

# Ceramic Low Pass Filter

## LFCN-490D+

50Ω DC to 490 MHz



CASE STYLE: FV1206

**+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

### Maximum Ratings

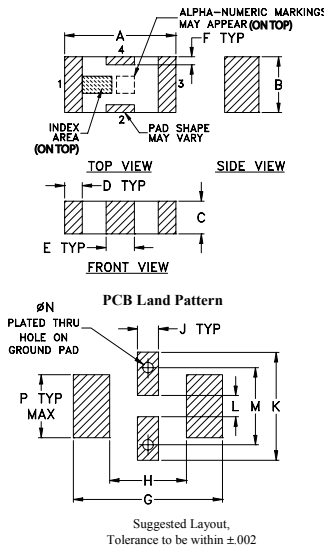
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	8.5W max. at 25°C
Max. DC Voltage at pins 1&3	25 VDC
DC Current Input to Output	0.5A max. at 25°C

\* 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



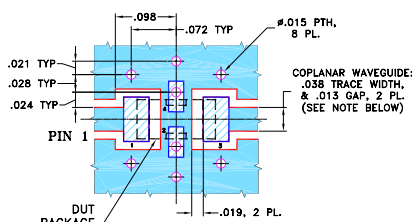
### Outline Dimensions (inch)

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.

#### 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)

### Features

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

### Applications

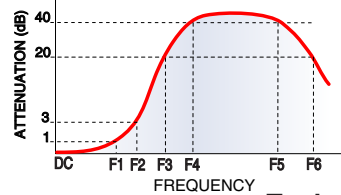
- harmonic rejection
- VHF/UHF transmitters/receivers
- RF suppression for DC lines on PCB
- anti-aliasing for A/D converter

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

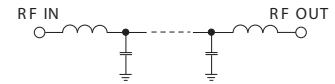
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-490	—	—	1.0	dB
	Freq. Cut-Off	F2	650	—	3.0	—	dB
	VSWR	DC-F1	DC-490	—	1.2	—	:1
Stop Band	Rejection Loss	F3	840	20	—	—	dB
		F4-F5	880-2500	—	30	—	dB
		F6	6000	—	20	—	dB
	VSWR	F3-F6	840-6000	—	20	—	:1

- (1) DC Resistance to ground is 100 Mohms min.  
 (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	0.08	1.03
200.00	0.36	1.10
300.00	0.50	1.12
400.00	0.67	1.05
490.00	0.98	1.21
650.00	6.33	4.32
800.00	39.27	17.39
880.00	35.30	20.22
1000.00	31.19	24.14
2000.00	52.84	44.55
2500.00	60.97	45.72
3000.00	59.01	43.44
4000.00	30.85	31.60
5000.00	26.27	28.49
6000.00	23.94	37.77

