

# Ceramic Low Pass Filter

50Ω DC<sup>(1)</sup> to 850 MHz

## LFCN-900



Generic photo used for illustration purposes only

CASE STYLE: FV1206



### Maximum Ratings

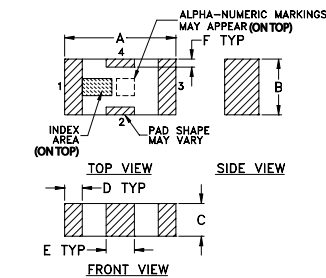
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	10W max. at 25°C

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

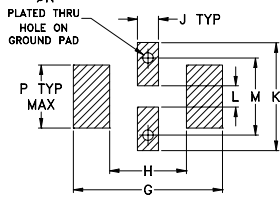
### Pin Connections

RF IN	1
RF OUT	3
GROUND	2,4

### Outline Drawing



### PCB Land Pattern

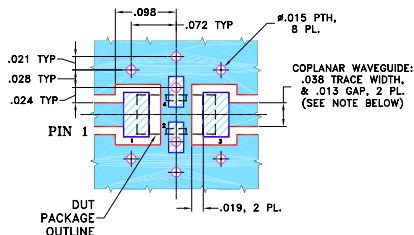


Suggested Layout, Tolerance to be within ±.002

### 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, 10W
- small size
- 7 sections
- temperature stable
- LTCC construction
- rejection in stopband, 45-50 dB typ.
- protected by U.S. Patent 6,943,646

### Applications

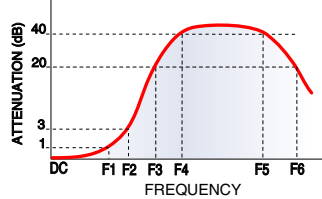
- harmonic rejection
- VHF/UHF transmitters/receivers
- lab use

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

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-850	—	—	1.3	dB
	Freq. Cut-Off	F2	1075	—	3.0	—	dB
	VSWR	DC-F1	DC-850	—	1.2	—	:1
Stop Band	Rejection Loss	F3	1275	20	—	—	dB
		F4-F5	1350-4850	—	30	—	dB
		F6	5100	—	20	—	dB
	VSWR	F3-F6	1275-5100	—	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

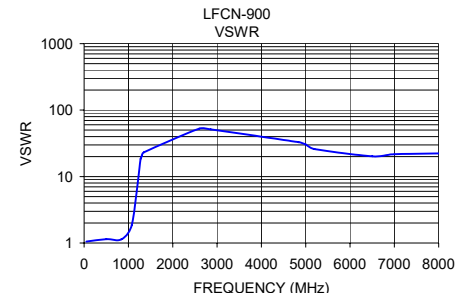
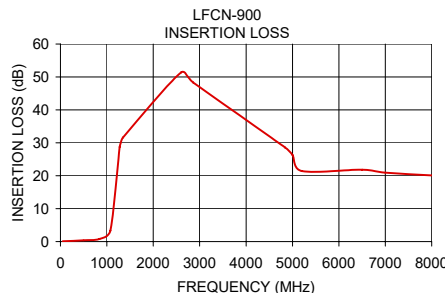


### Electrical Schematic



### Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50.00	0.10	1.05
500.00	0.38	1.14
840.00	0.81	1.14
1075.00	3.36	1.88
1275.00	28.73	18.50
1300.00	29.98	20.22
1350.00	31.63	23.18
2600.00	51.39	52.65
2860.00	48.32	51.10
4840.00	28.59	32.79
5000.00	26.32	30.49
5200.00	21.44	25.94
6500.00	21.81	20.22
7000.00	20.93	21.73
8000.00	20.09	22.29



### 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-Circuits' 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)

