

# Ceramic Low Pass Filter

## LFCN-6400D+

50Ω DC to 6400 MHz



CASE STYLE: FV1206

### Maximum Ratings

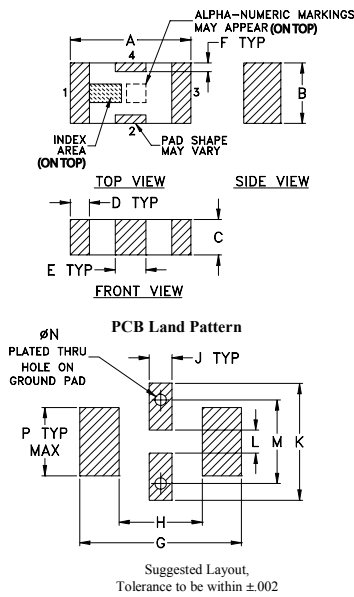
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	8W max. at 25°C
Max. DC Voltage at pins 1 & 3	25 VDC
DC Current Input to Output	0.5A max. at 25°C

\* Passband rating, derate linearly to 3W 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



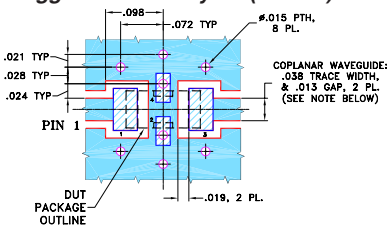
### Outline Dimensions (inch)

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:
- 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.
  - 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

#### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuits' applicable established test performance criteria and measurement instructions.
- 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, 8W
- small size
- 7 sections
- temperature stable
- hermetically sealed
- LTCC construction
- protected by U.S. Patent 6,943,646

### Applications

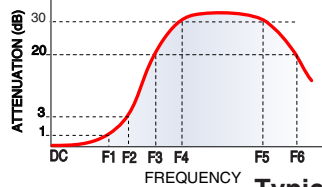
- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

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

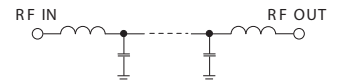
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-6400	—	—	2.0	dB
	Freq. Cut-Off	F2	7200	—	3.0	—	dB
	VSWR	DC-F1	DC-6400	—	1.2	—	:1
Stop Band	Rejection Loss	F4	8300	20	—	—	dB
		F3-F5	7770-10200	—	30	—	dB
	VSWR	F5-F6	10200-12500	—	20	—	dB
		F4-F6	8300-12500	—	17	—	:1

- DC Resistance to ground is 100 Mohms min.
- Measured on Mini-Circuits Characterization Test Board TB-270.

### Typical Frequency Response



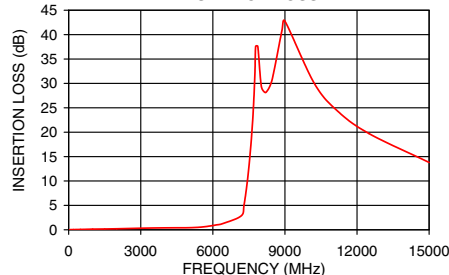
### Electrical Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
40	0.02	1.04
500	0.07	1.02
2000	0.20	1.14
4000	0.40	1.36
5500	0.55	1.09
6400	1.25	1.53
7000	1.76	1.10
7200	3.12	1.81
7350	6.62	3.90
7500	12.86	7.76
7680	24.39	12.35
7770	35.48	14.62
8300	28.71	22.29
10200	30.17	16.89
11000	25.43	17.75
12500	19.72	15.39
15000	13.80	8.90

### LFCN-6400D+ INSERTION LOSS



### LFCN-6400D+ VSWR

