

# Surface Mount Low Pass Filter

## SCLF-5+

50Ω DC to 5 MHz

### Maximum Ratings

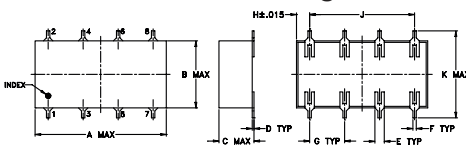
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

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

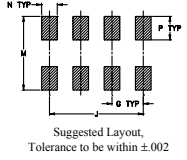
### Pin Connections

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

### Outline Drawing



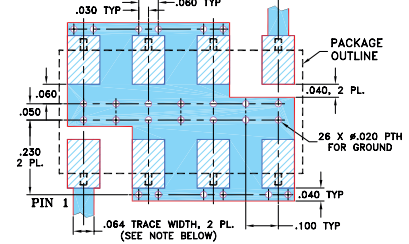
### PCB Land Pattern



### 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:**
- 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.
  - 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



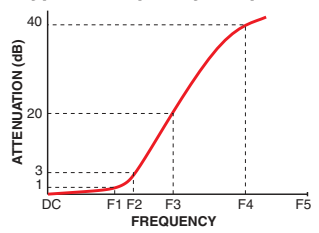
Generic photo used for illustration purposes only  
CASE STYLE: YY161

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

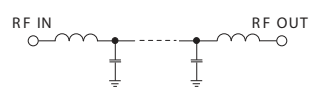
### Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-5	—	—	1.0	dB
	Freq. Cut-Off	F2	5.8	—	3.0	—	dB
	VSWR	DC-F1	DC-5	—	1.7	—	:1
Stop Band	Rejection Loss	F3-F4	8-10	20	—	—	dB
		F4-F5	10-200	40	—	—	dB
	VSWR	F3-F5	8-200	—	18	—	:1

### Typical Frequency Response

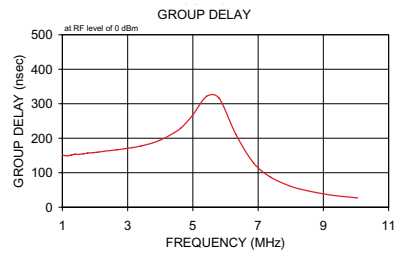
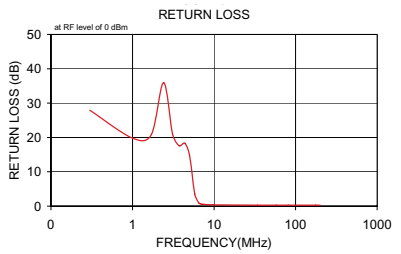


### Electrical Schematic



### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	$\sigma$			
0.30	0.05	0.00	27.93	1.00	150.94
1.00	0.11	0.01	19.79	1.09	149.44
1.70	0.13	0.01	20.83	1.18	149.56
2.40	0.15	0.00	35.97	1.29	151.58
3.10	0.24	0.02	20.96	1.39	153.73
3.70	0.34	0.04	17.62	1.51	153.16
4.40	0.44	0.02	18.29	1.64	154.81
5.00	0.71	0.05	14.82	1.78	157.02
5.80	4.39	0.64	3.50	1.93	157.96
6.50	13.41	0.69	0.92	2.09	159.54
6.80	17.44	0.61	0.69	2.27	161.84
7.10	21.22	0.55	0.59	2.46	163.94
7.40	24.76	0.52	0.53	2.67	166.34
7.70	28.06	0.49	0.49	2.90	169.53
8.00	31.17	0.48	0.46	3.14	172.46
8.30	34.08	0.47	0.44	3.41	177.65
8.60	36.83	0.46	0.42	3.70	184.69
9.00	40.28	0.44	0.40	3.98	193.77
9.30	42.71	0.42	0.39	4.31	209.32
9.70	45.76	0.39	0.38	4.64	230.37
10.00	47.94	0.39	0.38	5.00	267.85
10.30	50.00	0.45	0.37	5.42	321.82
34.00	82.82	4.44	0.27	5.80	316.39
57.70	81.71	2.14	0.28	6.32	210.99
81.40	79.29	0.47	0.28	6.86	128.64
105.20	78.72	1.24	0.28	7.38	87.23
128.90	76.10	1.22	0.28	8.00	60.47
152.60	74.23	1.04	0.27	8.61	45.55
176.30	73.30	0.56	0.27	9.34	33.91
200.00	72.10	0.48	0.27	10.05	26.94



**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.  
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