

# Ceramic Low Pass Filter

50Ω DC<sup>(1)</sup> to 490 MHz

## LFCN-490+ LFCN-490



CASE STYLE: FV1206  
PRICE: \$2.99 ea. QTY (20)

+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

### Maximum Ratings

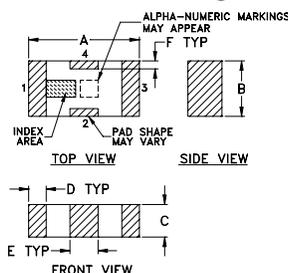
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	8.5W max. at 25°C

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

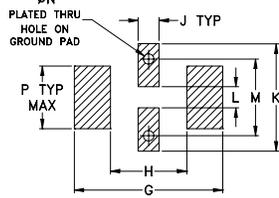
### Pin Connections

RF IN	1
RF OUT	3
GROUND	2,4

### Outline Drawing



### PCB Land Pattern

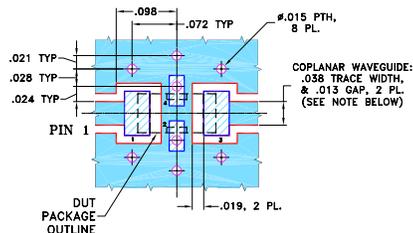


Suggested Layout, Tolerance to be within ±0.02

### 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	wt
.087	.024	.122	.024	.087	.012	.071	grams
2.21	0.61	3.10	0.61	2.21	0.30	1.80	.020

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

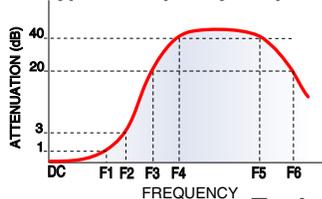
- harmonic rejection
- VHF/UHF transmitters/receivers
- RF suppression for DC lines on PCB
- anti-aliasing for A/D converter

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

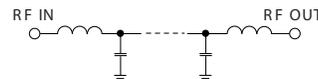
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-490	—	—	1.2	dB
	Freq. Cut-Off	F2	650	—	3.0	—	dB
	VSWR	DC-F1	DC-490	—	1.2	—	:1
Stop Band	Rejection Loss	F3	800	20	—	—	dB
		F4-F5	880-2500	—	40	—	dB
		F6	6000	—	20	—	dB
	VSWR	F3-F6	800-6000	—	20	—	:1

(1) Coupling capacitors at input and output are recommended for use in applications that require DC isolation of input to output port or either port to ground. Alternatively, if DC pass IN - OUT is required, use the "D" version of this model which will support DC IN-OUT, and provide >100 MOhm isolation to ground.

### Typical Frequency Response

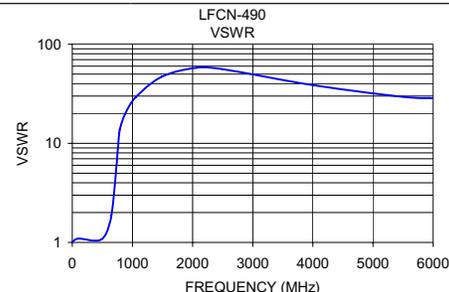
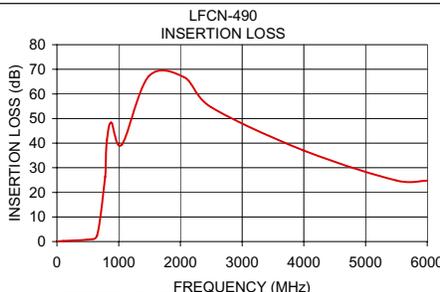


### Electrical Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1.00	0.05	1.01
100.00	0.25	1.09
490.00	0.82	1.08
650.00	2.45	1.88
780.00	26.27	12.71
790.00	30.75	13.70
810.00	41.27	15.26
880.00	48.37	19.76
1050.00	39.38	28.96
1485.00	67.14	46.96
2065.00	66.75	57.91
2500.00	54.57	56.04
4000.00	36.98	38.61
5500.00	24.86	29.46
6000.00	24.74	28.49



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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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