

# Surface Mount Low Pass Filter

# SCLF-380+ SCLF-380

50Ω DC to 380 MHz

## Maximum Ratings

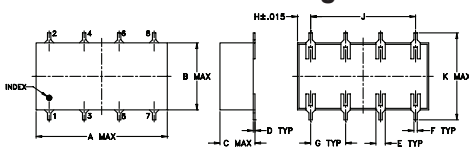
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
Power Input	0.5W max.

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

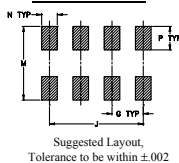
## Pin Connections

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

## Outline Drawing



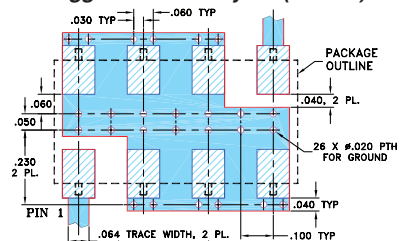
### PCB Land Pattern



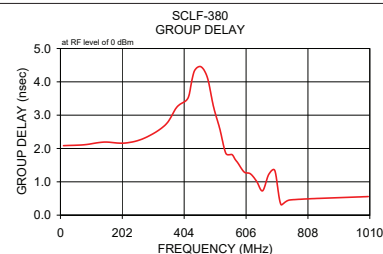
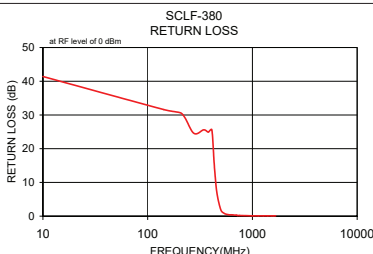
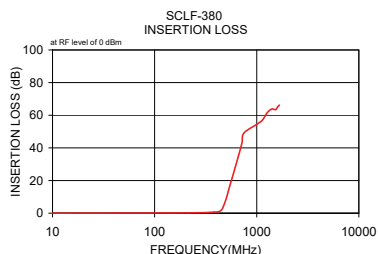
## Outline Dimensions (inch)

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



### 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-Circuits' 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](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

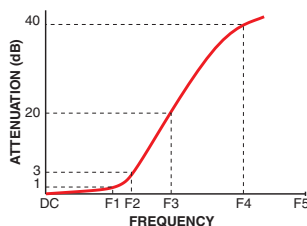
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

## Electrical Specifications

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-380	—	—	1.0	dB
	Freq. Cut-Off	F2	440	—	3.0	—	dB
	VSWR	DC-F1	DC-380	—	1.7	—	:1
Stop Band	Rejection Loss	F3-F4	580-750	20	—	—	dB
		F4-F5	750-1800*	40	—	—	dB
	VSWR	F3-F5	750-1800	—	18	—	:1

\* Loss > 35 dB

## Typical Frequency Response



## Electrical Schematic



## Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	$\sigma$			
10.00	0.02	0.10	41.40	10.00	2.09
142.50	0.13	0.10	31.60	77.50	2.11
210.00	0.20	0.10	30.50	142.50	2.19
275.00	0.29	0.10	24.60	210.00	2.16
342.50	0.44	0.10	25.60	275.00	2.32
380.00	0.67	0.10	24.90	342.50	2.71
410.00	0.74	0.10	25.60	380.00	3.24
430.00	1.03	0.20	16.40	410.00	3.44
440.00	1.34	0.20	12.20	420.00	3.61
460.00	2.74	0.50	6.50	430.00	4.08
500.00	8.54	0.70	1.80	440.00	4.37
540.00	15.86	0.70	0.80	460.00	4.45
560.00	19.27	0.70	0.60	480.00	4.12
570.00	20.89	0.70	0.50	500.00	3.25
580.00	22.44	0.70	0.50	520.00	2.60
600.00	25.63	0.70	0.40	540.00	1.85
640.00	31.77	0.90	0.40	560.00	1.82
680.00	37.56	1.00	0.30	570.00	1.68
700.00	40.46	1.10	0.30	580.00	1.56
720.00	43.62	1.50	0.20	600.00	1.30
750.00	49.16	2.20	0.20	620.00	1.24
1005.00	54.51	2.70	0.10	640.00	1.02
1137.50	57.05	4.50	0.10	660.00	0.73
1270.00	61.62	6.50	0.10	680.00	1.22
1402.50	63.80	6.10	0.10	700.00	1.34
1535.00	63.45	3.20	0.10	720.00	0.32
1600.00	65.10	3.10	0.10	750.00	0.46
1667.50	66.20	5.40	0.10	1005.00	0.56



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