

Bandpass Filter

Filters

Excellent Electrical Performance

Narrow or Wide Passbands

Extended Stopband Performance

Ultra Small Size

Various Connector Types Available



DESCRIPTION The Microphase Bandpass Filters offer five different design types which have a range of capabilities and options. These filters have a passband frequency of 500 MHz to 40 GHz and bandwidths of up to one octave. They maintain rejection levels to 90 dB, VSWR from 1.2:1 to 2.0:1 and an Insertion Loss as low as 0.35 dB.

ADVANTAGES The main advantages of the Microphase designed and engineered Bandpass Filters are their narrow to wide passbands (up to one octave), featuring low Insertion Loss and VSWR, and sharp selectivity. You get excellent electrical performance, mechanical reliability and environmental stability. These compact units can be adapted for custom packaging. Lightweight and very rugged, all of our products are 100% tested, and readily available. These components can be designed to your specifications.

DESIGN TYPES

Interdigital

Compline

Cavity

Suspended Substrate

Dielectric Resonator

SPECIFICATIONS

Passband Frequency Range	500 MHz to 40 GHz
Bandwidths	Up to one octave
Rejection Levels	to 90 dB
VSWR	From 1.2:1 to 2.0:1
Insertion Loss	As low as 0.35 dB



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These units can be designed to your specification. Please contact Microphase for your special design requirements.

Bandpass Filter

BSCP Miniature Supra Comb



- Superb Electrical Performance
- Very Small Size
- Low Insertion Loss and Low VSWR
- Extended Stopband Rejections

Filters

Typical Specifications for a 5 Pole Filter

Center Frequency	2.10 GHz
3 dB Bandwidth	245 MHz
Passband VSWR	1.3:1
Insertion Loss	1.2 dB
Rejection 50 dB min.	DC to 1.76 GHz and 2.39 GHz to 30.0 GHz
Size (excluding pins)	1.25" L x 0.28" W x 0.28" H

SPECIFICATIONS

Frequency Range	1.5 to 10.0 GHz
3 dB Bandwidth	5% to 25%
Number of Sections	2 to 10
Rejection Stopband	to 30.0 GHz
Size (excluding pins)	0.28" W x 0.28" H x L*

* Depends on bandwidth and number of sections

DESCRIPTION The Microphase BSCP Supra Comb Bandpass Filter is a breakthrough in filter technology. This miniature device will pass a specified frequency band, while rejecting all frequencies above and below. The BSCP has uses in all types of military applications, including: EW, radar, airborne navigation and communications systems.

ADVANTAGES The main advantages of the Microphase designed and engineered BSCP Supra Comb Bandpass Filter are its extremely small size and excellent electrical performance with extended stopband rejections in a stand-alone Bandpass Filter. Another feature of these filters is that the out-of-band rejection in most cases is maintained to 30 GHz, without supplemental lowpass filtering. Other important advantages are its excellent frequency and temperature stability, low Insertion Loss and VSWR and sharp selectivity. You get excellent electrical performance, environmental stability and mechanical reliability, and this unit can be adapted for custom configurations. Compact and very rugged, all of our products are 100% tested, and readily available. This component can be designed to your specification.



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High Power Filters

Lowpass, Highpass, Bandpass Diplexer & Multiplexer

Excellent Electrical Performance

Low VSWR and Low Insertion Loss

Small Size

Extended Stopbands



Filters

Peak Power kW	Average Power W	Insertion Loss dB	Frequency MHz
2.5	300	0.6	950 - 1300
8.0	250	0.4	1015 - 1045
-	300	0.8	200 - 300
1.0	400	0.5	500 - 1000
1.0	600	0.5	700 - 900
-	2000	0.5	2000 - 2700
1.0	100	0.5	2500 - 5000
-	250	1.0	2000 - 7500
-	200	1.0	7500 - 18000

DESCRIPTION The Microphase High Power Filters provide RF frequency filtering as specified, with the ability to handle high levels of RF energy. These filters have uses in many types of military applications including: EW, radar and communications systems. They also have applications in weather and commercial systems.

ADVANTAGES The main advantage of the Microphase designed and engineered High Power Filters are their small size and excellent RF performance with low Insertion Loss and minimum heat build-up, therefore requiring less heat cooling. Other important advantages are their excellent power handling ability, low VSWR and extended stopbands. You get excellent electrical performance, environmental stability and mechanical reliability. These units can be adapted for custom configurations. Compact and very rugged, all of our products are 100% tested, and readily available. These components can be designed to your specifications.



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Highpass Filter

Sharp selectivity, Low Loss, High Rejection
& Excellent Frequency Stability

Superior Electrical Performance

Low Loss and VSWR

Extended Passband Range



Filters

DESCRIPTION The Microphase Highpass Filter will pass all frequencies from 20 MHz to 2000 MHz and block all frequencies below 15 MHz by -60 dB. The Highpass Filter has uses in many types of military applications including: RF communication and navigation systems.

ADVANTAGES The main advantages of the Microphase designed and engineered Highpass Filter are its small size and superior electrical performance with an extended passband range up to 100 times the cut-off frequency. Other important advantages are its sharp selectivity, low loss, high rejection and excellent frequency stability. You get excellent electrical performance, environmental stability and mechanical reliability. This light weight unit can be adapted for custom configurations. Compact and very rugged, all products are 100% tested, and readily available. This component can be designed to your specifications.

SPECIFICATIONS

Cut-off Frequency	20 MHz
Passband Frequency	20-2000 MHz
Insertion Loss	2.0 dB min.
VSWR	1.5:1
Rejection (DC to 15 MHz)	60 dB
Size (excluding connectors)	1.8" L x 0.70" W x 0.5" H
Connectors	SMA female



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Miniature Highpass Filter

HMBC -150HJ
0.5 to 18 GHz



DESCRIPTION The Microphase Highpass Filter is a breakthrough in filter technology. This miniature device discriminates a desired band of frequencies from all unwanted RF signals below a specified passband. The HMBC filter has uses in many types of military applications, including: EW, radar, and communications systems, as well as aerospace and weather satellite systems.

ADVANTAGES The main advantages of the Microphase designed and engineered HMBC Highpass Filter are its small size and excellent RF performance with extended stopbands. This filter has a cut-off frequency of 0.5 GHz with a passband to 18 GHz. Other important advantages are its excellent frequency and temperature stability, low insertion loss and VSWR and sharp selectivity. You get excellent electrical performance, environmental stability and mechanical reliability, and this unit can be adapted for custom configurations. Compact and very rugged, all of our products are 100% tested and readily available. This component can be designed to your specification.

Small Size

Low Cost

Low VSWR

Extended Stopband Rejection

SPECIFICATIONS

Cut-off Frequency (f_c)	0.5 GHz
Passband	up to 18.0 GHz
Insertion Loss*	1.0 dB
VSWR	1.9:1
Rejection@ 0.5 f_c	60 dB
Available Sizes (excluding connectors)	0.5" L x 0.5" W x 0.5" H (SMA female connectors) 1.20" L x 0.31" Dia. (SMA female connectors) 1.35" L x 0.31" Dia. (includes one male and female SMA connector)

* 1.0 dB max. above 0.75 GHz and 1.8 dB max. at 0.5 GHz

Miniature Filters



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Miniature Highpass Filter

HBMC, HMCC, HMFP, HMBC

HBMC—SPECIFICATIONS

Cut-off Frequency (f_c)	0.25-4.0 GHz
Passband	up to 12.0 GHz
Insertion Loss	1.0 dB
VSWR	1.6:1
Rejection @ $0.75 f_c$	55 dB
Size (excluding connectors)	1.0" L x 0.5" W x 0.38" H
Connectors	SMA or Pins

HMCC—SPECIFICATIONS

Cut-off Frequency (f_c)	0.5-4.0 GHz
Passband	up to 26.0 GHz
Insertion Loss*	1.0 dB
VSWR	1.9:1
Rejection @ $0.5 f_c$	60 dB
Size (excluding connectors)	0.57" L x 0.31" Dia.
Connectors	SMA

HMFP—SPECIFICATIONS

Cut-off Frequency (f_c)	0.75-6.0 GHz
Passband	up to 18.0 GHz
Insertion Loss	1.2 dB
VSWR:	1.9:1 max.
Rejection @ $0.7 f_c$	60 dB
Size (excluding connectors)	0.53" L x 0.25" W x 0.15" H
Connectors	Pins

HMBC—SPECIFICATIONS

Cut-off Frequency (f_c)	0.5-4.0 GHz
Passband	up to 26.0 GHz
Insertion Loss *	1.0 dB
VSWR	1.9:1 max.
Rejection @ $0.5 f_c$	60 dB
Size (excluding connectors)	0.5" L x 0.5" W x 0.5" H
Connectors	SMA

* 1.0 dB max. above 0.75 GHz

Excellent RF Performance

Small Size

Low Cost

Low VSWR

Extended Passbands



DESCRIPTION The Microphase Highpass Filters are miniature devices which reject all unwanted RF signals below a specified passband. These filters have uses in many types of military applications including: EW systems, radar, aerospace and weather satellite systems.

ADVANTAGES The main advantages of the Microphase designed and engineered Highpass Filters are their small size and excellent RF performance with extended passbands (narrow or wide). Other important advantages are their excellent frequency flatness, low Insertion Loss and VSWR and sharp selectivity. You get excellent electrical performance, mechanical reliability and environmental stability. These units can be adapted for custom configurations. Compact and very rugged, all of our products are 100% tested, and readily available.



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Miniature Filters

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Miniature Bandpass Filters

BCLC, BCTP, BSMC, BNHC

BCLC—SPECIFICATIONS

Center Frequency (f_0)	0.5-4.0 GHz
3 dB Bandwidth	25-80%
Insertion Loss*	
Rejection*	
VSWR	1.7:1
Size (excluding connectors)	0.75" L x 0.63" W x .025" H
Connectors	SMA or Pins

BCTP—SPECIFICATIONS

Center Frequency (f_0)	1.0-5.0 GHz
3 dB Bandwidth	5-25%
Insertion Loss*	
Rejection*	
VSWR	1.6:1
Number of Sections	2-6
Weight	2.5 gram
Size (excluding connectors)	0.53" L x 0.25" W x .015" H
Connectors	Pins

BSMC—SPECIFICATIONS

Center Frequency (f_0)	0.5-4.0 GHz
3 dB Bandwidth	30-90%
Insertion Loss @ f_0	1.6 dB max.
Rejection	60 dB 30% from band edges
VSWR	1.7:1
Size (excluding connectors)	1.0" L x 0.5" W x 0.38" H
Connectors	SMA or Pins

BNHC—SPECIFICATIONS

Center Frequency (f_0)	0.5-5.0 GHz
3 dB Bandwidth	2-10%
Insertion Loss*	
Rejection*	
Number of Sections	2-5
VSWR	1.5:1
Size (excluding connectors)	1.5" L x 0.5" W x 0.50" H
Connectors	SMA or Pins

* Insertion Loss and rejection are dependent on bandwidth and number of sections.

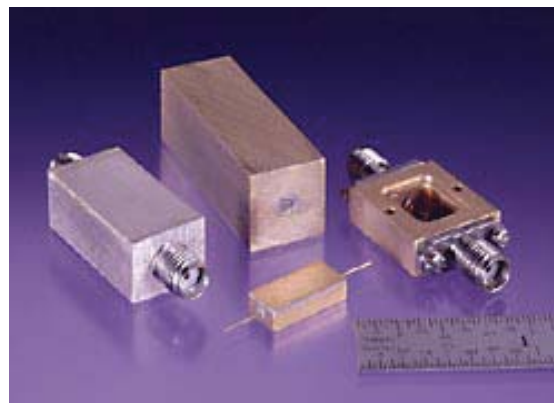
Excellent RF Performance

Small Size

Low Cost

Low Insertion Loss and VSWR

Extended Stopband



DESCRIPTION The Microphase Bandpass Filters are miniature devices which discriminate between a desired band of frequencies from unwanted frequencies. These filters have uses in many types of military applications including: EW systems, radar, aerospace and navigation systems, as well as communication and weather satellite systems.

ADVANTAGES The main advantages of the Microphase designed and engineered Bandpass Filters are their small size and excellent RF performance with extended stopbands. Other important advantages are their excellent frequency flatness, low insertion loss and VSWR and sharp selectivity. You get excellent electrical performance, mechanical reliability and environmental stability. These units can be adapted for custom configurations. Compact and very rugged, all of our products are 100% tested, and readily available. These components can be designed to your specification.



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Miniature Filters

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Miniature Lowpass Filters

LMBC, LMCC, LMFP, LBMC

LMBC—SPECIFICATIONS

Cut-off Frequency (f_c)	0.5-5.0 GHz
Passband	up to 5.0 GHz
Insertion Loss	1.2 dB max.
VSWR	1.8:1
Rejection @ $2 f_c$	60 dB
Size (excluding connectors)	0.5" L x 0.5" W x 0.5" H
Connectors	SMA

LMCC—SPECIFICATIONS

Cut-off Frequency (f_c)	0.5-5.0 GHz
Passband	up to 5.0 GHz
Insertion Loss	1.2 dB max.
VSWR	1.9:1
Rejection @ $2 f_c$	60 dB
Size (excluding connectors)	0.57" L x 0.31" Dia.
Connectors	SMA

LMFP—SPECIFICATIONS

Cut-off Frequency (f_c)	0.7-6.0 GHz
Passband	up to 6.0 GHz
Insertion Loss	1.4 dB max.
VSWR	1.6:1
Rejection @ $1.3 f_c$	60 dB
Size (excluding connectors)	0.53" L x 0.25" W x 0.15" H
Connectors	Pins

LBMC—SPECIFICATIONS

Cut-off Frequency (f_c)	0.5-4.0 GHz
Passband	up to 4.0 GHz
Insertion Loss	1.0 dB
VSWR	1.5:1
Rejection @ $1.25 f_c$	55 dB
Size (excluding connectors)	1.0" L x 0.50" W x 0.38" H
Connectors	SMA or Pins

Excellent RF Performance

Extremely Small Size

Low Cost

Low VSWR

Extended Stop Bandpass Features



DESCRIPTION The Microphase Lowpass Filters are miniature devices, which reject all unwanted RF signals above a specified passband. These filters have uses in many types of military applications including: radar systems, airborne navigation, electronic warfare and communications systems.

ADVANTAGE The main advantages of the Microphase designed and engineered Lowpass Filters are their small size and excellent RF performance with extended stop bandpass features. Other important advantages are their excellent frequency flatness, low insertion loss and VSWR and sharp selectivity. You get excellent electrical performance, mechanical reliability and environmental stability. These units can be adapted for custom configurations. Compact and very rugged, all of our products are 100% tested, and readily available.



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Miniature Filters

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