

# Surface Mount Low Pass Filter

# SCLF-8.4+ SCLF-8.4

50Ω DC to 8.4 MHz

## Maximum Ratings

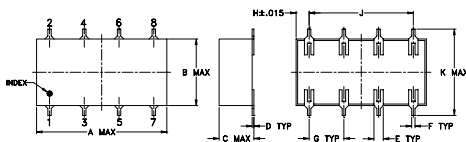
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

Permanent damage may occur if any of these limits are exceeded.

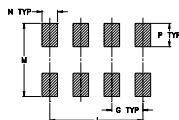
## Pin Connections

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

## Outline Drawing



### PCB Land Pattern



Suggested Layout,  
Tolerance to be within ±.002

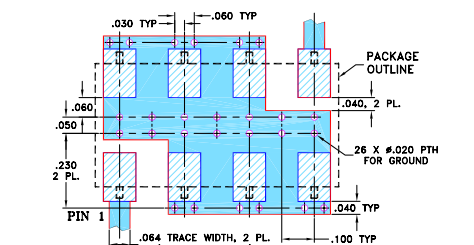
## Outline Dimensions (inch)

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

## Features

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

## Applications

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



CASE STYLE: YY161  
PRICE: \$8.95 ea. QTY (1-9)

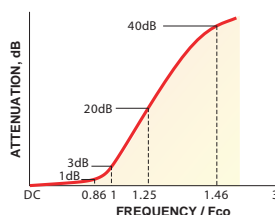
+ RoHS compliant in accordance  
with EU Directive (2002/95/EC)

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

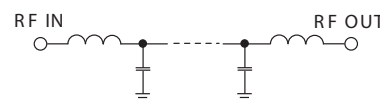
## Low Pass Filter Electrical Specifications

PASSBAND (MHz)	fco, (MHz) Nom.	STOPBAND (MHz)		VSWR (:1)	
		(loss > 20 dB)	(loss > 40 dB)	Pass band Typ.	Stop band Typ.
DC-8.4	9.4	11.4-12.6	12.6-210	1.25	18

## typical frequency response



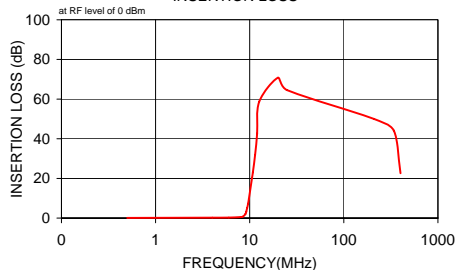
## Electrical Schematic



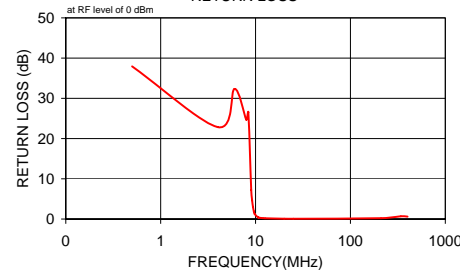
## Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)
	$\bar{x}$	$\sigma$	
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



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

For detailed performance specs & shopping online see web site

Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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).

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