

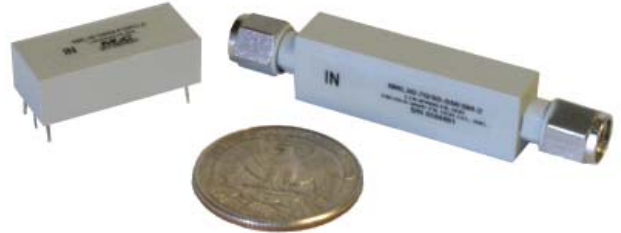
MH Series

Discrete Element, Miniature Highpass Filters

Microwave Filter Company's MH series of Highpass filters offer superior performance in a small package for a wide range of applications.

FEATURES:

- Available frequency range: 0.2 MHz to 1000 MHz
- Miniature package
- 3-9 section designs are standard
- Call the factory for custom designs



SPECIFICATIONS

Model No.	Frequency (MHz)	VSWR typical	Average Power (Watts, nominal)	Impedance (ohms)	No. of Sections
MH10	0.2-10	1.5:1	15	50 *	3-9
MH20	10-200	1.5:1	15	50 *	3-9
MH30	150-1000	1.5:1	10	50 *	3-9

*75 Ω is available

MODEL DESIGNATION

Code	Description
1	Number of Sections
2	Model Number
3	Start of Stopband Frequency (MHz)
4	3dB Cut -off Frequency (MHz)
5	Connector Code (Input/Output)
6	Mechanical Outline (Style)

SAMPLE

8	MH20-	50/	70-	SF/ SF-	1
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

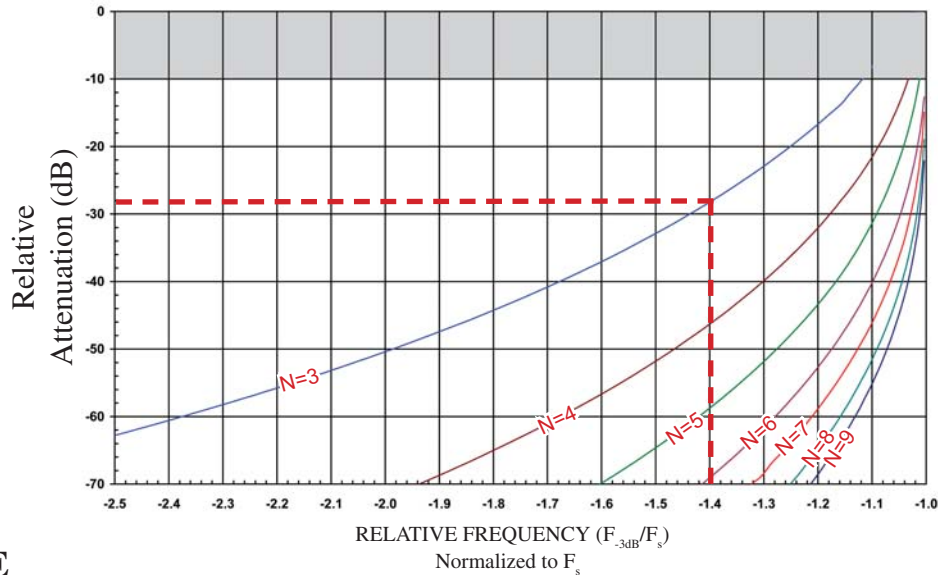
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800-448-1666 • 315-438-4700
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Selectivity- The stopband performance of a filter determines the number of sections required. Use the following graph.

The graph provides the highpass filter stopband attenuation as a function of the number of filter sections and the 3 dB cutoff frequency $F_{-3\text{dB}}$ normalized to the stopband frequency, F_s



EXAMPLE

Determine the number of sections required to achieve an attenuation of 30 dB at 100 MHz (F_s) with a 3 dB cutoff frequency ($F_{-3\text{dB}}$) of 140 MHz

- 3 dB Cutoff Frequency, $F_{-3\text{dB}} = 140\text{ MHz}$
- Stopband rejection frequency $F_s = 100\text{ MHz}$
- Attenuation value of stopband= 30 dB

Step 1. Normalize -3 dB cutoff frequency $F_{-3\text{dB}}$ to the stopband frequency (F_s)

$$\frac{F_{-3\text{dB}}}{F_s} = \frac{140\text{MHz}}{100\text{MHz}} = 1.4$$

Step 2. Determine the minimum number of sections required to provide a stopband attenuation equal to or greater than 30 dB.

Note from the intersection of 1.4 on the X- axis and curve N=4 the attenuation (Y-axis) is -46 dB and N=3 is approx -28 dB. Therefore the minimum number of sections required is N=4

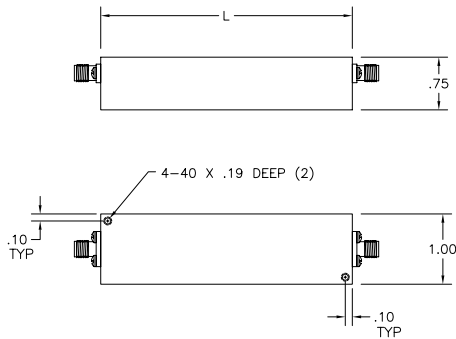
*Note: For illustration purposes only. Consult factory for specific information.

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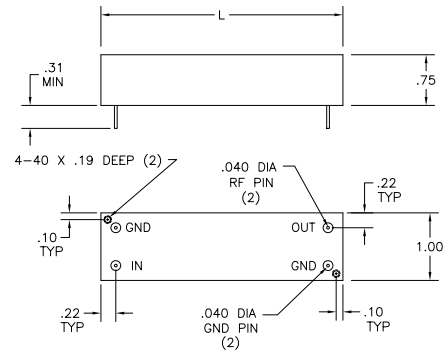
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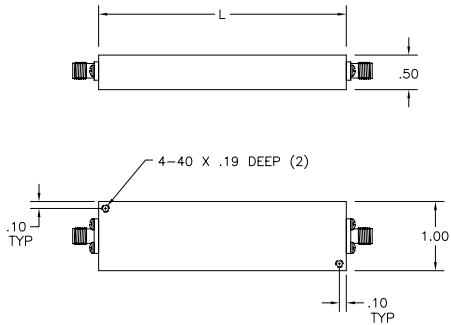
STYLE 1 CONNECTORS



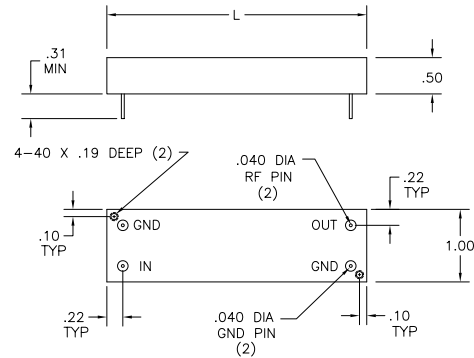
STYLE 1 PINS



STYLE 2 CONNECTORS



STYLE 2 PINS



Model	Number of Sections	Style	Width (IN.)	Height (IN.)	Length (IN.)
MH Series	3-6	1	1.00	0.75	2.38
MH Series	7-9	1	1.00	0.75	3.58
MH Series	3-6	2	1.00	0.50	2.38
MH Series	7-9	2	1.00	0.50	3.58

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