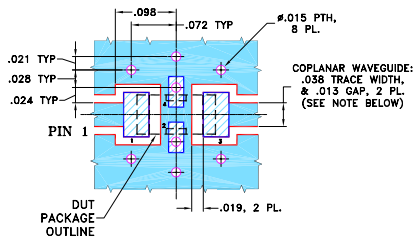


Suggested Layout,  
Tolerance to be within ±0.02

### Outline Dimensions (inch/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
.087	.024	.122	.024	.087	.012	.071
2.21	0.61	3.10	0.61	2.21	0.30	1.80

### 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

### Features

- excellent power handling, 8.5W
- small size
- 7 sections
- temperature stable
- LTCC construction
- protected by U.S. Patent 6,943,646

### Applications

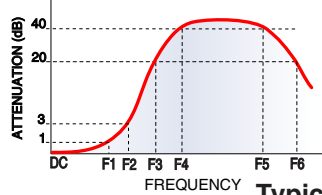
- harmonic rejection
- VHF/UHF transmitters/receivers

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

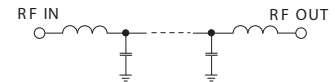
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-530	—	—	1.2	dB
	Freq. Cut-Off	F2	700	—	3.0	—	dB
	VSWR	DC-F1	DC-530	—	1.2	—	:1
Stop Band	Rejection Loss	F3	820	20	—	—	dB
		F4-F5	945-3000	—	40	—	dB
	VSWR	F6	6000	—	20	—	dB
		F3-F6	820-6000	—	20	—	:1

- (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.

### Typical Frequency Response

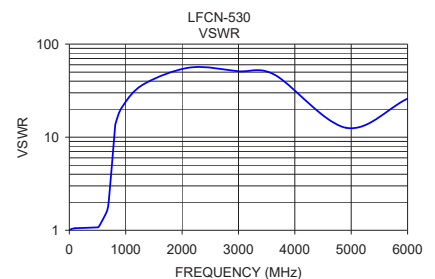
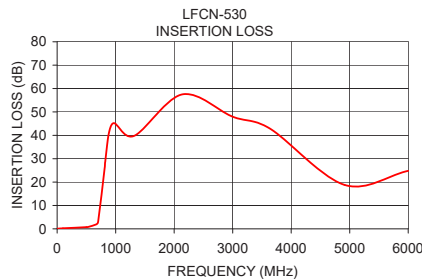


### Electrical Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1.00	0.05	1.01
100.00	0.22	1.05
500.00	0.73	1.07
530.00	0.81	1.11
670.00	1.95	1.62
700.00	2.89	2.08
815.00	26.41	13.60
820.00	28.41	14.03
945.00	44.98	21.46
1315.00	39.77	36.97
2140.00	57.51	56.04
3000.00	47.94	51.10
3640.00	42.84	46.96
4910.00	18.81	12.61
6000.00	24.80	25.94



### 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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