# 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

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**BPF-C670+** 

CASE STYLE: HU1186

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CASE STYLE: HU1186

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### **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

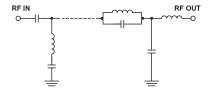
#### Electrical Specifications at 25°C \_ \_\_\_\_

Parameter		<b>F</b> #	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

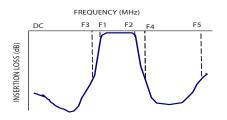
Maximum Ratings					
Operating Temperature	-40°C to 85°C				
Storage Temperature	-55°C to 100°C				
RF Power Input	0.7W max.				

Permanent damage may occur if any of these limits are exceeded

## **Functional Schematic**



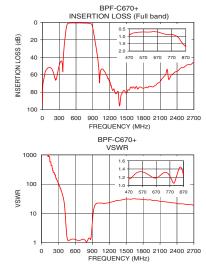
## **Typical Frequency Response**

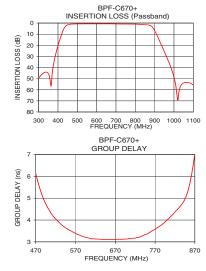




Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	92.72	1737.18	470.0	6.14
50.0	56.79	5124.42	500.0	4.57
300.0	49.71	108.58	525.0	3.96
365.0	56.55	48.26	550.0	3.59
400.0	20.38	24.83	580.0	3.31
410.0	14.61	17.22	600.0	3.19
425.0	7.25	7.11	620.0	3.13
440.0	2.79	2.61	630.0	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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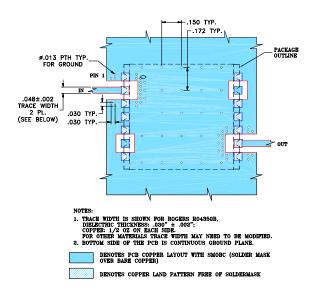
# **Bandpass Filter**



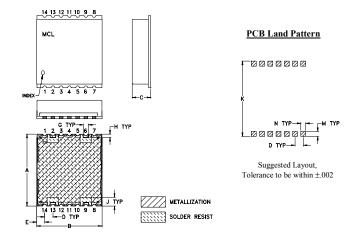
### **Pad Connections**

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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