Microwave Filter Company

MC Series
Combline Bandpass Filters

Microwave Filter Company's MC series of Combline filters offer superior performance in a small package for narrow bandwidth applications.

FEATURES:

- Available frequency range: 300 MHz to 26.5 GHz
- Low-profile package
- Wide range of 3 dB bandwidths (1-20%)
- 2-18 section designs are standard
- Call the factory for custom designs

SPECIFICATIONS

Model No.	Frequency (GHz)	3 dB BW (percent)	VSWR typical	No. of Sections
MC10	0.3 to 1.5	1-20	1.5:1	2-18
MC20	1.5 to 6	1-20	1.5:1	2-18
MC30	4 to 10	1-20	1.5:1	2-18
MC40	8 to 18	1-20	1.5:1	2-18
MC50	18 to 26.5	1-20	1.5:1	2-18

MODEL DESIGNATION

Code	Description
1	Number of Sections
2	Model Number
3	Center Frequency (GHz)
4	3 dB Bandwidth (MHz)
5	Connector Code (Input/Output)

SAMPLE

5	MC30-	5.0/	800-	NF/NF
1	2	3	4	5

CONNECTOR CODE CHART

Connector Style	Connector Code	Style
"N" Female	NF	1
"N" Male	NM	1
BNC Female	BF	1
BNC Male	BM	1
TNC Female	TF	1
TNC Male	TM	1
SMA Female	SF	1,2
SMA Male	SM	1,2
PC Pins	PN	1,2
Special	XX	1,2

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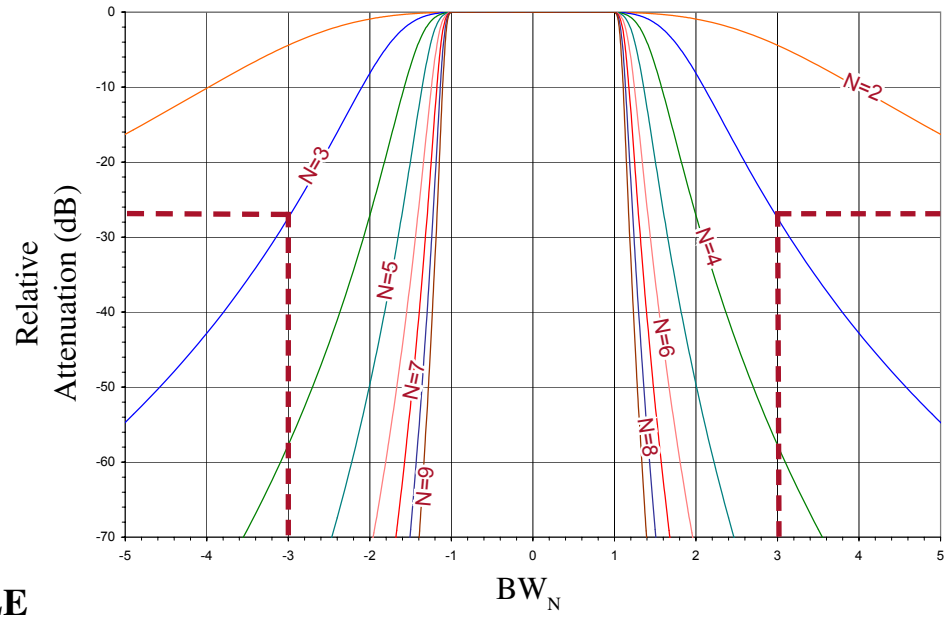
The curves below show the attenuation as a function of the normalized 3dB bandwidth. The following formula is used to predict the attenuation for a given number of sections:

$$\text{Number of normalized 3 dB bandwidths from center frequency, } BW_N = \frac{\text{Rejection Frequency (MHz)} - \text{Center Frequency (MHz)}}{\text{3 dB Bandwidth (MHz)}}$$



EXAMPLE

Determine minimum attenuation levels at 2482 MHz and 2518 MHz for the following filter:

Center Frequency = 2500 MHz
Minimum 3 dB Bandwidth = 6 MHz
Number of sections = 3

Solution:

$$\text{3 dB bandwidths from } F_c, (BW_N) = \begin{matrix} (2482 - 2500)/16 = -3\ BW_N \\ (2518 - 2500)/6 = +3\ BW_N \end{matrix}$$

From the curve above: $-3\ BW_N = 27$ dB
$+3\ BW_N = 27$ dB

*Note: For illustration purposes only. Consult factory for specific information.

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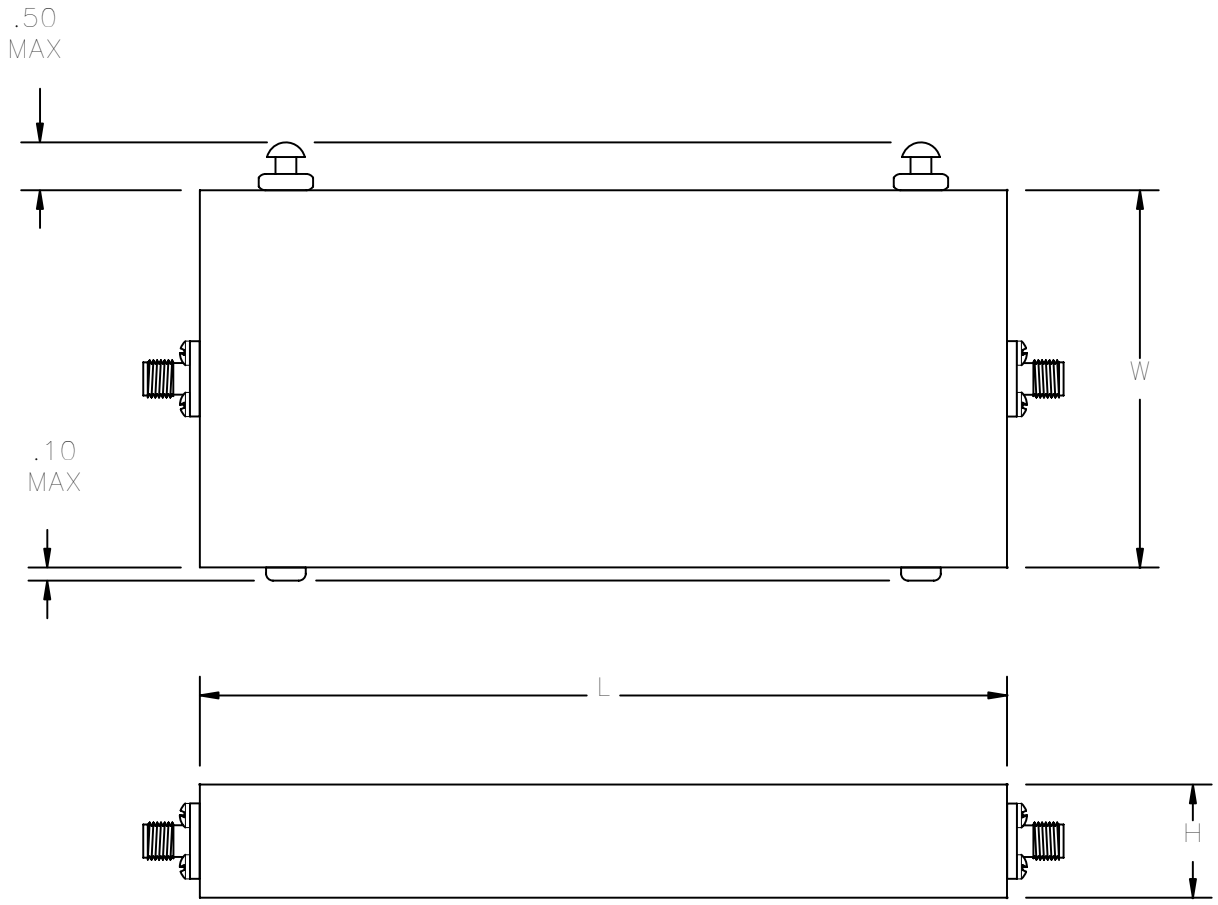

Model	W * (IN.)	H (IN.)	L (IN.)
MC10	2 - 5	.75	SEE CALCULATIONS
MC20	0.75 - 2	.625	SEE CALCULATIONS
MC30	0.5 - .75	0.5	SEE CALCULATIONS
MC40	0.5	0.5	SEE CALCULATIONS
MC50	0.5	0.5	SEE CALCULATIONS

ESTIMATED L - [N(PS)] + [N(D)] + H
WHERE:
N = # OF SECTIONS
PS = H(.75)
D = H(.126)
* LOWER FREQUENCY = LARGER W

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