HIGH Q Cavity Bandpass Filters

MODELS 9393, 9494, 9507, 9510, 9512

Microwave Filter Company's line of High Q Bandpass Filter offers tunable quarter wave cavities in a variety of diameters for increased Q, selectivity and low loss. Tunability, $F_o \pm 5\%$, is achieved using adjustable loops and tunable resonators. Single, double and triple cavity models are available covering a broad frequency band of 30 - 950 MHz.

Useful as a receive preselector or to clean up spurious transmit signals, the High Q Bandpass Filter is also available in custom configurations and multiplexers to meet your particular requirements.

Temperature stability using an invar tuning rod, and our rugged low loss construction makes a dependable filter.

Please feel free to contact the company toll free for additional information.

9xxx -(F_o)(# sections)(BW)
F_o = Center Frequency

Bandwidth: .....Up to 3% (bW/F_O)
Return Loss: ..... 14 dB (Min)
Power Rating: ..... 350 watts w/0.5 dB insertion loss
250 watts w/1.0 dB insertion loss
100 watts w/2.0 dB insertion loss
Temperature stability: ..... 0.0005 MHz/°C
Approx. size: ..... Diameter x 1/4 wavelength
Connectors: ..... Type N female (50 Ohm)

Freq. Range (MHz)	9393 3"x3"	9494 4"x4"	9507 7" Dia.	9510 10" Dia	9512 12" Dia.
30 - 200					
200 - 300					
300 - 406					
406 - 512					
512 - 700					
700 - 950					

REJECTION

	10 dB BW	30 dB BW
Single Cavity	4.0 x BW_3	30 x BW_3
Double Cavity	4.0 x BW_r	13 x BW_r
Triple Cavity	2.1 x BW_r	4.5 x BW_r

INSERTION LOSS

Single Cavity	$\frac{(.06)\sqrt{F}}{BW_3}$	$\frac{(0.0463)(\sqrt{F})}{BW_3}$	$\frac{(0.0254)(\sqrt{F})}{BW_3}$	$\frac{(0.0228)(\sqrt{F})}{BW_3}$	$\frac{(0.0188)(\sqrt{F})}{BW_3}$
Double Cavity	$\frac{(.0359)\sqrt{F}}{BW_r}$	$\frac{(0.0275)(\sqrt{F})}{BW_r}$	$\frac{(0.0151)(\sqrt{F})}{BW_r}$	$\frac{(0.0135)(\sqrt{F})}{BW_r}$	$\frac{(0.0122)(\sqrt{F})}{BW_r}$
Triple Cavity	$\frac{(.083)\sqrt{F}}{BW_r}$	$\frac{(0.0642)(\sqrt{F})}{BW_r}$	$\frac{(0.035)(\sqrt{F})}{BW_r}$	$\frac{(0.0315)(\sqrt{F})}{BW_r}$	$\frac{(0.0279)(\sqrt{F})}{BW_r}$

BW_3 = Passband width at 3 dB points

BW_r = Ripple bandwidth at 14 dB return loss

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