

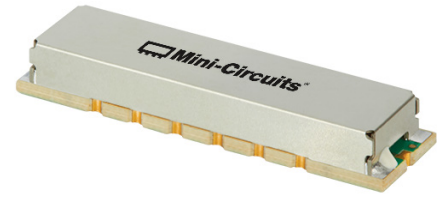
Surface Mount Bandpass Filter

BPF-A475+

50Ω 400 to 550 MHz

The Big Deal

- Sharp roll-off
- High rejection
- Wide stopband
- Miniature shielded package



Generic photo used for illustration purposes only
CASE STYLE: HQ2706

Product Overview

The BPF-A475+ is a 50Ω bandpass filter in a shielded package (size of 0.365" x 1.360" x 0.22") fabricated using SMT technology. Covering 475 MHz ± 75 MHz band width, these units offer good matching within the passband and high rejection in the stopband. Its wide stopband rejection will be suitable for application which needs far-frequency attenuation. In addition it has consistent performance across temperature.

Key Features

Feature	Advantages
High rejection	Rejects unwanted spurious in the adjacent band.
Sharp roll-off	Sharp roll-off helps in adjacent channel rejection and hence increased selectivity.
Shielded case	Reduced interference with the surrounding components.
Wide stopband	Rejects harmonics for a wide range of frequency.

Notes

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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

- Sharp roll-off
- High rejection
- Wide stopband
- Shielded case

Applications

- Biomedical telemetry devices
- Wireless microphones
- Military radio

Electrical Specifications at 25°C

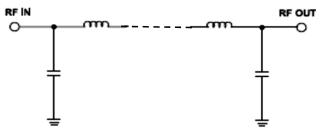
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Center Frequency	—	—	475	—	MHz
	Insertion Loss	F1-F2	400 - 550	1.4	2.0	dB
	VSWR	F1-F2	400 - 550	1.41	1.67	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 200	40	—	dB
	VSWR	DC-F4	DC - 300	20	—	:1
Stop Band, Upper	Insertion Loss	F5-F6	650 - 3800	40	—	dB
	VSWR	F6-F7	3800 - 5000	20	—	:1

Maximum Ratings

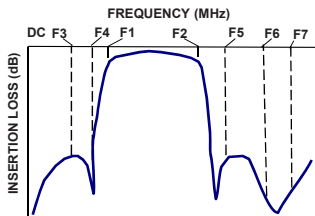
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	5 W Max. @ 25°C

Permanent damage may occur if any of these limits are exceeded.
Max RF Power Input derate to 1.5 W @ 85°C

Functional Schematic



Typical Frequency Response

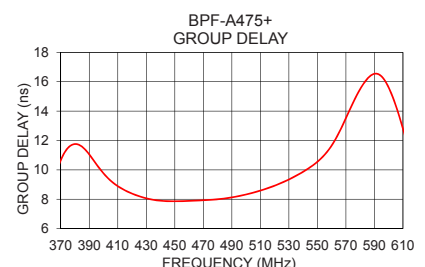
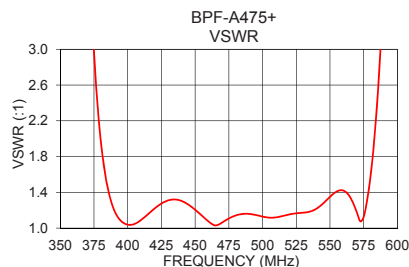
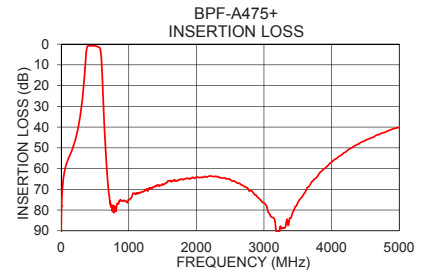
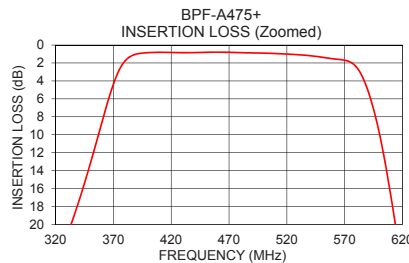


Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	99.92	180.04	400	9.76
100.0	55.84	411.40	405	9.26
200.0	47.30	188.77	410	8.89
300.0	30.34	91.22	415	8.61
330.0	21.28	52.26	420	8.38
372.5	3.52	3.72	425	8.20
400.0	0.84	1.04	430	8.07
475.0	0.83	1.11	435	7.96
500.0	0.90	1.13	440	7.90
550.0	1.35	1.35	475	7.96
585.0	3.46	2.40	480	8.00
615.0	20.98	25.11	490	8.12
627.5	31.00	37.40	495	8.22
650.0	46.45	56.08	500	8.33
1500.0	67.43	146.79	505	8.45
2700.0	68.39	36.30	510	8.59
3500.0	76.43	43.78	515	8.75
3800.0	63.36	55.80	520	8.92
4000.0	56.93	63.43	530	9.34
5000.0	40.13	59.42	550	10.55

+RoHS Compliant

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



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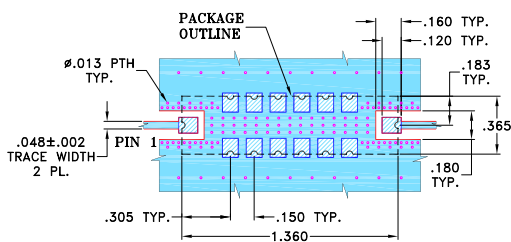


Pad Connections

INPUT	1
OUTPUT	8
GROUND	2-7,9-14

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

SUGGESTED MOUNTING CONFIGURATION
FOR HQ1157 AND HQ2706 CASE STYLES, rf PIN CONNECTION

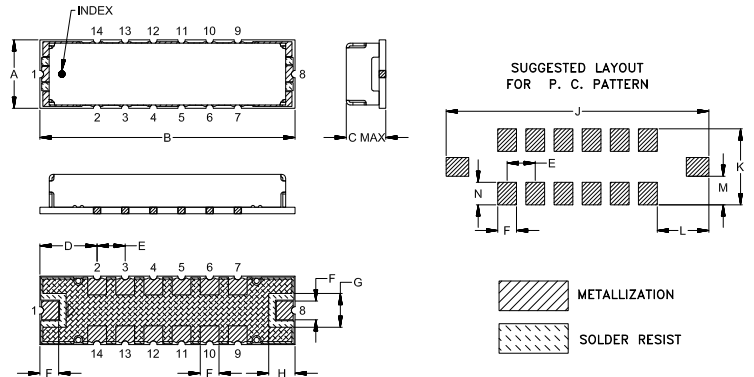


NOTE:

- 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	J	K
.365	1.360	.220	.305	.150	.100	.180	.140	1.400	.405
9.27	34.54	5.59	7.75	3.81	2.54	4.57	3.56	35.56	10.29
L	M	N	Wt.						
.275	.153	.120	grams						
6.99	3.87	3.05	6.0						

Note: Please refer to case style drawing for details

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