

# Surface Mount Low Pass Filter

## SCLF-700+

50Ω DC to 700 MHz

### Maximum Ratings

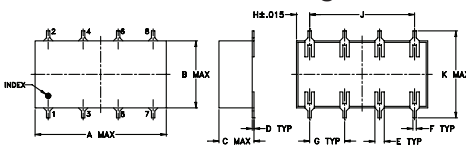
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	0.5W max.

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

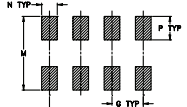
### Pin Connections

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

### Outline Drawing



### PCB Land Pattern

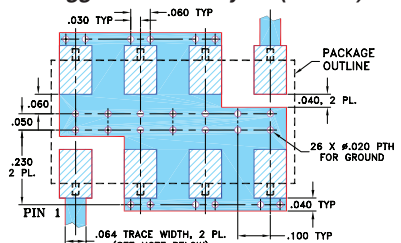


Suggested Layout, Tolerance to be within ±.002

### 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:**
- 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



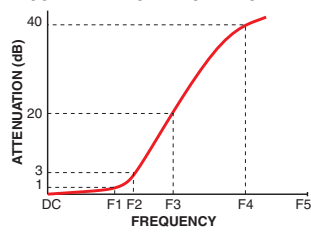
Generic photo used for illustration purposes only  
CASE STYLE: YY161

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

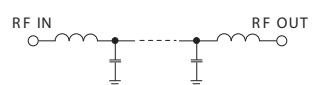
### Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-700	—	—	1.0	dB
	Freq. Cut-Off	F2	770	—	3.0	—	dB
	VSWR	DC-F1	DC-700	—	1.7	—	:1
Stop Band	Rejection Loss	F3-F4	1000-1300	20	—	—	dB
		F4-F5	1300-2000	40	—	—	dB
	VSWR	F3-F5	1000-2000	—	18	—	:1

### Typical Frequency Response

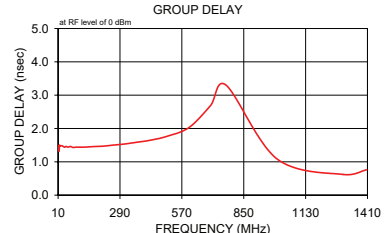
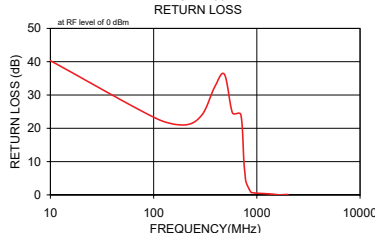
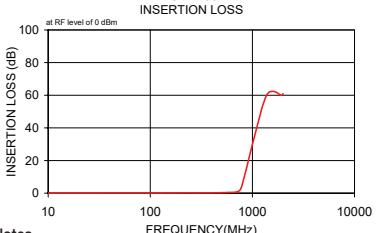


### Electrical Schematic



### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	$\sigma$		
10.00	0.03	0.00	40.31	1.49
105.00	0.10	0.01	23.01	1.48
200.00	0.15	0.01	21.02	1.32
295.00	0.18	0.02	24.09	1.50
390.00	0.21	0.01	32.41	1.48
485.00	0.28	0.01	36.21	1.48
580.00	0.41	0.02	24.66	1.48
700.00	0.71	0.08	24.05	1.46
750.00	1.69	0.48	9.65	1.44
770.00	2.84	0.73	6.00	1.46
790.00	4.60	0.94	3.68	1.44
874.00	15.12	1.04	0.85	1.46
916.00	20.37	0.95	0.65	1.43
958.00	25.26	0.87	0.56	1.44
1000.00	29.87	0.81	0.51	1.44
1042.00	34.21	0.77	0.49	1.44
1093.60	39.27	0.71	0.45	1.45
1145.20	44.02	0.69	0.42	1.46
1196.80	48.51	0.67	0.39	1.47
1248.40	52.85	0.79	0.35	1.50
1300.00	56.02	0.93	0.32	1.53
1350.00	58.93	1.15	0.27	1.58
1431.30	61.47	1.39	0.20	1.65
1512.50	62.21	1.27	0.13	1.77
1593.80	62.37	1.17	0.06	2.03
1675.00	62.10	1.10	0.01	2.69
1756.30	61.44	0.94	0.06	3.30
1837.50	60.59	0.85	0.09	1.09
1918.80	59.96	0.75	0.10	0.62
2000.00	60.93	0.73	0.11	0.76



### Notes

- 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.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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](http://www.minicircuits.com/MCLStore/terms.jsp)



[www.minicircuits.com](http://www.minicircuits.com) P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

REV. F  
M158359  
SCLF-700+  
200813