# Surface Mount **Bandpass Filter**

50Ω 470 to 705 MHz

# **BPF-C587+**



Generic photo used for illustration purposes only

CASE STYLE: HU1186

## The Big Deal

- Sharp roll-off
- Flatness 1.0 dB typical over the passband
- Wide bandwidth
- Good VSWR
- Miniature shielded package

#### **Product Overview**

The BPF-C587+ is a wide band filter in a small shielded package (size of 0.87" x 0.80" x 0.25") fabricated using SMT technology. This filter offers sharp roll-off and rejection of 25 dB Typ. for use in HDTV broadcasting.

# **Key Features**

Feature	Advantages			
Sharp roll-off	Provides good rejection of signals close to passband for improved systems performance.			
Good VSWR	This filter maintains typical VSWR over passband frequency range making this filter easier to inte- grate into receiver and transmitter RF chains with less concerns for in band frequency ripple.			
Flatness 1.0 dB typical	Better flatness over the full HDTV broadcasting band ( 420-705 MHz) making this ideal for use in applications where flatness and repeatability are critical performance requirements.			
Metal SMT Shielded case.	Reduced interference to, and from surrounding components.			

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# Surface Mount **Bandpass Filter**

50Ω

470 to 705 MHz

#### **Features**

- · Sharp roll-off
- Wide bandwidth
- Good VSWR
- · Miniature shielded package

#### **Applications**

- · Harmonic rejection
- TV Broadcasting / HDTV
- Transmitters / Receivers

# **BPF-C587+**

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#### Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Тур.	Max.	Unit
	Center Frequency		—	_	587	_	MHz
Doop Bond	Insertion Loss	F1-F2	470-705	_	2.0	2.5	dB
Pass band	Flatness	F1-F2	470-705	_	1.0	1.5	dB
	VSWR	F1-F2	470-705	-	1.7	1.9	:1
Stop Bond Lower	Insertion Loss		DC-400	25	30	_	dB
Stop Band, Lower	VSWR	DC-F3	DC-400	_	20	_	:1
Ston Bond Unner Insertion Loss		F4-F5	800-1500	20	25	_	dB
Stop Ballu, Opper	VSWR	F4-F5	800-1500	_	20	_	:1

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

#### Typical Performance Data at 25°C Frequency (MHz) Insertion Loss (dB) VSWR Frequency (MHz) **Group Delay** (:1) (nsec) 352.40 102.01 470 1 13.22 50 83.87 442.67 480 9.11 200 400 55.72 190.60 490 7.17 500 6.03 33.32 37.80 446 22.17 7.15 510 5.32 448 16.82 5.41 520 4.83 3.84 450 530 12.33 4.45 458 3.43 1.16 540 4.16 470 1.61 1.30 550 3.92 0.67 587 587 3.44 1.17 705 0.99 1.25 600 3.38 720 1.34 1.54 620 3.34 740 2.99 2.74 640 3.35 760 7.69 5.64 650 3.39 784 19.87 9.56 660 3.46 794 3.58 29.43 10.86 670 800 37 59 11.63 680 3.76 1000 29.94 690 34.39 4.01 1250 30.20 36.43 700 4.34 1500 31.49 32.24 705 4 55









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#### **Functional Schematic** RF OUT RF IN



#### **Typical Frequency Response**





## **Bandpass Filter**



#### **Pad Connections**

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

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



#### **Outline Drawing**



#### PCB Land Pattern

888888

Suggested Layout, Tolerance to be within ±.002

#### Outline Dimensions ( inch )

н	G	F	E	D	С	В	Α
.040	.060		.097	.100	.25	.800	.870
1.02	1.52		2.46	2.54	6.35	20.32	22.10
wt		Р	Ν	М	L	к	J
grams			.060	.060		.910	.105
2 85			1 52	1 52		23 11	2 67

Note: Please refer to case style drawing for details

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