

Surface Mount Bandpass Filter

BPF-A587R5+

50Ω 475 to 700 MHz

The Big Deal

- Low insertion loss
- Good rejection
- Miniature shielded package



Generic photo used for illustration purposes only
CASE STYLE: HQ1157

Product Overview

The BPF-A587R5+ is a 50Ω bandpass filter fabricated using SMT technology. This bandpass filter covers from 475-700 MHz. This filter is built with high Q capacitors, air-coil inductors and transformers for superior performance. It has repeatable performance across lots and consistent performance across temperature. This filter will be suitable for applications such as military radio communication, radio microphones and TV broadcasting.

Key Features

Feature	Advantages
Low insertion loss	Can be used in high performance applications.
Good rejection	This enables the filter to attenuate spurious signals and reject harmonics for broad frequency band.
Shielded case	Reduced interference with and from the surrounding components.

Notes

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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



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Features

- Very low insertion loss
- Good rejection
- Miniature shielded package

Applications

- Military radio communication
- Radio microphones
- TV broadcasting

Electrical Specifications at 25°C

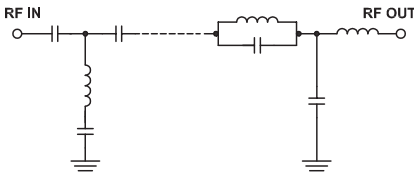
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Center Frequency	—	—	587.5	—	MHz	
	Insertion Loss	F1-F2	475 - 700	—	1.20	1.8	dB
	VSWR	F1-F2	475 - 700	—	1.35	1.67	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 100	45	55	—	dB
		F3-F4	100 - 390	30	35	—	dB
	VSWR	DC-F4	DC - 390	—	20	—	:1
Stop Band, Upper	Insertion Loss	F5-F6	820 - 1000	30	39	—	dB
		F6-F7	1000 - 1500	45	50	—	dB
	VSWR	F5-F8	820 - 3800	—	20	—	:1

Maximum Ratings

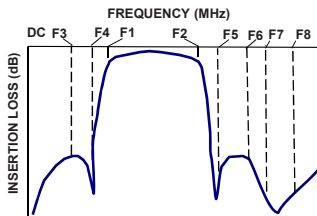
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input*	3 W Max. @ 25°C

*Passband rating, derate linearly to 1 W at 85°C ambient
Permanent damage may occur if any of these limits are exceeded.

Functional Schematic



Typical Frequency Response

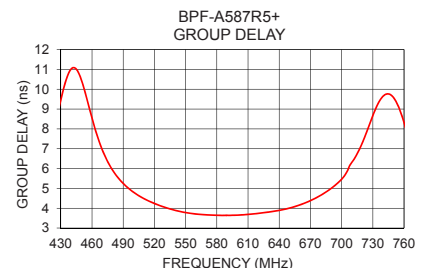
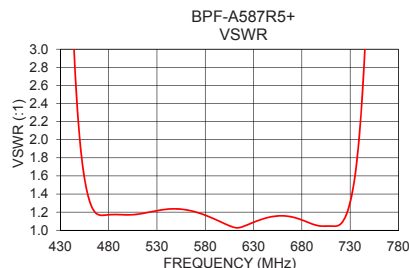
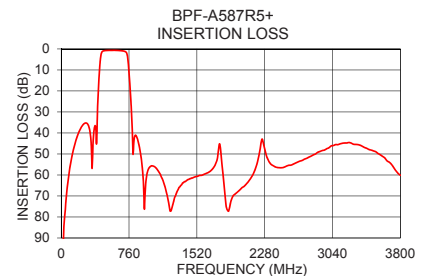
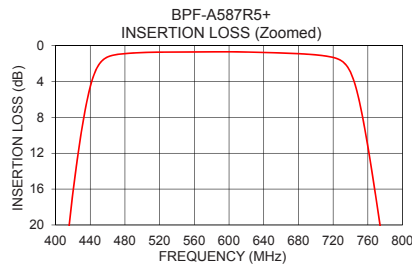


Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
10.0	101.53	532.93	475.0	6.35
100.0	55.89	1021.02	485.0	5.54
390.0	39.13	52.87	495.0	5.01
405.0	31.77	38.65	505.0	4.63
415.0	20.62	27.37	515.0	4.36
445.0	3.06	2.81	525.0	4.14
475.0	0.93	1.17	535.0	3.97
587.5	0.68	1.13	545.0	3.83
700.0	1.02	1.05	555.0	3.74
776.0	21.36	14.57	565.0	3.69
788.0	30.44	18.11	575.0	3.65
800.0	43.93	20.86	587.5	3.64
820.0	42.25	24.60	590.0	3.64
900.0	53.21	34.10	600.0	3.65
1000.0	55.96	39.43	610.0	3.69
1500.0	60.89	39.29	620.0	3.74
1700.0	56.90	39.59	630.0	3.81
2000.0	67.18	50.15	650.0	4.01
3000.0	47.05	12.06	670.0	4.38
3800.0	60.09	28.27	700.0	5.46

+RoHS Compliant

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



Notes

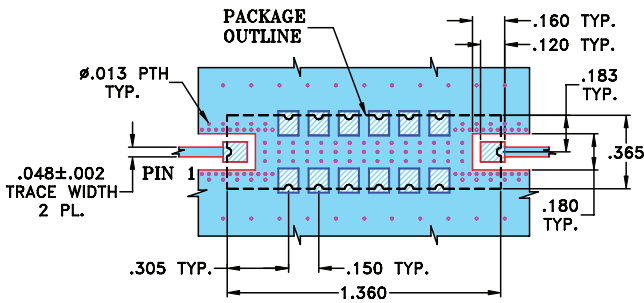
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Pad Connections

INPUT	1
OUTPUT	8
GROUND	2,3,4,5,6,7,9,10,11,12,13,14

Demo Board MCL P/N: TB-363+
Suggested PCB Layout (PL-227)

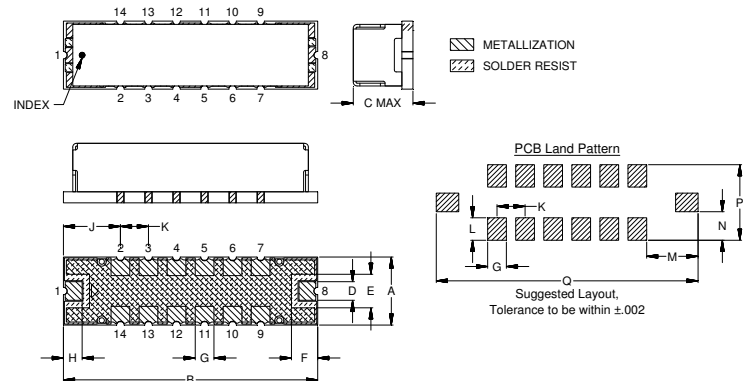


NOTE:

- TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS $.025" \pm .002"$, 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 SOLDERMASK

Outline Drawing



Outline Dimensions (inch/mm)

A	B	C	D	E	F	G	H
.365	1.360	.35	.100	.180	.140	.100	.100
9.27	34.54	8.89	2.54	4.57	3.56	2.54	2.54
J	K	L	M	N	P	Q	Wt.
.305	.150	.120	.275	.152	.405	1.400	grams
7.75	3.81	3.05	6.99	3.86	10.29	35.56	4.0

Note: Please refer to case style drawing for details

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