# Surface Mount **Bandpass Filter**

50Ω 410 to 785 MHz

## **The Big Deal**

- Broad bandwidth
- High Rejection
- Good VSWR
- Miniature shielded package





Generic photo used for illustration purposes only CASE STYLE: HP1156

## **Product Overview**

BPF-F598+ is a 50Ω bandpass filter in a shielded package fabricated using SMT technology. This bandpass filter covers from 410 to 785 MHz.

## **Key Features**

Feature	Advantages
Low insertion loss	Can be used in digital cable TV networks and 4G LTE networks.
Good rejection	This enables the filter attenuate spurious signals and reject harmonics for broad frequency band
Shielded package	The small surface mount package enables the BPF-F598+ to used in compact design

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



# Surface Mount **Bandpass Filter**

50Ω 410 to 785 MHz

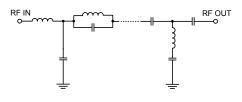
**Features** 

- · Broad bandwidth
- · Sharper cut-off
- · Miniature shielded package

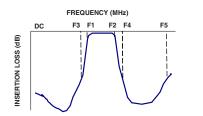
### **Applications**

- · Digital television
- · Broad band wireless 4G LTE band
- · Biomedical telemetry devise
- Wireless microphone

### **Functional Schematic**



## **Typical Frequency Response**





# **BPF-F598+**



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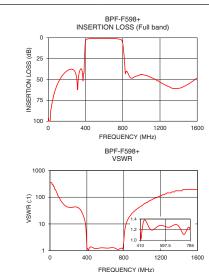
### Electrical Specifications at 25°C

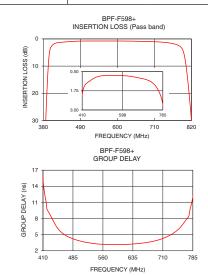
Parameter		F#	Frequency (MHz)	Min.	Тур.	Max.	Unit
	Center Frequency	—	—	—	598	—	MHz
Pass Band	Insertion Loss	F1-F2	410-785	_	2.70	4.50	dB
	VSWR	F1-F2	410-785	-	1.46	1.92	:1
Stop Band, Lower	Insertion Loss	DC-F3	DC-385	20	34	_	dB
	VSWR	DC-F3	DC-385	-	20	—	:1
Stop Band, Upper	Insertion Loss	F4-F5	825-1600	20	35	_	dB
	VSWR	F4-F5	825-1600	_	20	—	:1

Maximum Ratings				
Operating Temperature	-40°C to 85°C			
Storage Temperature	-55°C to 100°C			
RF Power Input	1 W			

Permanent damage may occur if any of these limits are exceeded.

### Typical Performance Data at 25°C Frequency (MHz) Insertion Loss (dB) VSWR Frequency (MHz) **Group Delay** (:1) (nsec) 102.77 347.44 410 15.16 250 37.70 42.38 414 12.74 315 62.49 38.61 418 10.96 355 37.20 23.49 420 9.75 372 50.61 15.96 430 8 39 385 39.05 9.79 440 6.98 387 31.54 8.68 450 5.89 6.73 3.82 390 21.83 460 5 20 394 11.72 480 4.38 402 3.21 1.20 500 3.87 1.16 1.26 598 410 1 99 3 14 598 0.76 650 3.36 785 2.63 1.18 700 4.04 4 60 789 3 04 1 15 720 806 11.84 3.96 740 5.46 813 20.05 6.39 760 6.93 8.60 7.94 820 30.25 770 825 39.25 9.96 775 8.42 1015 44.24 54.29 780 10.27 48.03 1600 193.02 785 11.95





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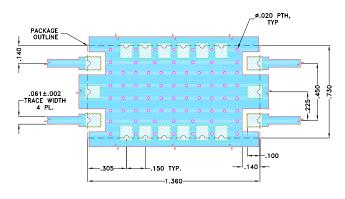
## **Bandpass Filter**

## **BPF-F598+**

### **Pad Connections**

INPUT		2
OUTPUT		11
GROUND	1,3,4,5,6,7,8,10,12,	13,14,15,16,17
NO CONNEC	TION	9,18

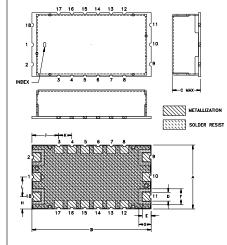
### Demo Board MCL P/N: TB-695+ Suggested PCB Layout (PL-418)

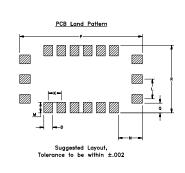


NOTES: 1. TRACE WIDTH IS SHOWN FOR OAK-602, WITH DIELECTRIC THICKNESS .022"±.0015". COPPER: 1/2 Oz. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED. 2. BOTTOM SIDE OF THE PCB IS CONTINUOUS GROUND PLANE. DENOTES PCB COPPER LAYOUT WITH SMOBC (SOUDED MASK OVER BARE COPPER) (SOLDER MASK OVER BARE COPPER)

DENOTES COPPER LAND PATTERN FREE OF SOLDERMASK

## **Outline Drawing**





### Outline Dimensions ( inch )

A	B	C	D	.100	F	G	H	J
<b>.730</b>	<b>1.360</b>	<b>.350</b>	<b>.100</b>		<b>.180</b>	<b>.140</b>	<b>.140</b>	<b>.305</b>
18.54	34.54	8.89	2.54		4.57	3.56	3.56	7.75
K <b>.150</b> 3.81	L <b>.225</b> 5.72	M <b>.120</b> 3.05	.275	P <b>1.400</b> 35.56	.110	R <b>.770</b> 19.56		Wt. grams 6.0

Note: Please refer to case style drawing for details

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