

Ceramic Low Pass Filter

50Ω DC⁽¹⁾ to 2500 MHz

LFCN-2500+
LFCN-2500



Maximum Ratings

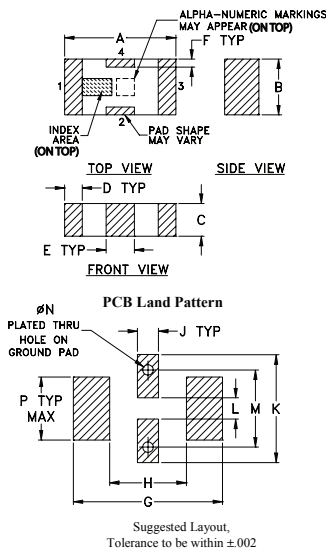
Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	10W max. at 25°C

* Passband rating, derate linearly to 3.5W 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

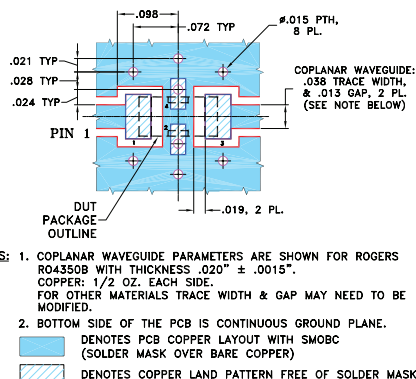


Outline Dimensions (inch)

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.
- COPLANAR WAVEGUIDE: .038 TRACE WIDTH, & .013 GAP, 2 PL. (SEE NOTE BELOW)
 - DUT PACKAGE OUTLINE
 - .019, 2 PL.
 - .021 TYP.
 - .028 TYP.
 - .024 TYP.
 - PIN 1
 - .098
 - .072 TYP.
 - .015 PTH, 8 PL.
 - .019, 2 PL.
- 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
- protected by U.S. Patent 6,943,646

Applications

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

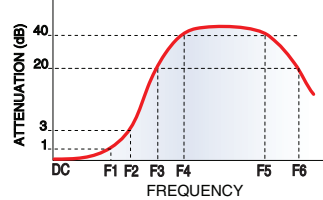
Electrical Specifications^(1,2) at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC-2500	—	—	1.0 dB
	Freq. Cut-Off	F2	3075	—	3.0	dB
	VSWR	DC-F1	DC-2500	—	1.2	:1
Stop Band	Rejection Loss	F3	3675	20	—	dB
		F4-F5	3800-6100	—	30	dB
		F6	8000	—	20	dB
	VSWR	F3-F6	3675-8000	—	20	:1

(1) In Application where DC voltage is present at either input or output ports, coupling capacitors are required. 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

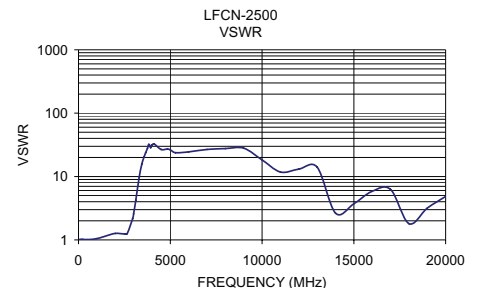
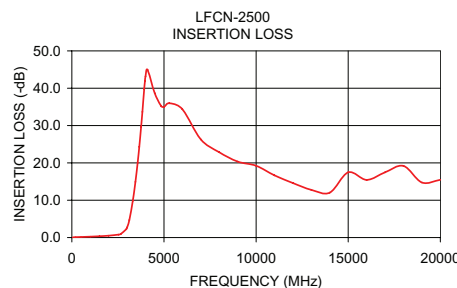


Electrical Schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50.00	0.05	1.02
2000.00	0.50	1.26
2530.00	0.80	1.24
3000.00	2.72	2.58
3660.00	24.30	23.81
3760.00	29.63	28.03
4000.00	43.19	31.03
5000.00	34.98	26.33
6000.00	34.38	24.48
7000.00	26.29	26.74
8000.00	22.85	27.59
10000.00	19.22	18.30
12000.00	14.60	13.09
15000.00	17.48	3.73
20000.00	15.48	4.84



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

