

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, $F_0 \pm 5\%$, 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.



9xxx -(F₀)(# sections)(BW)
F₀ = Center Frequency

BandwidthUp to 3% (BW/F₀)
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" x 3"	9494 4" x 4"	9507 7" Dia.	9510 10" Dia	9512 12" Dia.
30 - 200					
200 - 300					
300 - 406					
406 - 512					
512 - 700					
700 - 950					

INSERTION LOSS

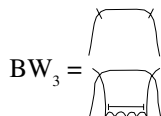
Single Cavity	$\frac{(.06)\sqrt{F_0}}{BW_3}$	$\frac{(0.0463)(\sqrt{F_0})}{BW_3}$	$\frac{(0.0254)(\sqrt{F_0})}{BW_3}$	$\frac{(0.0228)(\sqrt{F_0})}{BW_3}$	$\frac{(0.0188)(\sqrt{F_0})}{BW_3}$
Double Cavity	$\frac{(.0359)\sqrt{F_0}}{BW_r}$	$\frac{(0.0275)(\sqrt{F_0})}{BW_r}$	$\frac{(0.0151)(\sqrt{F_0})}{BW_r}$	$\frac{(0.0135)(\sqrt{F_0})}{BW_r}$	$\frac{(0.0122)(\sqrt{F_0})}{BW_r}$
Triple Cavity	$\frac{(.083)\sqrt{F_0}}{BW_r}$	$\frac{(0.0642)(\sqrt{F_0})}{BW_r}$	$\frac{(0.035)(\sqrt{F_0})}{BW_r}$	$\frac{(0.0315)(\sqrt{F_0})}{BW_r}$	$\frac{(0.0279)(\sqrt{F_0})}{BW_r}$

REJECTION

10 dB BW

30 dB BW

Single Cavity	$4.0 \times BW_3$	$30 \times BW_3$
Double Cavity	$4.0 \times BW_r$	$13 \times BW_r$
Triple Cavity	$2.1 \times BW_r$	$4.5 \times BW_r$



BW₃ = Passband width at 3 dB points

BW_r = Ripple bandwidth at 14 dB return loss



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