Microwave Filter Company

MN Series
Iris Coupled Bandpass Filters

Microwave Filter Company's MN series of Iris coupled 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 (0.1-3%)
- 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
MN10	0.3 to 1.5	0.1-3	1.5:1	2-18
MN20	1.5 to 6	0.1-3	1.5:1	2-18
MN30	4 to 10	0.1-3	1.5:1	2-18
MN40	8 to 18	0.1-3	1.5:1	2-18
MN50	18 to 26.5	0.1-3	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	MN30 -	5.0/	180-	NF/NF
1	2	3	4	5

CONNECTOR CODE CHART

Connector Style	Connector Code
"N" Female	NF
"N" Male	NM
BNC Female	BF
BNC Male	BM
TNC Female	TF
TNC Male	TM
SMA Female	SF
SMA Male	SM
PC Mounting	PC
Special	XX

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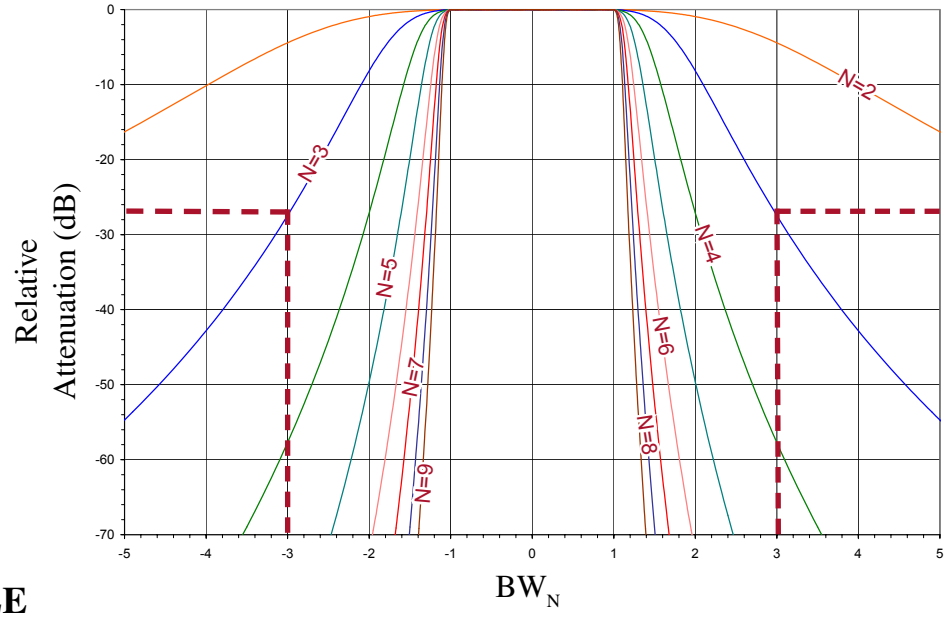
The curves below show the attenuation as a function of the normalized 3dB bandwidth. The following formula is used to predict the attenuation for a given number of sections:

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



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:

3 dB bandwidths from F_c,(BW_N) = $(2482 - 2500)/16 = -3\ BW_N$
$(2518 - 2500)/6 = +3\ BW_N$

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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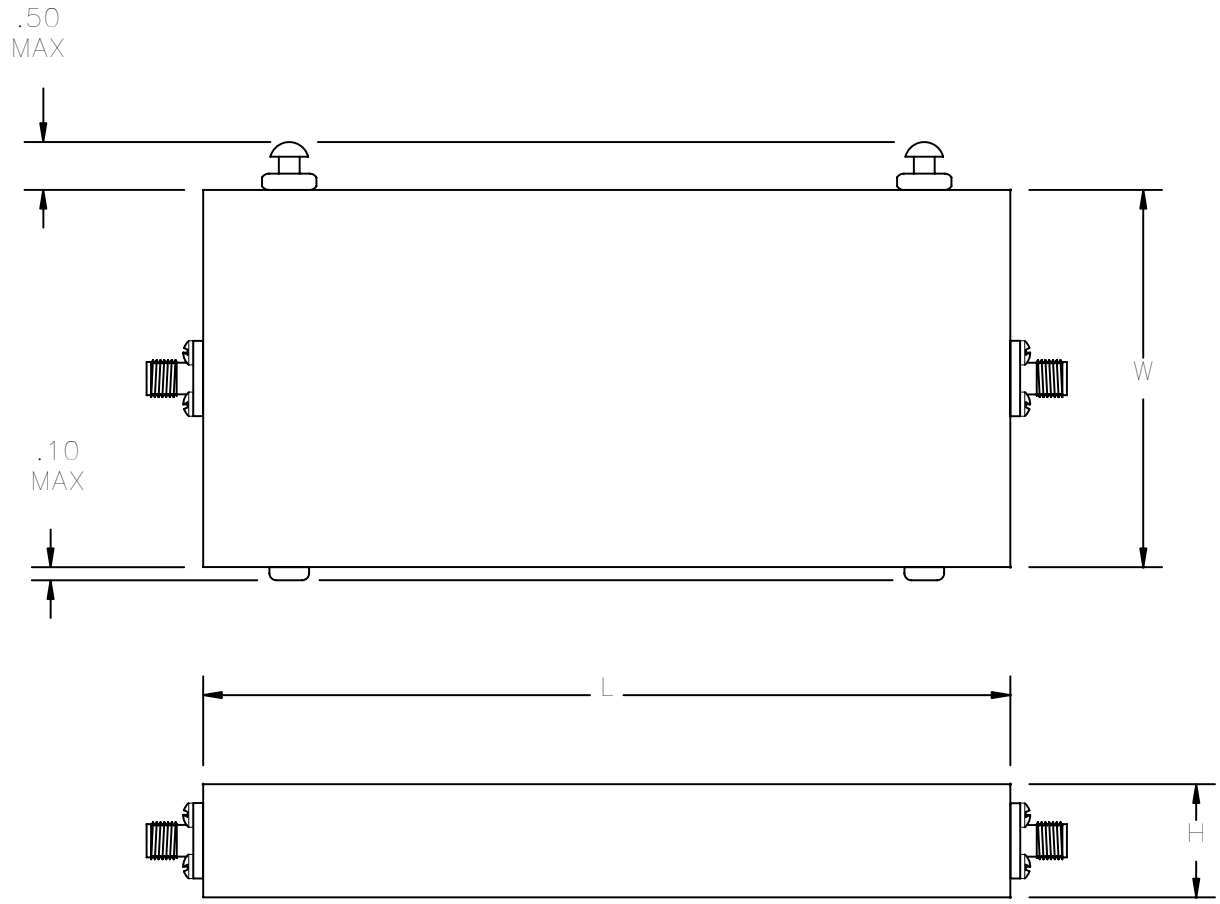

Model	Width* (IN.)	Height (IN.)	Length (IN.)
MN10	2.0 - 5.0	.75	SEE CALCULATIONS
MN20	0.75 - 2.0	.625	SEE CALCULATIONS
MN30	.375 - .75	.437	SEE CALCULATIONS
MN40	.187 - .375	.375	SEE CALCULATIONS
MN50	.125 - .187	.125	SEE CALCULATIONS

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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