

Surface Mount Low Pass Filter

SCLF-23+

50Ω DC to 23 MHz

Maximum Ratings

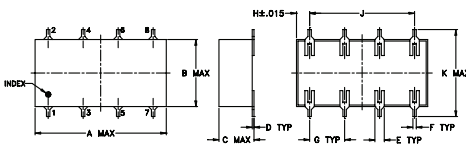
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

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

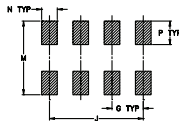
Pin Connections

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

Outline Drawing



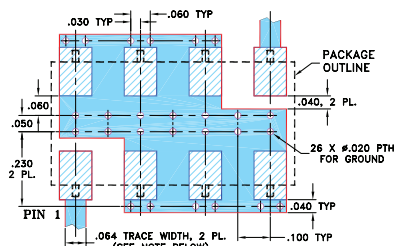
PCB Land Pattern



Outline Dimensions (inch)

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

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

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

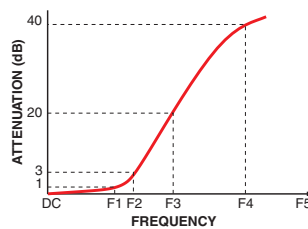
+RoHS Compliant

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

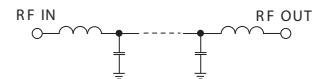
Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-23	—	—	1.0	dB
	Freq. Cut-Off	F2	25	—	3.0	—	dB
	VSWR	DC-F1	DC-23	—	1.5	—	:1
Stop Band	Rejection Loss	F3-F4	31-34	20	—	—	dB
		F4-F5	34-320	40	—	—	dB
	VSWR	F3-F5	31-320	—	18	—	:1

Typical Frequency Response



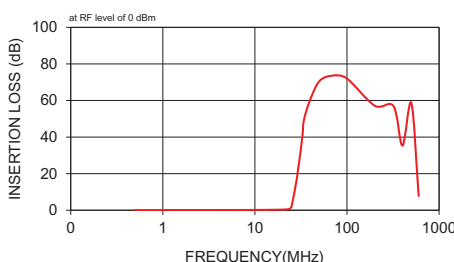
Electrical Schematic



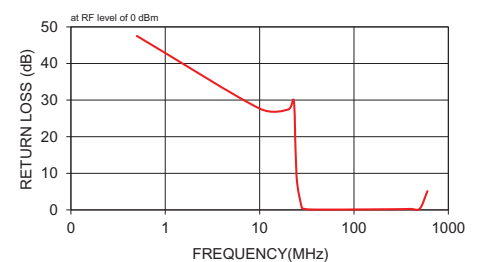
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)
	\bar{x}	σ	
0.50	0.04	0.00	47.53
10.00	0.15	0.01	27.68
20.00	0.34	0.01	27.41
23.00	0.56	0.02	29.85
24.00	0.86	0.07	16.61
25.00	2.08	0.27	7.30
28.00	14.92	0.90	0.58
29.00	20.12	0.97	0.36
31.00	30.51	1.17	0.20
33.00	41.95	1.57	0.14
34.00	49.11	2.08	0.13
39.00	59.20	1.29	0.09
50.00	70.50	1.95	0.09
70.00	73.61	3.76	0.09
100.00	71.99	3.37	0.12
200.00	57.14	0.56	0.17
320.00	56.92	0.68	0.21
400.00	35.33	0.58	0.28

SCLF-23+ INSERTION LOSS



SCLF-23+ RETURN LOSS



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