

MB Series Discrete Element Miniature Bandpass Filters

Microwave Filter Company's MB series of miniature bandpass filters utilize high quality components for narrow and wide band filter applications.



FEATURES:

- Available frequency range: 0.5 MHz to 500 MHz
- Miniature package
- 3-9 section designs are standard
- Call the factory for custom designs

SPECIFICATIONS

Model No.	Frequency (MHz)	3 dB BW (percent)	VSWR typical	Average Power (Watts, nominal)	Impedance (ohms)	No. of Sections
MB10	0.5-500	3-50	1.5:1	15	50 *	3-9

*75 Ω is available

MODEL DESIGNATION

Code	Description
1	Number of Sections
2	Series
3	Center Frequency (MHz)
4	3 dB Bandwidth (MHz)
5	Connector Code (Input/Output) (see chart)
6	Mechanical Outline (Style)

SAMPLE

<u>8</u>	<u>MB10</u>	<u>100/</u>	<u>10-</u>	<u>PN/PN-</u>	<u>1</u>
1	2	3	4	5	6

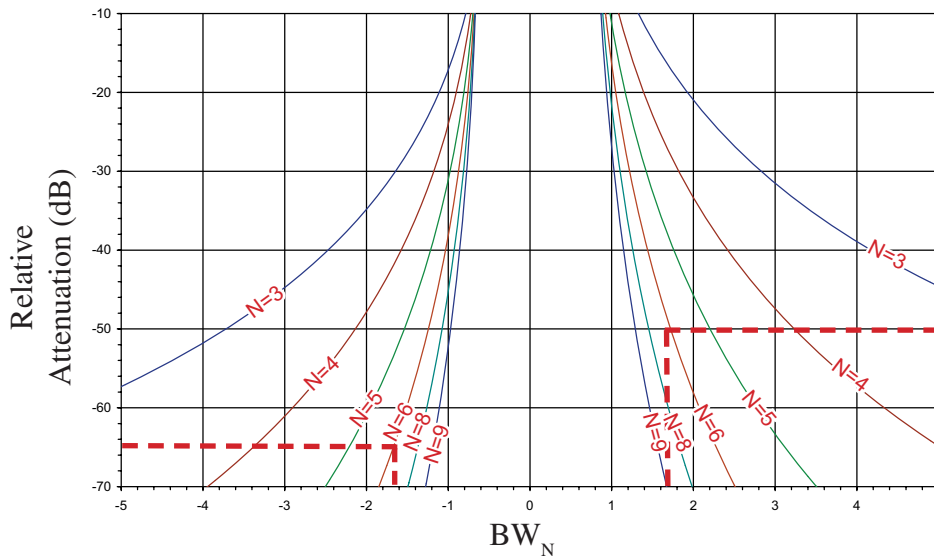
CONNECTOR CODE CHART

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 225 MHz and 275 MHz for the following filter:

Center Frequency = 250 MHz
Minimum 3 dB Bandwidth = 15 MHz
Number of sections = 6

Solution:

$$\begin{aligned} \text{3 dB bandwidths from } F_c, (BW_N) &= \frac{(225 - 250)/15}{1} = -1.67 BW_N \\ &= \frac{(275 - 250)/15}{1} = +1.67 BW_N \end{aligned}$$

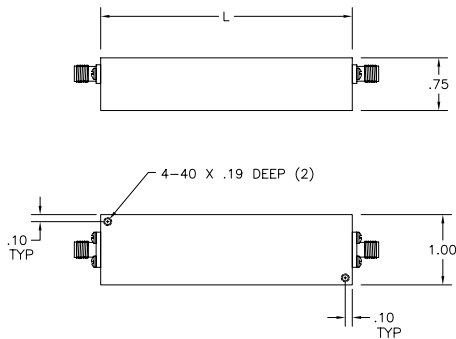
From the curve above:
-1.67 BW = 65 dB
+1.67 BW = 50 dB

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

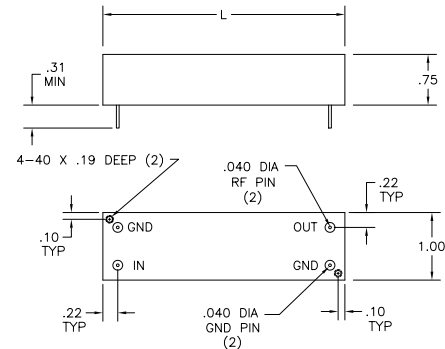
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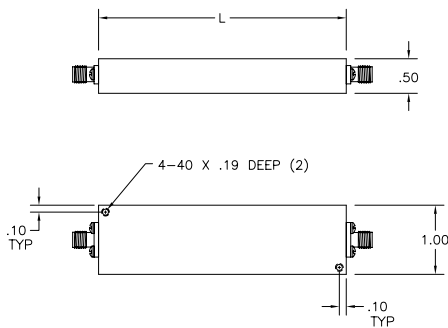
STYLE 1 CONNECTORS



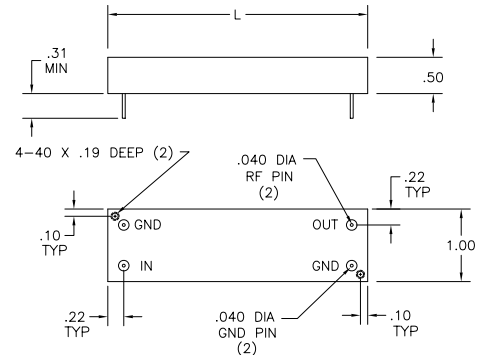
STYLE 1 PINS



STYLE 2 CONNECTORS



STYLE 2 PINS



Model	Number of Sections	Style	Width (IN.)	Height (IN.)	Length (IN.)
MB Series	3-5	1	1.00	0.75	2.38
MB Series	6-9	1	1.00	0.75	3.58
MB Series	3-5	2	1.00	0.50	2.38
MB Series	6-9	2	1.00	0.50	3.58