Coaxial

Bandpass Filter

SBP-70+

50Ω Elliptic Response 63 to 77 MHz

Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SBP-70+

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

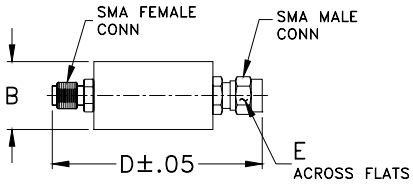
Applications

- high rejection applications
- image rejection
- IF signal processing

+RoHS Compliant

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

Outline Drawing



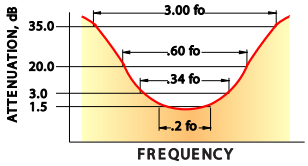
Outline Dimensions (inch / mm)

B	D	E	wt
.67	1.98	.312	grams
17.02	50.29	7.92	42.0

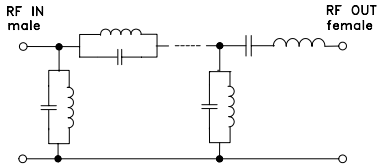
Bandpass Filter Electrical Specifications

CENTER FREQ. (MHz)	PASSBAND (MHz)	3dB BANDWIDTH (MHz)	STOPBANDS		VSWR (:1)	
	I.L. 1.5 dB Max.	Typ.	(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

typical frequency response



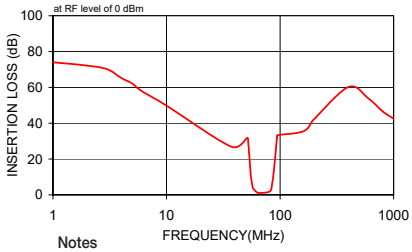
electrical schematic



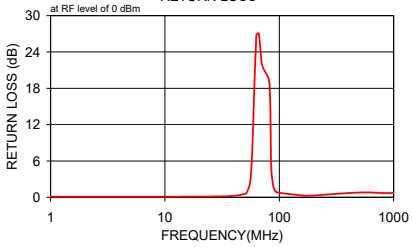
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
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

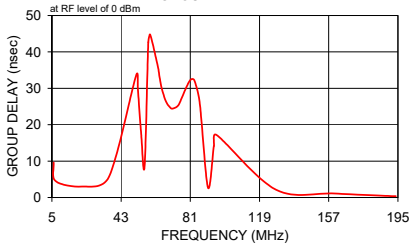
INSERTION LOSS



RETURN LOSS



GROUP DELAY



Notes

A. 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.
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Coaxial Band Pass Filter (Elliptic Response) SBP-70+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
1.00	74.05	0.10
2.00	72.12	0.10
3.00	70.17	0.10
4.00	65.27	0.10
5.00	62.16	0.10
6.00	58.09	0.10
10.00	49.84	0.10
37.30	26.90	0.20
51.00	31.67	0.60
52.00	31.71	0.80
55.30	10.89	2.20
57.00	5.56	4.80
58.00	3.59	7.70
63.00	1.24	26.80
66.20	1.10	27.10
70.00	1.11	22.30
72.70	1.18	21.20
82.00	2.13	18.80
85.00	6.18	5.10
88.00	12.70	2.10
91.00	22.06	1.20
94.00	32.17	0.90
95.00	33.31	0.80
160.30	35.43	0.30
193.00	41.33	0.30
200.00	42.38	0.30
400.00	60.24	0.70
600.00	53.81	0.80
800.00	46.59	0.70
1000.00	42.50	0.70

FREQUENCY (MHz)	GROUP DELAY (nsec)
6.00	9.637
7.00	4.541
21.60	3.025
36.30	5.629
51.30	33.642
52.20	29.619
54.00	17.384
55.90	8.664
57.90	42.682
58.90	44.815
63.10	36.286
64.20	32.857
65.30	30.036
67.60	26.418
70.00	24.706
71.20	24.425
73.70	24.966
75.00	25.878
77.60	28.843
80.40	31.882
81.80	32.569
83.20	32.242
86.10	26.228
90.70	2.764
93.90	14.126
95.50	17.176
128.10	2.113
160.30	1.095
190.50	0.413
193.90	0.375

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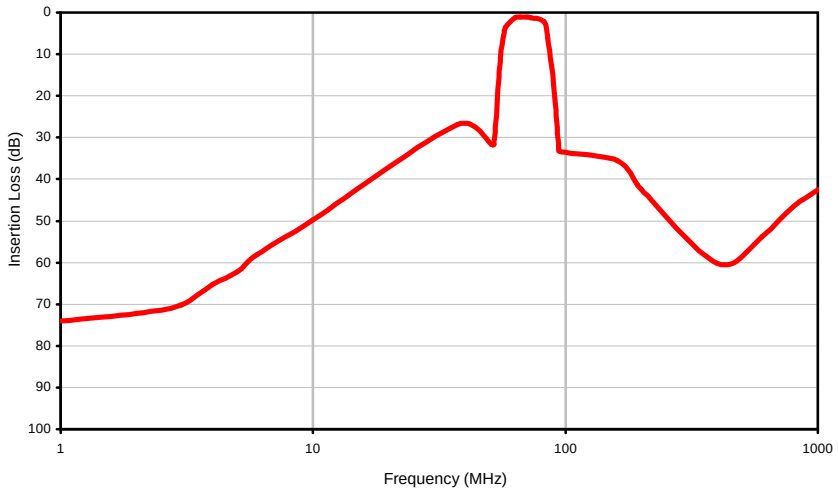
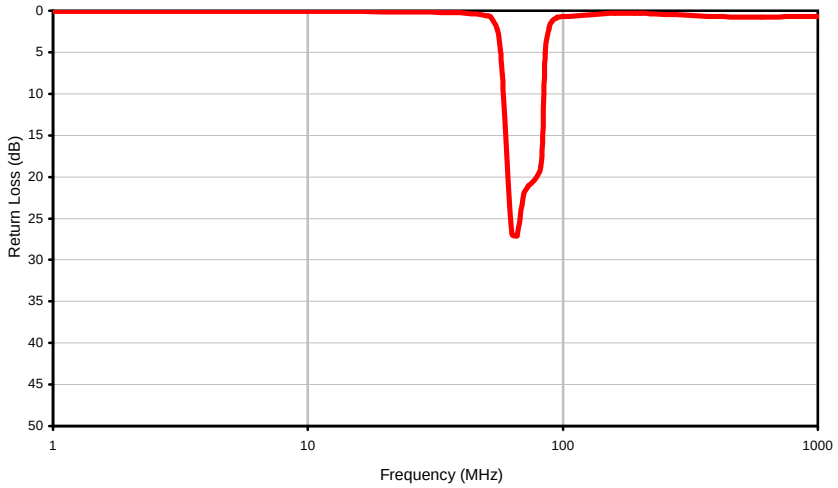
Coaxial Band Pass Filter (Elliptic Response) SBP-70+

Typical Performance Curves

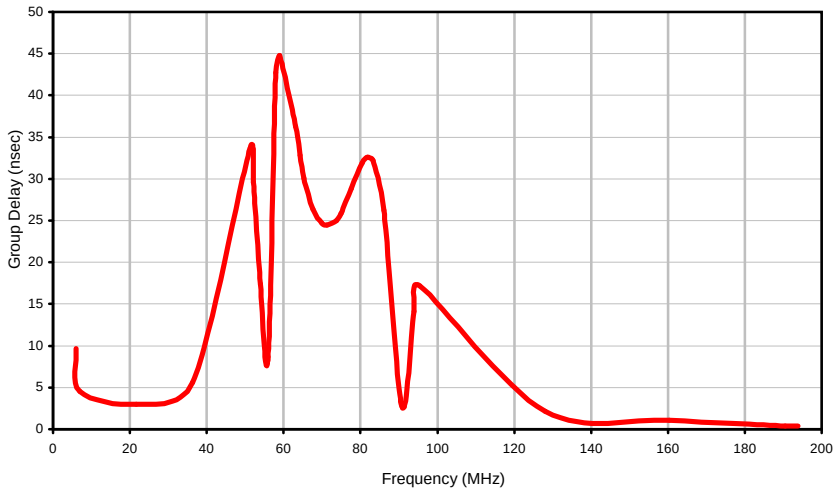
Insertion Loss



Return Loss



Group Delay



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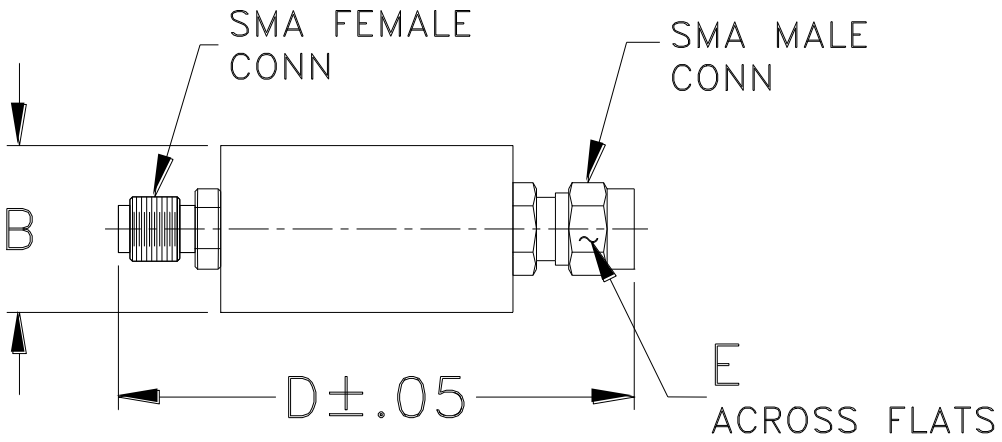
FF56
FF99

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF56	--	.46 (11.68)	--	1.70 (43.18)	.312 (7.92)	18.0
FF99	--	.70 (17.78)	--	1.98 (50.29)		42.0

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

Notes:
1. Case material: Brass.
2. Case finish: Nickel plate.

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Environmental Specifications ENV28

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.

Specification	Test/Inspection Condition	Reference/Spec
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

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