Surface Mount

Low Pass Filter

SCLF-27+

50Ω DC to 27 MHz

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

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

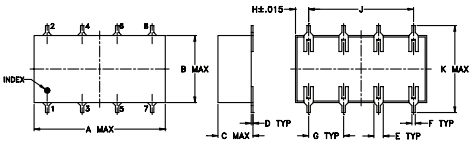
Features

- wide selection of cut-off frequencies
- excellent rejection
- custom models available

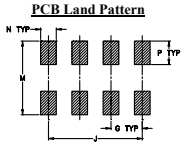
Applications

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

Outline Drawing



PCB Land Pattern



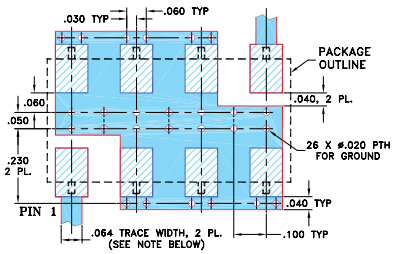
Suggested Layout,
Tolerance to be within ±.002

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.

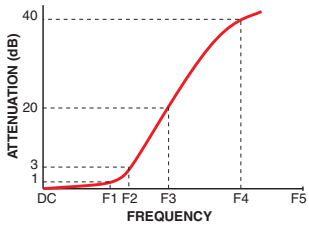
DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

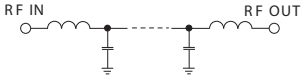
Electrical Specifications

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC-27	—	—	1.0	dB
	Freq. Cut-Off	F2	30	—	3.0	—	dB
	VSWR	DC-F1	DC-27	—	1.3	—	:1
Stop Band	Rejection Loss	F3-F4	36-41	20	—	—	dB
		F4-F5	41-480	40	—	—	dB
	VSWR	F3-F5	36-480	—	18	—	:1

Typical Frequency Response



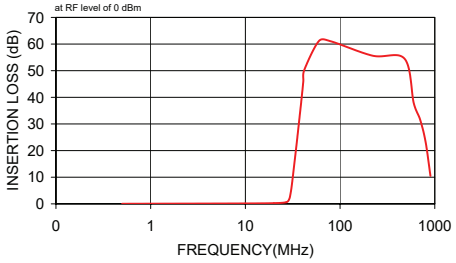
Electrical Schematic



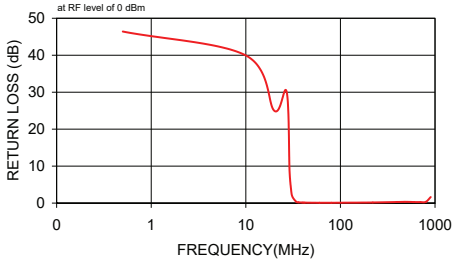
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)
0.50	0.03	0.00	46.41
10.00	0.15	0.00	39.95
20.00	0.27	0.01	24.98
27.00	0.62	0.02	30.13
29.00	1.75	0.09	8.55
30.00	3.87	0.16	3.96
31.00	7.25	0.19	1.80
34.20	20.29	0.19	0.34
36.00	27.33	0.19	0.22
39.50	40.62	0.28	0.14
40.90	46.01	0.35	0.13
42.00	50.35	0.42	0.12
60.00	61.20	0.53	0.09
80.00	61.03	0.47	0.09
220.00	55.63	0.51	0.17
480.00	54.46	0.77	0.33
600.00	37.81	0.43	0.28
700.00	31.66	0.36	0.27
800.00	23.28	0.43	0.34
900.00	10.48	0.79	1.63

INSERTION LOSS



RETURN LOSS



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.
C. The parts covered by this specification document are subject to Mini-Circuits 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-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp