

Surface Mount Low Pass Filter

50Ω DC to 420 MHz

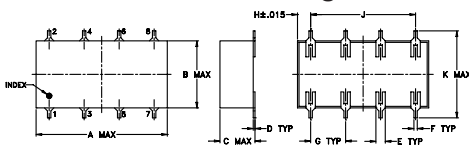
Maximum Ratings

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.	

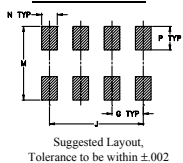
Pin Connections

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

Outline Drawing



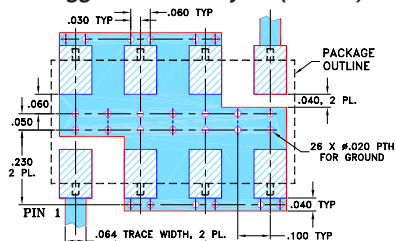
PCB Land Pattern



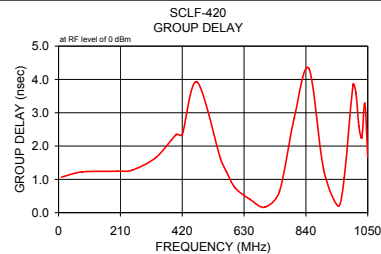
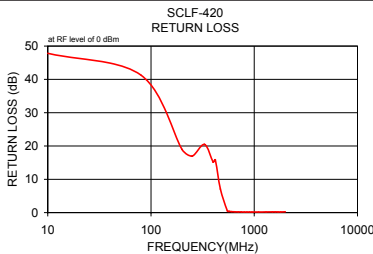
Outline Dimensions (inch)

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-Circuit's 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

Features

- wide selection of cut-off frequencies
- excellent rejection
- custom models available

Applications

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



CASE STYLE: YY161

+RoHS Compliant

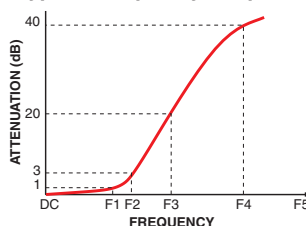
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Electrical Specifications

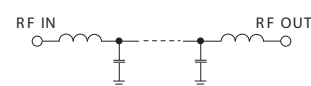
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC-420	—	—	1.0	dB
	Freq. Cut-Off	F2	470	—	3.0	—	dB
	VSWR	DC-F1	DC-420	—	1.7	—	:1
Stop Band	Rejection Loss	F3-F4	750-920	20	—	—	dB
		F4-F5	920-2000*	40	—	—	dB
	VSWR	F3-F5	750-2000	—	18	—	:1

* Loss > 35 dB

Typical Frequency Response



Electrical Schematic



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	σ		
10.00	0.04	0.00	10.00	1.07
80.00	0.08	0.00	80.00	1.22
200.00	0.21	0.01	200.00	1.24
250.00	0.27	0.02	250.00	1.28
330.00	0.29	0.01	330.00	1.65
400.00	0.50	0.06	400.00	2.35
420.00	0.53	0.06	420.00	2.35
470.00	2.49	1.23	470.00	3.93
550.00	17.69	1.79	550.00	1.62
570.00	21.36	1.72	570.00	1.23
600.00	26.69	1.66	600.00	0.74
650.00	34.68	1.72	650.00	0.40
700.00	43.00	2.04	700.00	0.16
750.00	51.76	2.98	750.00	0.63
800.00	62.84	3.27	800.00	2.83
850.00	64.45	2.45	850.00	4.33
900.00	63.75	3.07	900.00	1.30
950.00	62.98	1.70	950.00	0.20
1100.00	68.72	2.09	970.00	1.04
1300.00	75.55	4.58	1000.00	3.84
1500.00	58.79	0.80	1010.00	3.60
1600.00	57.39	0.75	1020.00	2.59
1700.00	55.84	0.38	1030.00	2.25
1800.00	53.61	0.44	1040.00	3.29
2000.00	52.95	0.61	1050.00	1.66