Coaxial

Bandpass Filter

SBP-30+

50Ω Elliptic Response 27 to 33 MHz

Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SBP-30+

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

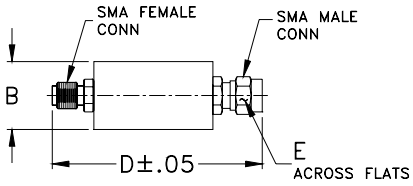
+RoHS Compliant

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

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.
30	27-33	25-35	22 &40	3.2 & 99-1000	1.7	16

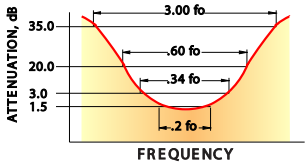
Outline Drawing



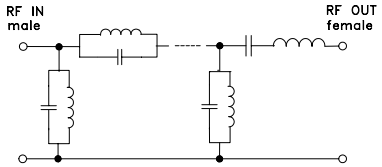
Outline Dimensions (inch / mm)

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

typical frequency response



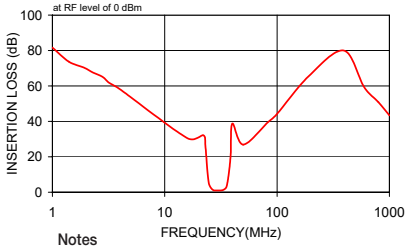
electrical schematic



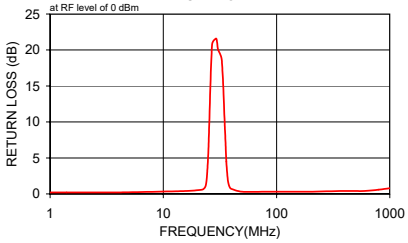
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
1.0	81.68	9.6	0.2	2.8	30.059
1.4	73.69	2.1	0.2	3.2	21.884
1.9	70.39	1.8	0.2	3.3	12.226
2.3	67.50	1.2	0.2	9.6	7.216
2.8	65.09	0.9	0.2	15.8	11.923
3.2	61.70	1.3	0.2	22.0	89.768
4.0	58.09	0.6	0.2	23.2	56.479
16.0	30.42	0.6	0.4	23.6	40.798
22.0	32.26	2.3	0.6	24.4	22.806
23.0	26.30	1.7	0.8	24.8	103.619
23.7	15.68	1.1	1.2	26.2	115.164
24.3	8.44	1.0	2.5	27.1	99.025
25.0	3.86	0.6	6.3	28.0	78.962
27.0	1.28	0.1	20.8	28.5	72.223
29.3	1.02	0.1	21.6	29.5	64.660
30.5	1.02	0.1	20.0	30.0	62.760
32.8	1.16	0.1	18.6	31.1	61.836
35.0	2.37	0.3	8.8	31.6	62.724
36.0	4.69	0.5	4.5	32.2	64.652
37.3	11.24	0.9	1.7	32.7	67.765
38.7	21.64	1.2	0.9	33.9	76.095
40.0	38.75	2.0	0.7	35.1	80.917
50.0	26.83	0.5	0.3	36.3	75.838
82.7	39.42	0.4	0.3	37.6	9.558
99.0	43.92	0.6	0.3	38.9	16.978
190.0	65.36	2.3	0.3	40.3	34.601
392.5	80.00	3.9	0.4	41.0	41.413
595.0	59.40	2.2	0.4	59.9	3.448
797.5	50.83	1.8	0.6	80.4	1.230
1000.0	43.35	2.3	0.8	97.2	0.971

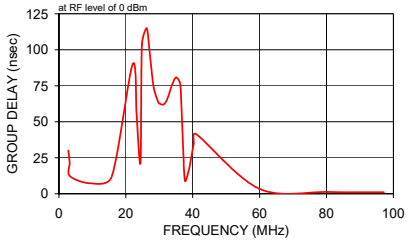
INSERTION LOSS



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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. The parts covered by this specification document are subject to Mini-Circuits standard limited warranty and terms and conditions (collectively, "Standard Terms"); Purchasers of this part are entitled to the rights and benefits contained therein. For a full statement of the Standard Terms and the exclusive rights and remedies thereunder, please visit Mini-Circuits' website at www.minicircuits.com/MCLStore/terms.jsp

Coaxial Band Pass Filter (Elliptic Response) SBP-30+

Typical Performance Data

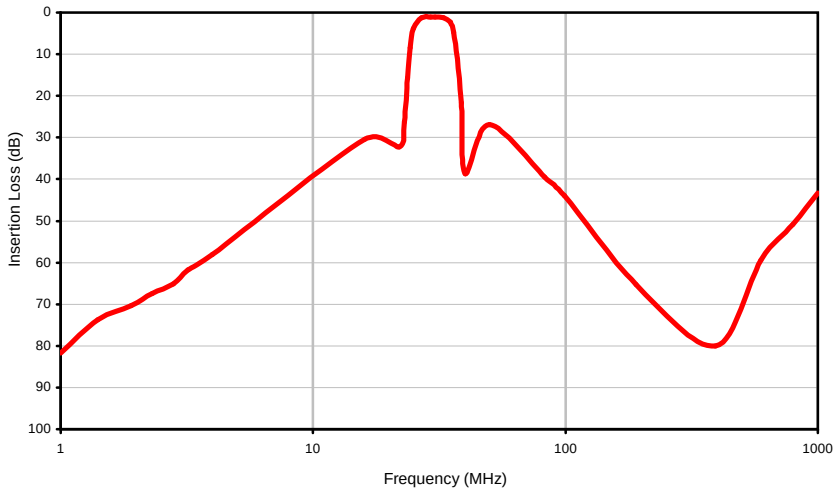
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
1.00	81.68	0.20
1.40	73.69	0.20
1.90	70.39	0.20
2.30	67.50	0.20
2.80	65.09	0.20
3.20	61.70	0.20
4.00	58.09	0.20
16.00	30.42	0.40
22.00	32.26	0.60
23.00	26.30	0.80
23.70	15.68	1.20
24.30	8.44	2.50
25.00	3.86	6.30
27.00	1.28	20.80
29.30	1.02	21.60
30.50	1.02	20.00
32.80	1.16	18.60
35.00	2.37	8.80
36.00	4.69	4.50
37.30	11.24	1.70
38.70	21.64	0.90
40.00	38.75	0.70
50.00	26.83	0.30
82.70	39.42	0.30
99.00	43.92	0.30
190.00	65.36	0.30
392.50	80.00	0.40
595.00	59.40	0.40
797.50	50.83	0.60
1000.00	43.35	0.80

FREQUENCY (MHz)	GROUP DELAY (nsec)
2.80	30.059
3.20	21.884
3.30	12.226
9.60	7.216
15.80	11.923
22.00	89.768
23.20	56.479
23.60	40.798
24.40	22.806
24.80	103.619
26.20	115.164
27.10	99.025
28.00	78.962
28.50	72.223
29.50	64.660
30.00	62.760
31.10	61.836
31.60	62.724
32.20	64.652
32.70	67.765
33.90	76.095
35.10	80.917
36.30	75.838
37.60	9.558
38.90	16.978
40.30	34.601
41.00	41.413
59.90	3.448
80.40	1.230
97.20	0.971

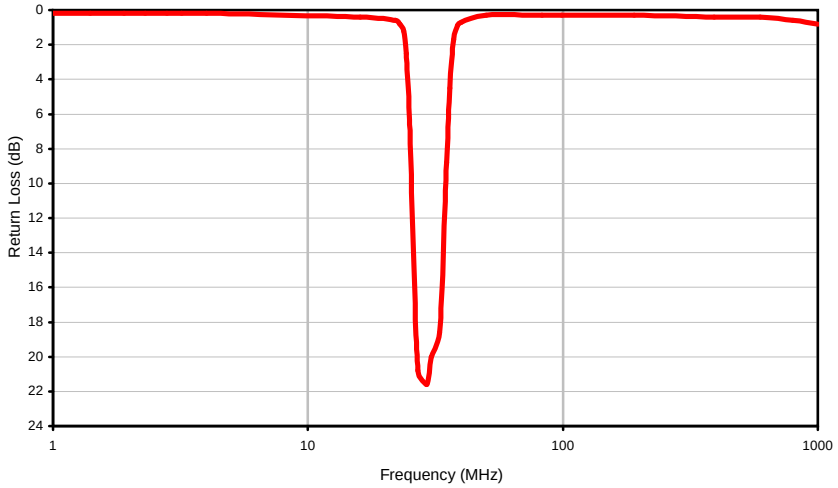
Coaxial Band Pass Filter (Elliptic Response) SBP-30+

Typical Performance Curves

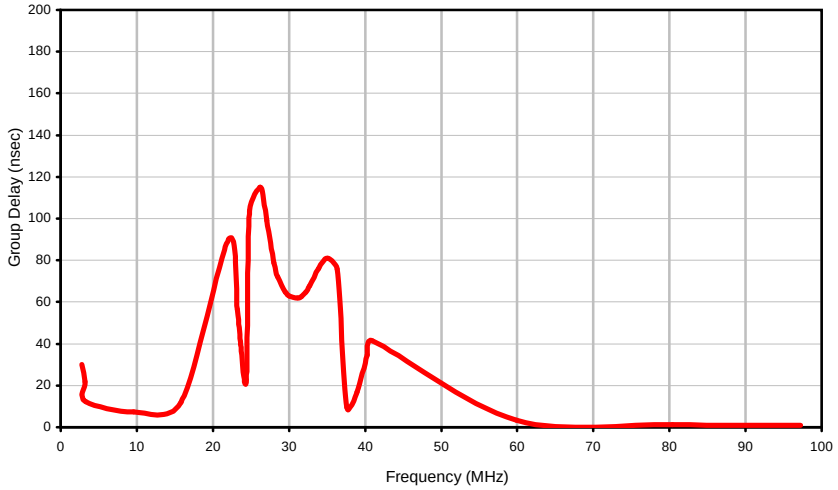
Insertion Loss



Return Loss

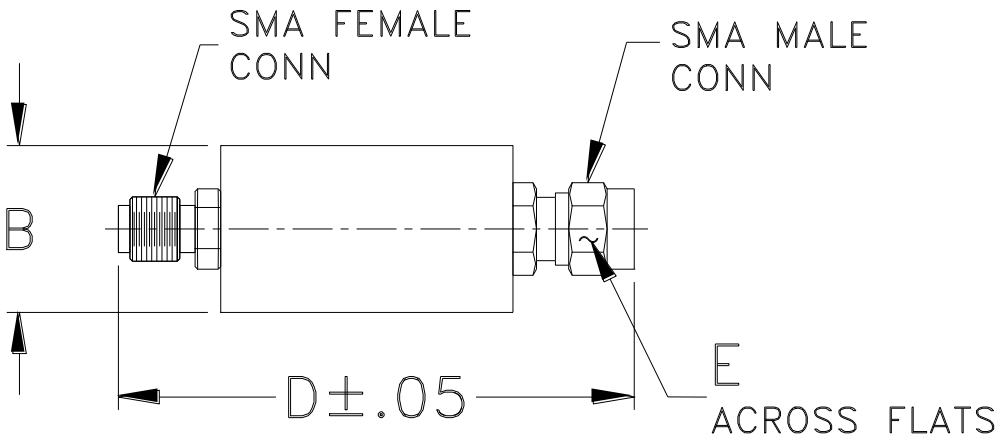


Group Delay



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.

Mini-Circuits

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