Surface Mount **Bandpass Filter**

50Ω 470 to 870 MHz

The Big Deal

- · Wide passband
- Good VSWR (1.4:1 typical)
- High rejection (50 dB typical)
- Flat group delay (4 ns typical)
- Sharp roll-off
- Miniature shielded package

Product Overview

The BPF-C670+ is a band pass filter fabricated using SMT technology and built into a shielded case (size of 0.87" x 0.80" x .25"). Covering 670 MHz ± 200 MHz band width, this model is suited for Digital TV application. These units offer good matching within the passband and high rejection. This unit uses a miniature high Q capacitors and wire welded inductors for high reliability. In addition it has repeatable performance across production lots and consistent performance across temperature.

Key Features

Feature	Advantages
Sharp shape factor, 1.1	Sharp shape factor helps in adjacent channel rejection and hence increased selectivity.
Good VSWR, 1.4:1 over passband	This provides well matched input and output ports.
More than 50 dB rejection up to 2100MHz	This enables the filter to attenuate spurious signals and reject harmonics for broad band of frequency.
Flat group delay characteristics.	This model has a group delay flatness of 4 ns which helps in reducing the signal distortion.
Shielded case	Reduced interference with and from the surrounding components.

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-Circuit's standard limited warranty and terms and conditions (collective), "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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp





BPF-C670+

CASE STYLE: HU1186

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BPF-C670+



CASE STYLE: HU1186

11.22

Features

- · High rejection, 50 dB typical
- · Good VSWR, 1.4:1 typical over passband
- · Sharp insertion loss roll-off
- · Shielded case
- Aqueous washable

Applications

- Digital TV
- · Harmonic rejection
- Transmitters / receivers

Electrical Specifications at 25°C _ ____

Parameter		F #	Frequency (MHZ)	wiin.	тур.	wax.	Unit
	Center Frequency	—	—	—	670	-	MHz
Pass Band	Insertion Loss	F1-F2	470 - 870	_	2.0	2.8	dB
	VSWR	F1-F2	470 - 870	-	1.4	1.8	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC - 365	20	40	_	dB
	VSWR	DC-F3	DC - 365	-	29	-	:1
Stop Band, Upper	Insertion Loss	F4-F5	965 - 2700	20	30	_	dB
	VSWR	F4-F5	965 - 2700	_	18	_	:1

Maximum Ratings					
Operating Temperature	-40°C to 85°C				
Storage Temperature	-55°C to 100°C				
RF Power Input	0.7W max.				

Permanent damage may occur if any of these limits are exceeded

Functional Schematic



Typical Frequency Response





Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	92.72	1737.18	470.0	6.14
50.0	56.79	5124.42	500.0	4.57
300.0	49.71	108.58	525.0	3.96
365.0	56.55	48.26	550.0	3.59
400.0	20.38	24.83	580.0	3.31
410.0	14.61	17.22	600.0	3.19
425.0	7.25	7.11	620.0	3.13
440.0	2.79	2.61	630.0	3.12
450.0	1.60	1.66	640.0	3.11
470.0	0.94	1.18	660.0	3.11
670.0	0.71	1.18	670.0	3.11
870.0	1.74	1.28	680.0	3.12
885.0	3.02	2.00	700.0	3.13
900.0	6.77	4.84	740.0	3.29
920.0	13.98	12.01	760.0	3.47
965.0	31.63	20.95	780.0	3.70
1010.0	56.87	22.87	800.0	4.00
1500.0	81.29	31.03	840.0	4.79
2000.0	72.59	27.59	850.0	5.18
2700.0	45.58	19.32	870.0	7.04

Typical Performance Data at 25°C





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Mini-Circuits

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Bandpass Filter



Pad Connections

INPUT	2
OUTPUT	9
NOT CONNECTED	6,13
GROUND	1,3,4,5,7,8,10,11,12,14

Demo Board MCL P/N: TB-500+ Suggested PCB Layout (PL-294)



Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	F	G	H
.870	.800	.25	.100	.097		.060	.040
22.10	20.32	6.35	2.54	2.46		1.52	1.02
J	K	L	M	N	P		wt
.105	.910		.060	.060			grams
2.67	23.11		1.52	1.52			2.85

Notes

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