

# Surface Mount Low Pass Filter

## SALF-680+

50Ω DC to 680 MHz

### Maximum Ratings

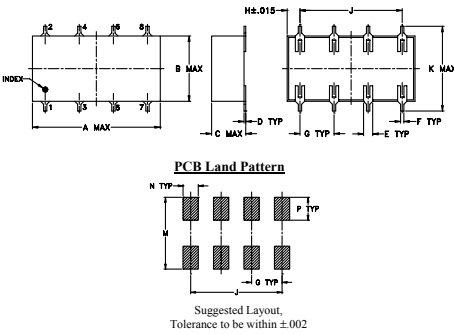
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	0.5W max.

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

### Pin Connections

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

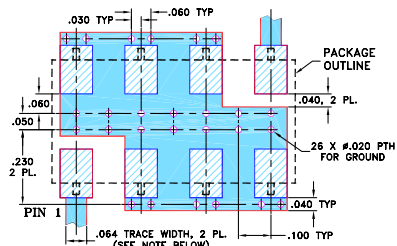
### Outline Drawing



### Outline Dimensions (inch/mm)

A	B	C	D	E	F	G
.75	.38	.20	.010	.050	.020	.200
19.05	9.65	5.08	0.25	1.27	0.51	5.08
H	J	K	M	N	P	wt
.075	.600	.450	.470	.100	.150	grams
1.91	15.24	11.43	11.94	2.54	3.81	1.6

### 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

### 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

- 7-section elliptic function
- excellent rejection

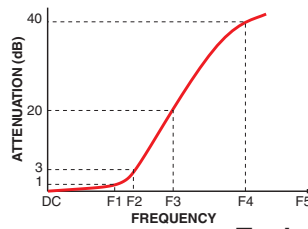
### Applications

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

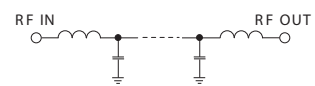
### Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-680	—	—	1.0	dB
	Freq. Cut-Off	F2	790	—	3.0	—	dB
	VSWR	DC-F1	DC-680	—	1.4	—	:1
Stop Band	Rejection Loss	F3-F4	1090-1400	20	—	—	dB
		F4-F5	1400-2200	40	—	—	dB
	VSWR	F3-F5	1090-2200	—	18	—	:1

### Typical Frequency Response



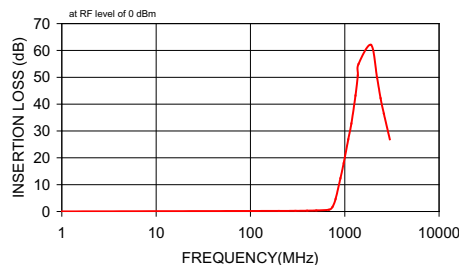
### Electrical Schematic



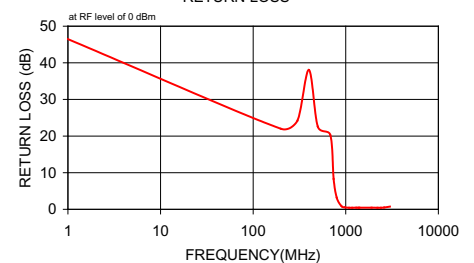
### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)
	$\bar{x}$	$\sigma$	
1.00	0.02	0.00	46.48
200.00	0.20	0.00	21.99
300.00	0.25	0.01	24.18
400.00	0.30	0.01	38.05
500.00	0.40	0.01	22.55
680.00	0.66	0.03	20.33
740.00	1.67	0.16	8.29
800.00	4.66	0.38	3.15
900.00	12.39	0.49	0.85
975.00	18.08	0.49	0.54
1090.00	26.85	0.49	0.43
1175.00	32.75	0.51	0.42
1300.00	43.21	0.64	0.44
1375.00	50.68	0.96	0.42
1400.00	54.95	1.25	0.45
1900.00	62.05	0.74	0.44
2200.00	49.91	0.38	0.44
2400.00	42.22	0.25	0.44
2600.00	36.40	0.27	0.49
3000.00	26.92	0.25	0.74

### SALF-680 INSERTION LOSS



### SALF-680 RETURN LOSS



Generic photo used for illustration purposes only

CASE STYLE: YY101

**+RoHS Compliant**

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