

# Surface Mount Low Pass Filter

# SCLF-10.7+ SCLF-10.7

50Ω DC to 11 MHz

## Maximum Ratings

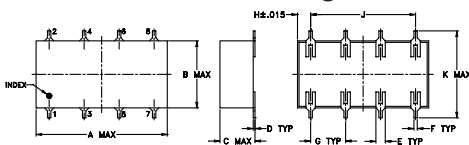
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	0.5W max.

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

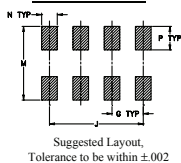
## Pin Connections

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

## Outline Drawing



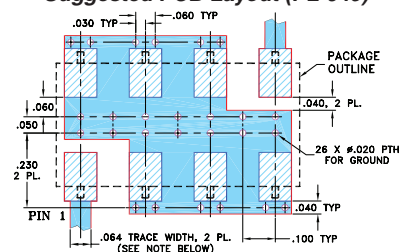
## PCB Land Pattern



## 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

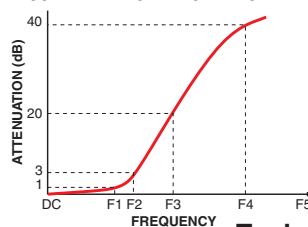
## Applications

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

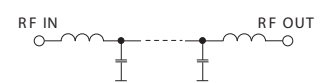
## Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-11	—	—	1.0	dB
	Freq. Cut-Off	F2	14	—	3.0	—	dB
	VSWR	DC-F1	DC-11	—	1.7	—	:1
Stop Band	Rejection Loss	F3-F4	19-24	20	—	—	dB
		F4-F5	24-200	40	—	—	dB
	VSWR	F3-F5	19-200	—	18	—	:1

## Typical Frequency Response

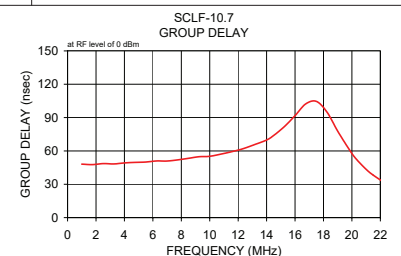
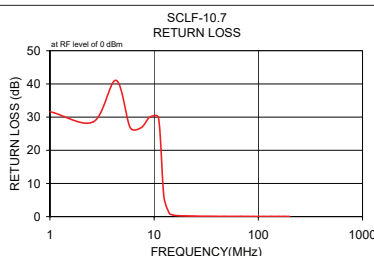
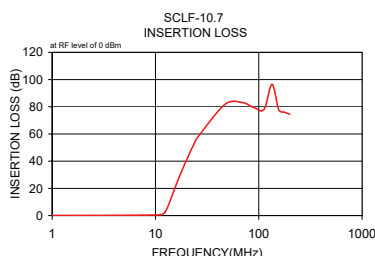


## Electrical Schematic



## Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	$\sigma$		
1.00	0.08	0.00	1.00	48.1
2.60	0.13	0.00	1.75	47.7
4.30	0.18	0.00	2.50	48.6
5.90	0.24	0.01	3.25	48.3
7.50	0.31	0.01	4.00	49.2
9.10	0.40	0.01	4.75	49.7
11.00	0.64	0.02	5.50	50.0
12.40	2.53	0.24	6.25	51.0
14.00	11.64	0.45	7.00	50.9
14.50	14.82	0.45	7.75	51.9
15.40	20.14	0.43	8.50	53.3
16.30	24.95	0.40	9.25	54.8
17.20	29.31	0.39	10.00	55.2
18.10	33.33	0.38	11.00	57.7
19.00	37.05	0.37	11.50	59.2
19.50	38.99	0.38	12.25	61.6
20.40	42.29	0.36	13.00	65.0
21.30	45.46	0.36	14.00	69.8
22.20	48.48	0.40	14.50	74.0
23.10	51.09	0.34	15.25	81.9
24.00	53.92	0.49	16.00	91.7
25.00	56.48	0.64	16.75	102.3
46.90	81.67	4.73	17.50	104.5
68.80	83.17	5.36	18.25	94.9
90.60	79.31	1.74	19.00	77.8
112.50	78.10	2.32	19.75	62.5
134.40	96.52	45.46	20.25	53.5
156.30	77.69	2.10	21.00	43.4
178.10	76.01	0.73	21.50	38.2
200.00	74.48	2.60	22.25	31.8



## 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.  
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CASE STYLE: YY161

## +RoHS Compliant

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