

# Surface Mount Low Pass Filter

## SCLF-65+

50Ω DC to 65 MHz

### Maximum Ratings

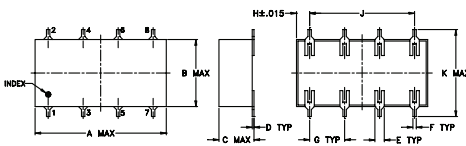
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

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

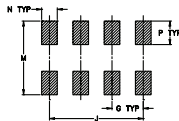
### Pin Connections

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

### Outline Drawing



#### PCB Land Pattern



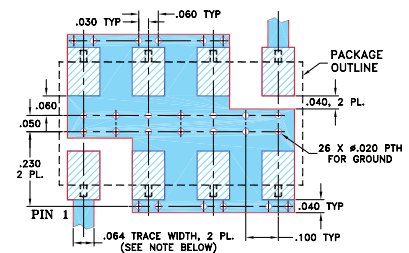
### Outline Dimensions (inch/mm)

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

#### 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-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)

### 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

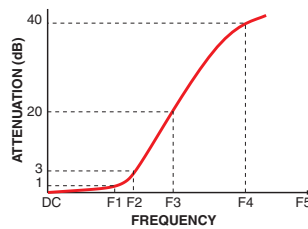
#### +RoHS Compliant

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

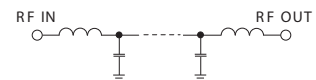
### Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-65	—	—	1.0	dB
	Freq. Cut-Off	F2	71	—	3.0	—	dB
	VSWR	DC-F1	DC-65	—	1.3	—	:1
Stop Band	Rejection Loss	F3-F4	86-96	20	—	—	dB
		F4-F5	96-510	40	—	—	dB
	VSWR	F3-F5	86-510	—	18	—	:1

### Typical Frequency Response



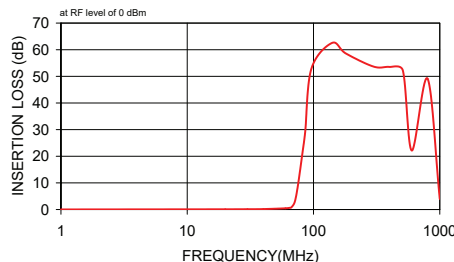
### Electrical Schematic



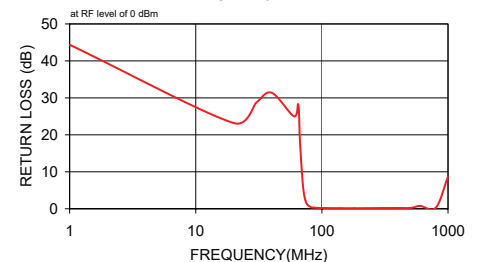
### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)
	$\bar{x}$	$\sigma$	
1.00	0.03	0.00	44.37
20.00	0.10	0.00	23.19
30.00	0.12	0.01	28.62
40.00	0.17	0.00	31.38
60.00	0.45	0.01	25.03
65.00	0.65	0.02	28.17
67.00	0.88	0.05	18.31
71.00	2.86	0.26	5.83
75.00	8.55	0.56	1.65
82.00	21.71	0.71	0.44
86.00	29.33	0.78	0.32
96.00	52.71	2.06	0.21
140.00	62.52	1.00	0.16
180.00	58.61	0.65	0.15
300.00	53.64	0.36	0.20
400.00	53.53	0.32	0.21
510.00	52.19	0.80	0.24
600.00	22.14	0.44	0.76
800.00	49.13	0.65	0.28
1,000.00	3.96	0.08	8.74

#### INSERTION LOSS



#### RETURN LOSS



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