

# Surface Mount Low Pass Filter

## SALF-146+ SALF-146

50Ω DC to 146 MHz

### Maximum Ratings

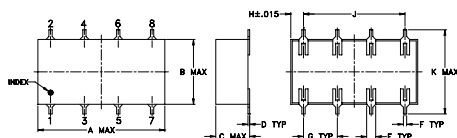
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	0.5W max.

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

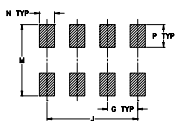
### Pin Connections

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

### Outline Drawing



#### PCB Land Pattern

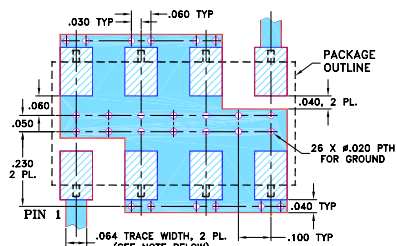


Suggested Layout,  
Tolerance to be within ±.002

### Outline Dimensions (inch/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

### Features

- 7-section elliptic function
- excellent rejection

### Applications

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



CASE STYLE: YY101  
PRICE: \$6.95 ea. QTY (1-9)

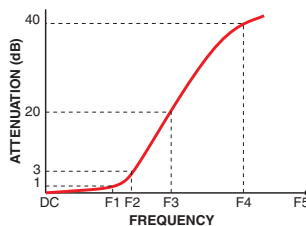
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

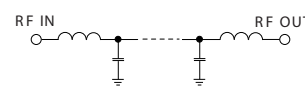
### Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-146	—	—	1.0	dB
	Freq. Cut-Off	F2	171	—	3.0	—	dB
	VSWR	DC-F1	DC-146	—	1.5	—	:1
Stop Band	Rejection Loss	F3-F4	210-240	20	—	—	dB
		F4-F5	240-850	40	—	—	dB
	VSWR	F3-F5	210-850	—	18	—	:1

### Typical Frequency Response



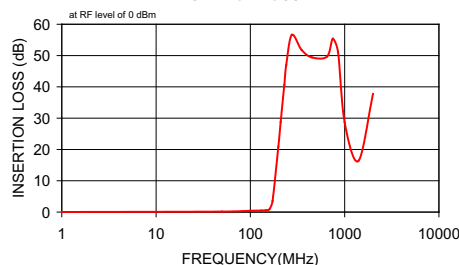
### Electrical Schematic



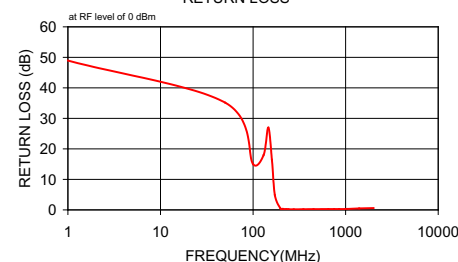
### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)
	$\bar{x}$	$\sigma$	
1.00	0.02	0.00	48.94
50.00	0.16	0.00	35.16
100.00	0.42	0.01	15.01
130.00	0.49	0.01	17.99
146.00	0.59	0.01	26.96
160.00	0.98	0.06	16.42
172.00	3.57	0.32	4.81
198.00	20.81	0.51	0.46
210.00	28.81	0.51	0.31
229.00	40.63	0.55	0.24
240.00	46.92	0.54	0.22
275.00	56.59	0.32	0.20
350.00	51.77	0.33	0.21
450.00	49.41	0.32	0.24
650.00	49.65	0.45	0.26
750.00	55.39	0.95	0.26
850.00	51.19	0.76	0.27
1000.00	28.61	0.64	0.30
1400.00	16.34	1.21	0.48

SALF-146  
INSERTION LOSS



SALF-146  
RETURN LOSS



**Mini-Circuits**  
ISO 9001 ISO 14001 AS 9100 CERTIFIED

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IF/RF MICROWAVE COMPONENTS

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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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](http://www.minicircuits.com/MCLStore/terms.jsp).

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