

# Coaxial Bandpass Filter

## BBP-70+ BBP-70

50Ω Elliptic Response 63 to 77 MHz

### Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5W max.

Permanent damage may occur if any of these limits are exceeded.

### Features

- low insertion loss, 1.5 dB max.
- good selectivity, 1.76 typ. 20 dB/3dB BW ratio
- rugged shielded case

### Applications

- high rejection applications
- image rejection
- IF signal processing



CASE STYLE: FF55  
Connectors Model  
BNC BBP-70(+)

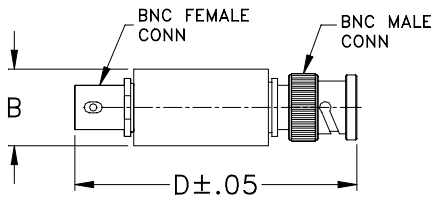
**+RoHS Compliant**

The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

### Bandpass Filter Electrical Specifications

CENTER FREQ. (MHz)	PASSBAND (MHz)	3dB BANDWIDTH (MHz)	STOPBANDS		VSWR (:1)	
			(I. loss > 20 dB) at MHz	(I. loss > 35 dB) at MHz	Passband Max.	Stopband Typ.
70	63-77	58-82	51 & 94	6.0 & 193-1000	1.7	16

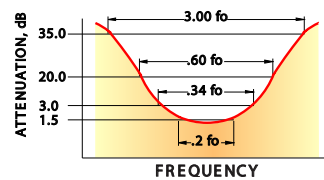
### Outline Drawing



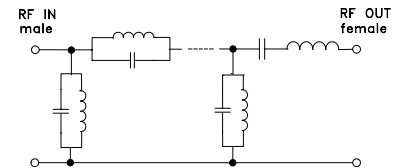
### Outline Dimensions (inch/mm)

B	D	wt
.54	2.59	grams
13.72	65.79	40.0

### typical frequency response

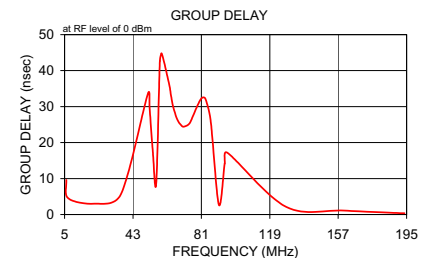
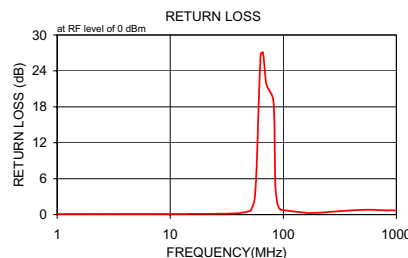
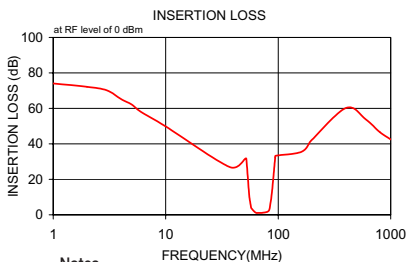


### electrical schematic



### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	$\sigma$			
1.0	74.05	9.9	0.1	6.0	9.637
2.0	72.12	9.9	0.1	7.0	4.541
3.0	70.17	9.9	0.1	21.6	3.025
4.0	65.27	9.9	0.1	36.3	5.629
5.0	62.16	9.9	0.1	51.3	33.642
6.0	58.09	9.9	0.1	52.2	29.619
10.0	49.84	8.7	0.1	54.0	17.384
37.3	26.90	2.5	0.2	55.9	8.664
51.0	31.67	1.6	0.6	57.9	42.682
52.0	31.71	6.1	0.8	58.9	44.815
55.3	10.89	2.4	2.2	63.1	36.286
57.0	5.56	1.5	4.8	64.2	32.857
58.0	3.59	1.0	7.7	65.3	30.036
63.0	1.24	0.1	26.8	67.6	26.418
66.2	1.10	0.1	27.1	70.0	24.706
70.0	1.11	0.1	22.3	71.2	24.425
72.7	1.18	0.1	21.2	73.7	24.966
82.0	2.13	0.6	18.8	75.0	25.878
85.0	6.18	2.4	5.1	77.6	28.843
88.0	12.70	3.1	2.1	80.4	31.882
91.0	22.06	4.0	1.2	81.8	32.569
94.0	32.17	1.3	0.9	83.2	32.242
95.0	33.31	2.7	0.8	86.1	26.228
160.3	35.43	0.7	0.3	90.7	2.764
193.0	41.33	1.0	0.3	93.9	14.126
200.0	42.38	1.0	0.3	95.5	17.176
400.0	60.24	9.9	0.7	128.1	2.113
600.0	53.81	8.2	0.8	160.3	1.095
800.0	46.59	4.3	0.7	190.5	0.413
1000.0	42.50	2.9	0.7	193.9	0.375



#### Notes

- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
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# Coaxial Band Pass Filter (Elliptic Response)

# BBP-70+

## Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1.0	74.05	0.10	6.0	9.637
2.0	72.12	0.10	7.0	4.541
3.0	70.17	0.10	21.6	3.025
4.0	65.27	0.10	36.3	5.629
5.0	62.16	0.10	51.3	33.642
6.0	58.09	0.10	52.2	29.619
10.0	49.84	0.10	54.0	17.384
37.3	26.90	0.20	55.9	8.664
51.0	31.67	0.60	57.9	42.682
52.0	31.71	0.80	58.9	44.815
55.3	10.89	2.20	63.1	36.286
57.0	5.56	4.80	64.2	32.857
58.0	3.59	7.70	65.3	30.036
63.0	1.24	26.80	67.6	26.418
66.2	1.10	27.10	70.0	24.706
70.0	1.11	22.30	71.2	24.425
72.7	1.18	21.20	73.7	24.966
82.0	2.13	18.80	75.0	25.878
85.0	6.18	5.10	77.6	28.843
88.0	12.70	2.10	80.4	31.882
91.0	22.06	1.20	81.8	32.569
94.0	32.17	0.90	83.2	32.242
95.0	33.31	0.80	86.1	26.228
160.3	35.43	0.30	90.7	2.764
193.0	41.33	0.30	93.9	14.126
200.0	42.38	0.30	95.5	17.176
400.0	60.24	0.70	128.1	2.113
600.0	53.81	0.80	160.3	1.095
800.0	46.59	0.70	190.5	0.413
1000.0	42.50	0.70	193.9	0.375

REV. X1  
BBP-70+  
060724  
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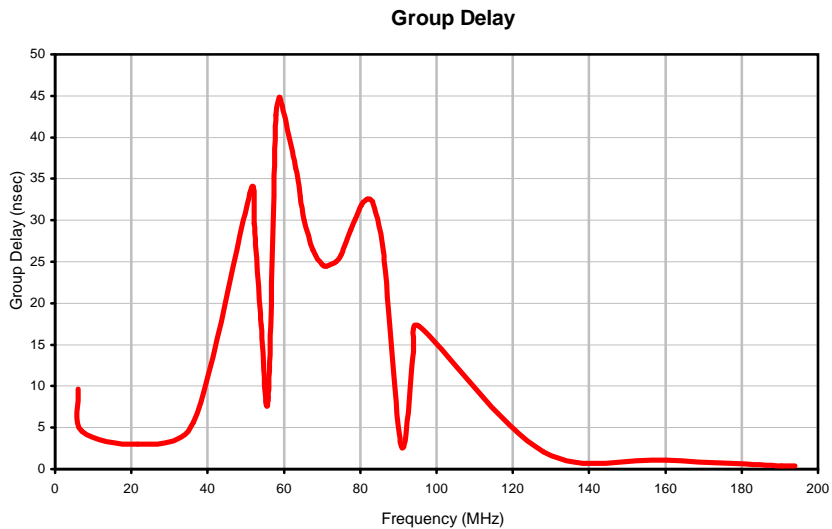
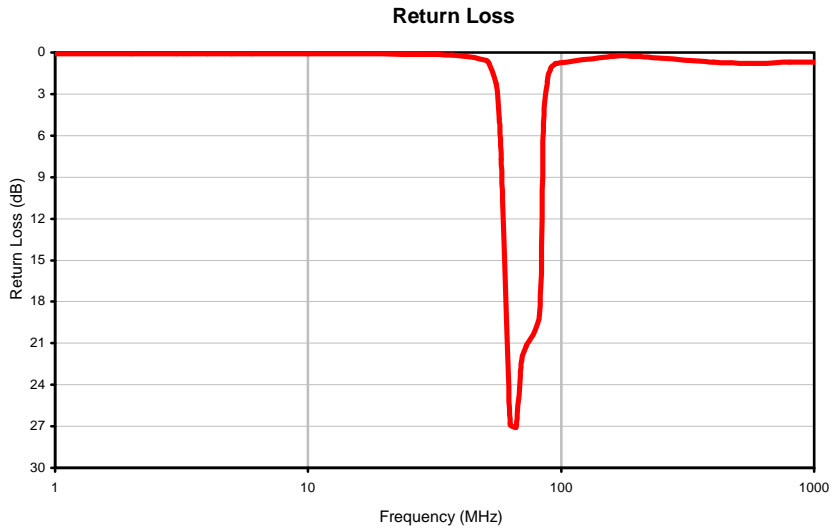
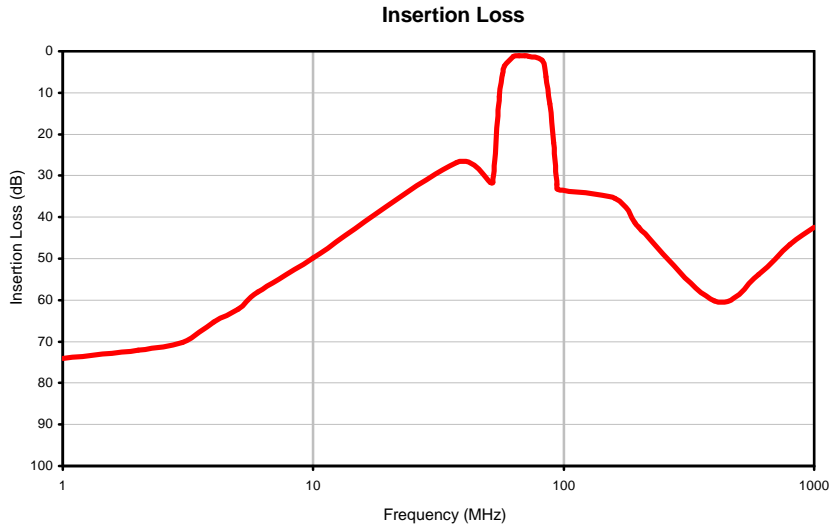
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# Coaxial Band Pass Filter (Elliptic Response)

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## Typical Performance Curves



REV. X1  
BBP-70+  
060724

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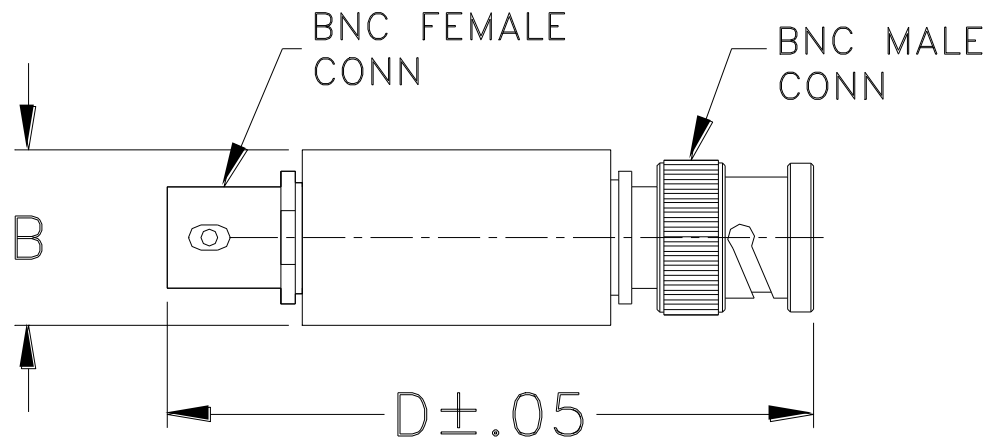
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### Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF55	--	.57 (14.47)	--	2.59 (65.79)	--	40.0

Dimensions are in inches (mm). Tolerances: 2Pl. +.03/-.04; 3Pl. ± .015

#### Note:

1. Case material: Stainless steel.



All Mini-Circuits products are manufactured under exacting quality assurance and control standards, and are capable of meeting published specifications after being subjected to any or all of the following physical and environmental test.

<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
Operating Temperature	-55° to 100°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D
Humidity	90% RH, 65°C Units may require bake-out after humidity to restore full performance.	MIL-STD-202, Method 103
Thermal Shock	-65° to 125°C, 5 cycles	MIL-STD-202, Method 107, Condition B
Vibration (High Frequency)	20g peak, 10-2000 Hz, 12 times in each of three perpendicular directions (total 36)	MIL-STD-202, Method 204, Condition D
Mechanical Shock	100g, 6ms sawtooth, 3 shocks each direction 3 axes (total 18)	MIL-STD-202, Method 213, Condition I