

Surface Mount Low Pass Filter

SCLF-8.4+ SCLF-8.4

50Ω DC to 8.4 MHz

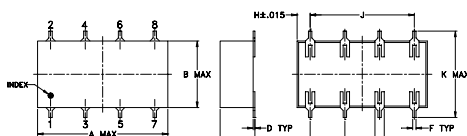
Maximum Ratings

Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.
Permanent damage may occur if any of these limits are exceeded.	

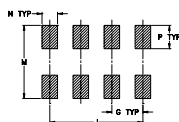
Pin Connections

INPUT	1
OUTPUT	8
GROUND	2,3,4,5,6,7

Outline Drawing



PCB Land Pattern

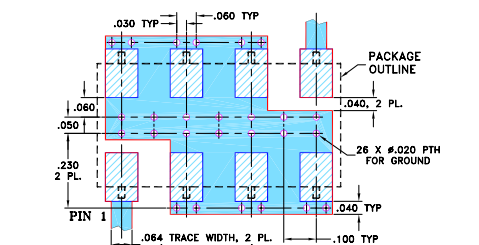


Suggested Layout,
Tolerance to be within ±0.02

Outline Dimensions (inch)

A	B	C	D	E	F	G
0.75	0.38	0.28	0.01	0.05	0.02	0.2
19.05	9.65	7.11	0.25	1.27	0.51	5.08
H	J	K	M	N	P	wt
0.075	0.6	0.45	0.47	0.1	0.15	grams
1.91	15.24	11.43	11.94	2.54	3.81	1.60

Demo Board MCL P/N: TB-187+
Suggested PCB Layout (PL-049)



- NOTES: 1. TRACE WIDTH IS SHOWN FOR ROGERS RO4350B WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH 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

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-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp

Features

- wide selection of cut-off frequencies
- excellent rejection
- custom models available

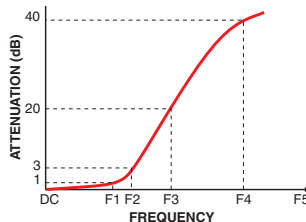
Applications

- defense communications
- receivers/transmitters
- harmonic rejection of VCOs

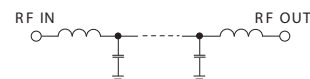
Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC-8.4	—	—	1.0 dB
	Freq. Cut-Off	F2	9.4	—	3.0	dB
	VSWR	DC-F1	DC-8.4	—	1.25	:1
Stop Band	Rejection Loss	F3-F4	11.4-12.6	20	—	dB
		F4-F5	12.6-210	40	—	dB
	VSWR	F3-F5	11.4-210	—	18	:1

Typical Frequency Response



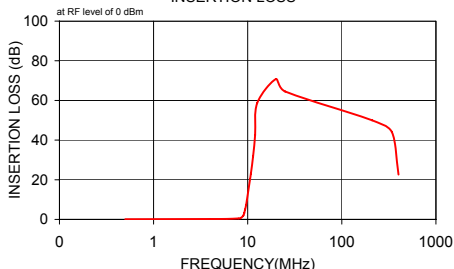
Electrical Schematic



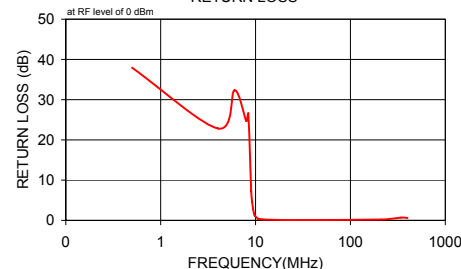
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)
	$\bar{x}$	σ	
0.50	0.09	0.02	37.95
4.00	0.19	0.01	22.85
6.00	0.25	0.01	32.33
8.00	0.50	0.01	24.69
8.40	0.65	0.01	26.50
9.00	1.99	0.12	7.24
9.40	5.07	0.27	2.97
10.60	20.32	0.48	0.42
10.80	23.07	0.51	0.36
11.40	31.79	0.67	0.27
12.00	42.59	1.21	0.22
12.60	58.64	0.40	0.19
20.00	70.81	2.23	0.08
25.00	64.53	0.74	0.07
210.00	49.98	0.43	0.21
340.00	44.15	1.79	0.69
400.00	22.63	0.47	0.60

SCLF-8.4 INSERTION LOSS



SCLF-8.4 RETURN LOSS



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