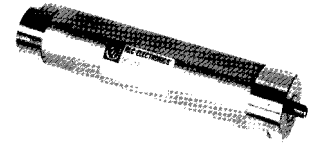


# Tubular Band Pass Filters



RLC Electronics' Tubular Band Pass Filters are designed for operation over the frequency range of 15MHz to 8.0 GHz. These fixed tuned filters are constructed utilizing 2 to

12 sections with 3 dB bandwidths of 2 to 60% of center frequency. These filters utilize direct coupled sections.

## Specifications

BPF-1-2-3-4-5

Model Number	Center Frequency Range (MHz)	3 dB Bandwidth (% of fc)	Number of Sections	Stopband Attenuation
BPF-	15 to 1000 (BPF-1250)	2	2	See Curves on page 31
	30 to 2000 (BPF-750)	to		
	50 to 4000 (BPF-500)	60	to	
	75 to 400 (BPF-250)	3 to 40	12	
	400 to 8000 (BPF-250)	3 to 60		

**VSWR: 1.5:1, Bandwidth:** Curve 1, pg. 30

**Passband Insertion Loss (max at fc):**

Curve 1, pg 49

**0.5 dB Bandwidth:** Curve 2, pg 30

**1 dB Bandwidth:** Curve 3, pg 30

**Power, Average, Max:**

10 Watts BPF-250 25 Watts BPF-500

50 Watts BPF-750 200 Watts BPF-1250

**Impedance:** 50 Ohms

**Connectors:** Type N, BNC, TNC, SMA (male or female)

**Environmental:** MIL-E-5400, Class 1A

**Phase Linearity:** 5 deg. Curve 4, pg 30

### To designate the switch desired use:

- (1) Filter diameter, "250" is 1/4 inch "500" is 1/2 inch  
"750" is 3/4 inch "1250" is 1 1/4 inch
- (2) Center frequency in MHz
- (3) 3dB bandwidth in MHz

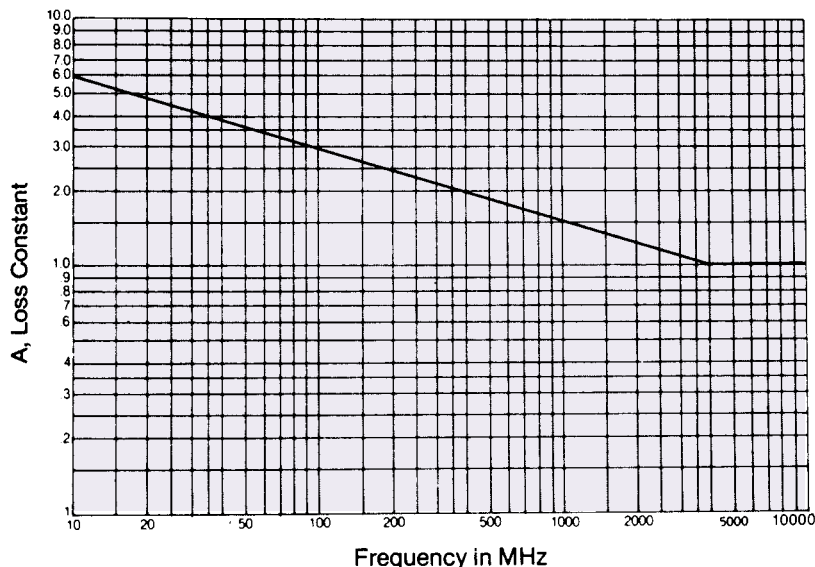
- (4) Number of sections
- (5) "N" for type N, "B" for BNC, "T" for TNC, "R" for SMA.  
BPF-250 is available with only SMA. Add "M" or "F" for two male or female.

Example: BPF-500-950-95-5-R is a 1/2" diameter, 950 MHz center frequency, 95 MHz 3 dB



# Insertion Loss

Loss Constant Vs. Frequency

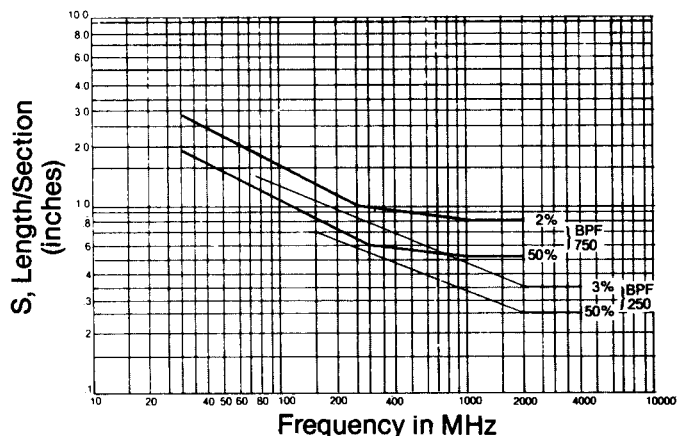
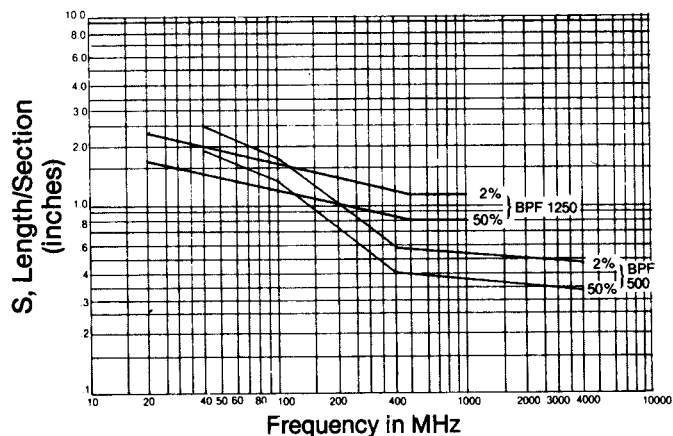


Filter	Max. Insertion Loss at Center Frequency
BPF 250	$2.2 \times A \times (N + .5) \div B + 0.2$
BPF 500	$A \times (N + .5) \div B + 0.2$
BPF 750	$.65 \times A \times (N + .5) \div B + 0.2$
BPF 1250	$.5 \times A \times (N + .5) \div B + 0.2$

N is number of sections  
 B is percent 3dB bandwidth =  
 $100 \times 3 \text{ dB bandwidth in MHz} \div \text{center frequency in MHz}$

## Outline Drawing

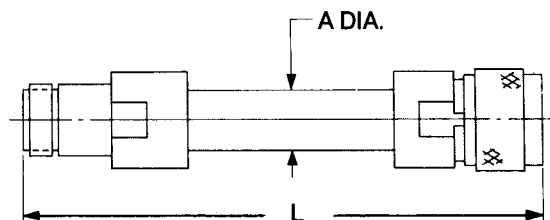
Length per Section Vs. Frequency



	BPF- 250	500	750	1250
A DIM	.250	.500	.750	1.250
CONNECTOR LENGTH				
SMA	1.28	1.25	1.31	1.31
BNC/TNC	—	1.56	2.27	2.27
N	—	2.19	2.10	2.10

APPROXIMATE LENGTH OF FILTER (L) =

$$S \times (N + .5) + \text{connector length}$$



Tolerances unless otherwise specified are: .xx, ± .02; .xxx, ± .005.



**RLC ELECTRONICS, INC.**

83 Radio Circle, Mount Kisco, New York 10549 • Telephone: 914-241-1334 • Fax: 914-241-1753  
 e-mail: sales@rlcelectronics.com • www.rlcelectronics.com