

# Surface Mount Low Pass Filter

## SCLF-45+

50Ω DC to 45 MHz

### Maximum Ratings

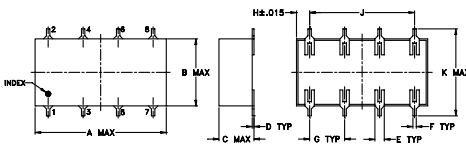
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	0.5W max.

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

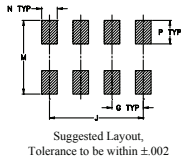
### Pin Connections

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

### Outline Drawing



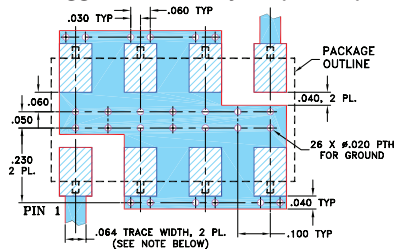
### PCB Land Pattern



### Outline Dimensions (inch/mm)

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

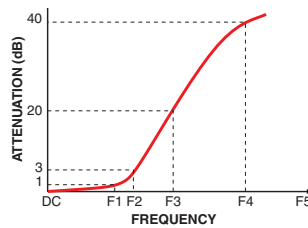
### Applications

- 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-45	—	—	1.0	dB
	Freq. Cut-Off	F2	55	—	3.0	—	dB
	VSWR	DC-F1	DC-45	—	1.7	—	:1
Stop Band	Rejection Loss	F3-F4	70-90	20	—	—	dB
		F4-F5	90-200	40	—	—	dB
	VSWR	F3-F5	70-200	—	18	—	:1

### Typical Frequency Response

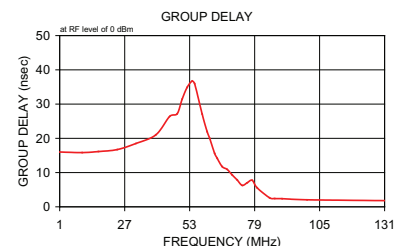
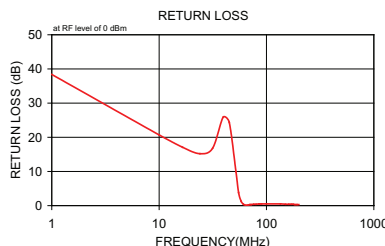
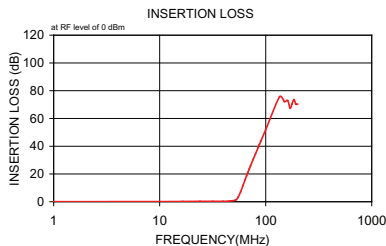


### Electrical Schematic



### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	$\sigma$			
1.00	0.03	0.00	38.40	1.00	16.00
10.00	0.12	0.10	20.70	10.00	15.85
16.50	0.18	0.10	17.10	16.50	16.14
24.00	0.30	0.10	15.20	24.00	16.72
31.50	0.31	0.10	16.80	31.50	18.50
39.50	0.31	0.10	25.90	39.50	21.04
45.00	0.49	0.10	24.40	45.00	26.38
52.00	1.22	0.20	9.90	48.00	27.16
55.00	3.37	0.60	3.80	50.00	31.44
58.00	7.23	0.80	1.30	52.00	34.88
61.00	11.68	0.90	0.40	54.00	36.74
64.00	15.98	0.90	0.10	55.00	35.95
66.00	18.68	0.80	0.10	58.00	27.09
68.00	21.26	0.80	0.20	60.00	21.94
70.00	23.69	0.80	0.30	61.00	20.02
72.00	26.02	0.80	0.30	63.00	15.60
76.00	30.42	0.80	0.40	64.00	14.21
80.00	34.44	0.80	0.40	66.00	11.74
85.00	39.13	0.70	0.50	68.00	10.93
87.00	41.06	0.80	0.50	70.00	9.31
90.00	43.71	0.90	0.50	72.00	7.86
100.00	51.96	1.50	0.50	74.00	6.26
135.00	75.54	9.90	0.50	76.00	7.02
150.00	72.20	4.30	0.40	78.00	7.76
161.50	72.82	3.90	0.40	80.00	5.54
170.00	67.46	2.80	0.40	85.00	2.62
177.00	70.41	5.00	0.40	87.00	2.41
184.50	73.51	4.80	0.30	90.00	2.38
192.50	70.37	4.70	0.30	100.00	2.04
200.00	70.36	5.50	0.30	131.00	1.81



### 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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