

# Surface Mount Low Pass Filter

# SALF-490+ SALF-490

50Ω DC to 490 MHz

## Maximum Ratings

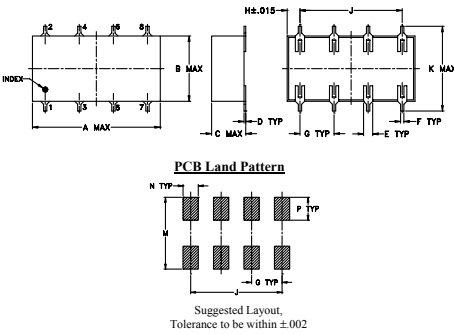
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	0.5W max.

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

## Pin Connections

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

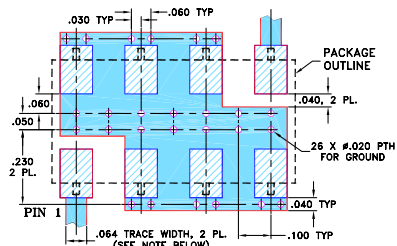
## Outline Drawing



## Outline Dimensions (inch)

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:
- 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-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)

## Features

- 7-section elliptic function
- excellent rejection

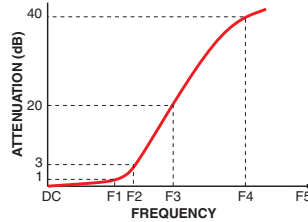
## Applications

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

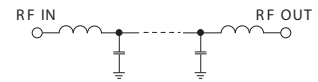
## Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-490	—	—	1.0	dB
	Freq. Cut-Off	F2	620	—	3.0	—	dB
	VSWR	DC-F1	DC-490	—	1.3	—	:1
Stop Band	Rejection Loss	F3-F4	800-900	20	—	—	dB
		F4-F5	900-1600	35	—	—	dB
	VSWR	F3-F5	800-1600	—	18	—	:1

## Typical Frequency Response



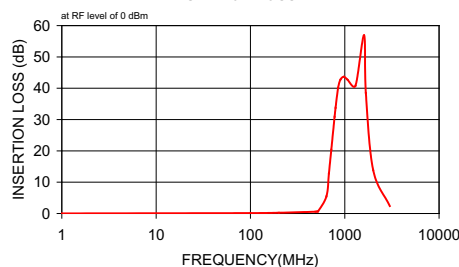
## Electrical Schematic



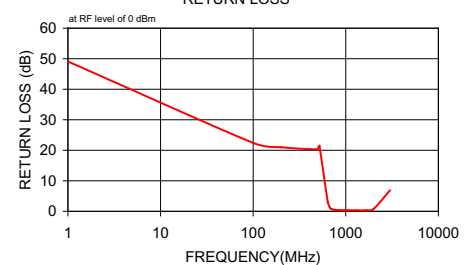
## Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)
	$\bar{x}$	$\sigma$	
1.00	0.03	0.00	49.08
100.00	0.14	0.00	22.43
200.00	0.22	0.00	20.99
490.00	0.57	0.02	20.32
510.00	0.63	0.03	21.11
520.00	0.66	0.03	21.39
640.00	5.50	0.53	3.04
680.00	12.81	0.71	1.06
720.00	20.36	0.74	0.63
780.00	30.90	0.71	0.44
800.00	33.75	0.68	0.44
850.00	40.14	0.53	0.38
900.00	42.75	0.36	0.35
980.00	43.66	0.39	0.34
1070.00	42.74	0.45	0.34
1300.00	40.82	0.51	0.34
1600.00	56.89	3.08	0.31
1675.00	38.48	0.85	0.32
2000.00	13.88	0.55	0.78
3000.00	2.38	0.20	6.81

## SALF-490 INSERTION LOSS



## SALF-490 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