

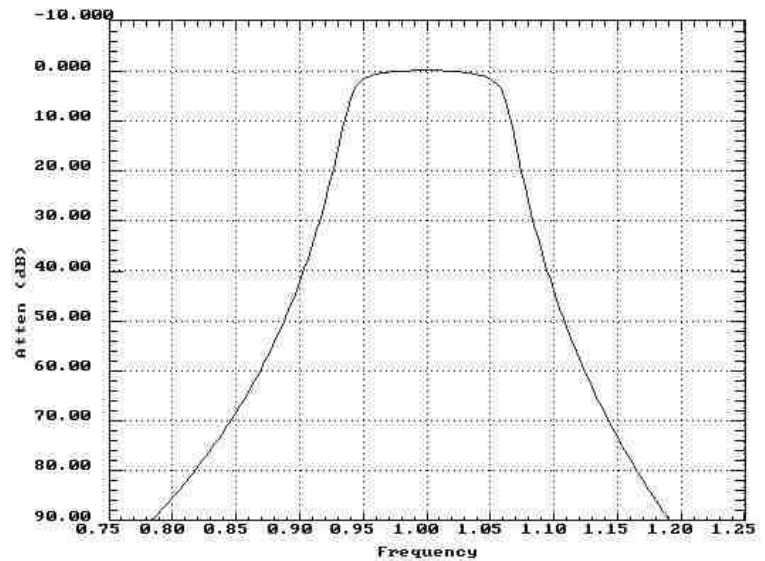
High Performance Bandpass Filters

Allen Avionics high performance filters use 7 to 11 pole Chebyshev or Elliptic Functions. They are designed using the specifications and techniques that work for most precision signal conditioning high performance testing applications. In a typical application they are used to enhance the performance of all test generators and signal sources used in testing A to D, D to A converters, amplifiers and other electronic components. They improve selectivity and dynamic range of all spectrum analyzers for harmonic distortion and intermodulation measurements. They are designed to provide 95 dB attenuation to all harmonics. If your testing application requires balanced or differential filters, these filters can be supplied in a differential configuration. Most test generators and frequency synthesizers have harmonics present up to the 6th and 7th harmonics. For most serious testing applications this is not acceptable. These filters can even be used in 16 Bit applications where harmonic distortion must be below -95dB.

Typical High-performance Bandpass Filter

High-performance Filter Specs.

- Frequency Range:** 1 KHz to 500 MHz
- Impedance Range:** $z = 50$ Ohms
- Shape factor:** E
- Q range:** 5 to 50
- Maximum Ripple:** .25dB
- Maximum Insertion Loss:** 1dB
- Construction:** Epoxy encapsulated in metal cans
- Temperature Range:** -30C to +70C
- Power Handling:** 1 to 5 Watts



Part Number specification” (BPSmmPkkC):

- BPS:** Band-Pass Standard High-performance Filter
- mmPkk** Fundamental frequency with mm for MHz value and kk for KHz values
A 9-digit number: remove a leading “m” for KHz values and trailing “k” for MHz values
- mm:** MHz value - This can be 1 to 4 positions in the MHz position to the left of the P
BPS35P00C = 35MHz
- P:** This is a decimal point divider between MHz and KHz
- kk:** This can be 2 to 4 positions to specify KHz filters
BPSP0015C = 1.5KHz
BPS0P010C = 10KHz
BPS01P50C = 1.5 MHz
- C:** Connector style:
B = BNC; S = SMA connector; N = Type N



High Performance - Band Pass Filters

Standard High-performance Band Pass filters are shown in the table. Other frequencies are available upon request. Connectors are shown as BNC but can be specified as B, S or N.

Part Number	Center Freq. Fc	Pass Band Width (typ)	Pass Band Ripple	Impedance (z)	Enclosure Style
BPS0P001B	1 KHZ	130 Hz	100 mdB	50 Ohms	QQ1
BPS0P005B	5 KHZ	625 Hz	100 mdB	50 Ohms	PP
BPS00P01B	10 KHZ	1.3 KHz	100 mdB	50 Ohms	PP
BPS00P02B	20 KHZ	2.3 KHz	100 mdB	50 Ohms	PP
BPS00P04B	40 KHZ	4.4 KHz	100 mdB	50 Ohms	PP
BPS00P05B	50 KHZ	6.3 KHz	100 mdB	50 Ohms	P1
BPS00P08B	80 KHZ	9.9 KHz	100 mdB	50 Ohms	P1
BPS0P100B	100 KHZ	13 KHz	100 mdB	50 Ohms	P1
BPS00P20B	200 KHZ	22 KHz	100 mdB	50 Ohms	P1
BPS00P30B	300 KHZ	35 KHz	100 mdB	50 Ohms	P1
BPS00P50B	500 KHZ	56 KHz	100 mdB	50 Ohms	P1
BPS00P75B	750 KHZ	93 KHz	100 mdB	50 Ohms	P1
BPS01P00B	1 MHZ	130 KHz	100 mdB	50 Ohms	P
BPS02P00B	2.0 MHZ	222 KHz	100 mdB	50 Ohms	P
BPS03P00B	3.0 MHZ	350 KHz	100 mdB	50 Ohms	P
BPS05P00B	5.0 MHZ	550 KHz	100 mdB	50 Ohms	P
BPS10P00B	10.0 MHZ	1.2 MHz	100 mdB	50 Ohms	P
BPS20P00B	20.0 MHZ	2.2 MHz	100 mdB	50 Ohms	O
BPS30P00B	30.0 MHZ	3.5 MHz	100 mdB	50 Ohms	O
BPS50P00B	50.0 MHZ	5.5 MHz	100 mdB	50 Ohms	O
BPS80P00B	80.0 MHZ	9.9 MHz	100 mdB	50 Ohms	O
BPS100P0B	100.0 MHZ	13 MHz	100 mdB	50 Ohms	O



High Performance - Band Pass Filters

Enclosures:

Allen Avionics filter enclosures are supplied in shielded metal cases to provide the best insulation against unwanted external signals. The enclosures are then painted and laser etched to provide part identification of the filter inside along with other pertinent information. The filters are packaged for shipping to prevent damage.

Because the components needed to make the filters can vary in size and shape depending upon the number of filter sections and the sizes of cores and capacitors, different frequencies require different sizes of enclosures. Our standard filters shown in the table above include the style of enclosure that is used. A drawing of the various styles is shown below. If modifications or special packaging requirements are needed, please contact Allen Avionics with the details. is made to the outside of the enclosure with laser etching. typically accomplished with laser etching. Changes to enclosures could affect pricing and lead-times for delivery of the desired filters.

Drawing and table for enclosures

Type	L	W	H	F	Studs
M	3.00	1.625	1.125	2.5	6-32 x .500
N	4.00	1.500	1.250	3.0	6-32 x .500
O	5.00	1.500	1.250	4.0	6-32 x .500
P	6.00	1.500	1.250	5.0	6-32 x .500
P1	6.00	2.000	1.250	5.0	6-32 x .500
PP	6.00	3.000	1.250	5.0	6-32 x .500
QQ1	7.00	4.000	1.250	6.0	6-32 x .500

