

Low Pass Filter

SBLP-117+

50Ω Flat Time Delay DC to 65 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

- flat group delay for low pulse distortion
- rugged shielded case
- other SBLP models available with wide selection of cut-off frequencies

Applications

- linear modulation techniques
- voice transmission applications
- digital communications



Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SBLP-117+

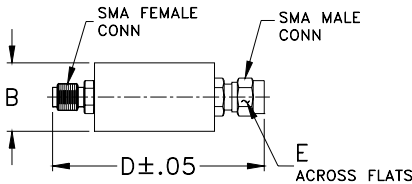
+RoHS Compliant

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

Electrical Specifications

PASSBAND (MHz) (loss <1.2 dB) Min.	fco, MHz Nom. (loss 3 dB)	STOPBAND (MHz)		VSWR (:1)		GROUP DELAY VARIATION (nsec)		
		(loss > 10 dB)	(loss > 20 dB)	DC-0.2fco	DC-0.6fco	DC-fco	DC-2fco	DC-2.67fco
DC-65	117	234-312	312	1.3:1	2.4:1	0.35	1.4	1.9

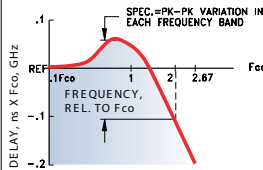
Outline Drawing



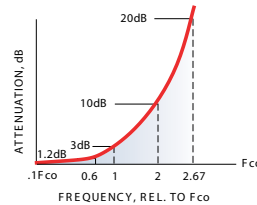
Outline Dimensions (inch/mm)

B	D	E	WT GRAMS
.70	1.98	.312	42.0
(17.78)	(50.29)	(7.92)	

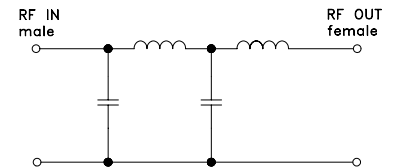
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS

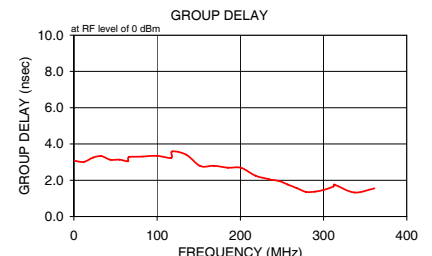
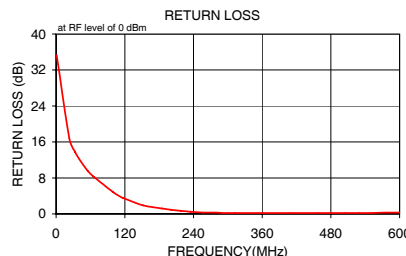
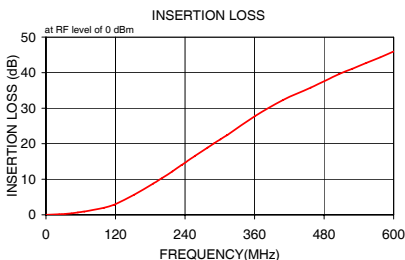


electrical schematic



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	\bar{x}	σ			
1.0	0.02	0.1	35.3	1.0	3.075
23.0	0.15	0.1	16.8	12.0	3.015
33.0	0.26	0.1	13.8	23.0	3.252
44.0	0.42	0.1	11.5	33.0	3.331
55.0	0.65	0.1	9.6	44.0	3.126
65.0	0.90	0.1	8.3	55.0	3.140
66.0	0.92	0.1	8.2	65.0	3.044
100.0	1.96	0.1	4.8	66.0	3.271
117.0	2.80	0.1	3.5	83.0	3.303
118.0	2.86	0.1	3.5	100.0	3.348
152.0	5.63	0.1	1.9	117.0	3.233
185.0	8.79	0.2	1.2	118.0	3.593
201.0	10.40	0.2	0.9	135.0	3.409
218.0	12.20	0.2	0.7	152.0	2.782
234.0	13.99	0.2	0.5	168.0	2.798
235.0	14.10	0.2	0.5	185.0	2.689
257.0	16.54	0.3	0.3	201.0	2.681
279.0	18.92	0.4	0.3	218.0	2.252
290.0	20.08	0.5	0.2	234.0	2.060
301.0	21.23	0.5	0.2	235.0	2.038
312.0	22.36	0.6	0.2	246.0	1.965
313.0	22.46	0.6	0.2	257.0	1.759
361.0	27.82	0.7	0.2	268.0	1.562
409.0	32.27	0.9	0.2	279.0	1.358
457.0	35.79	1.0	0.2	290.0	1.372
505.0	39.52	1.3	0.2	301.0	1.483
529.0	41.10	1.4	0.2	312.0	1.659
553.0	42.74	1.6	0.2	313.0	1.765
577.0	44.30	1.5	0.3	337.0	1.324
600.0	45.95	2.0	0.3	361.0	1.555



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.
- 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 Low Pass Filter (Flat Time Delay)

SBLP-117+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1.0	0.02	35.30	1.0	3.075
23.0	0.15	16.80	12.0	3.015
33.0	0.26	13.80	23.0	3.252
44.0	0.42	11.50	33.0	3.331
55.0	0.65	9.60	44.0	3.126
65.0	0.90	8.30	55.0	3.140
66.0	0.92	8.20	65.0	3.044
100.0	1.96	4.80	66.0	3.271
117.0	2.80	3.50	83.0	3.303
118.0	2.86	3.50	100.0	3.348
152.0	5.63	1.90	117.0	3.233
185.0	8.79	1.20	118.0	3.593
201.0	10.40	0.90	135.0	3.409
218.0	12.20	0.70	152.0	2.782
234.0	13.99	0.50	168.0	2.798
235.0	14.10	0.50	185.0	2.689
257.0	16.54	0.30	201.0	2.681
279.0	18.92	0.30	218.0	2.252
290.0	20.08	0.20	234.0	2.060
301.0	21.23	0.20	235.0	2.038
312.0	22.36	0.20	246.0	1.965
313.0	22.46	0.20	257.0	1.759
361.0	27.82	0.20	268.0	1.562
409.0	32.27	0.20	279.0	1.358
457.0	35.79	0.20	290.0	1.372
505.0	39.52	0.20	301.0	1.483
529.0	41.10	0.20	312.0	1.659
553.0	42.74	0.20	313.0	1.765
577.0	44.30	0.30	337.0	1.324
600.0	45.95	0.30	361.0	1.555

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060725
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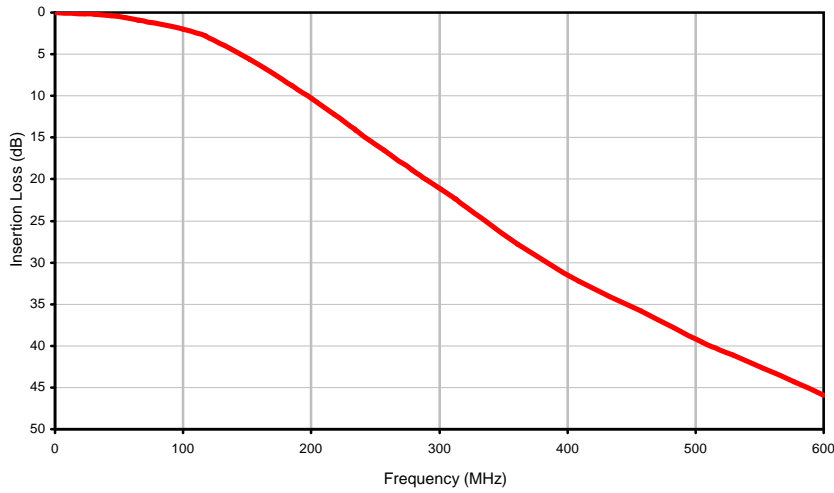


Coaxial Low Pass Filter (Flat Time Delay)

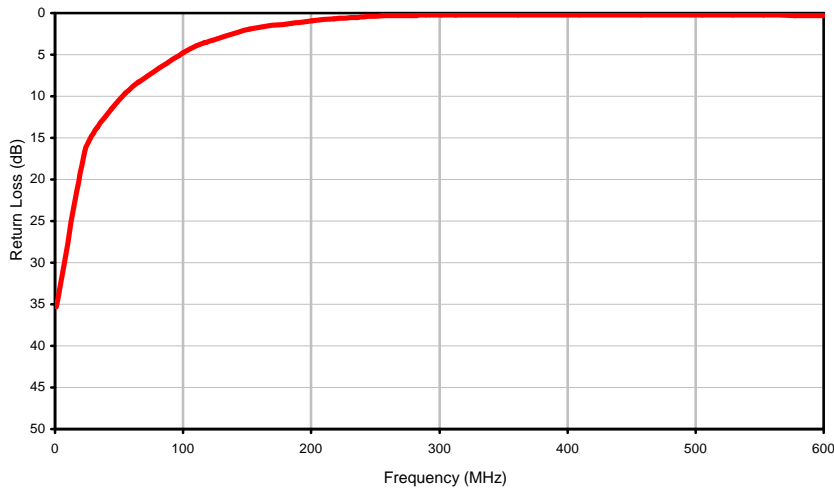
SBLP-117+

Typical Performance Curves

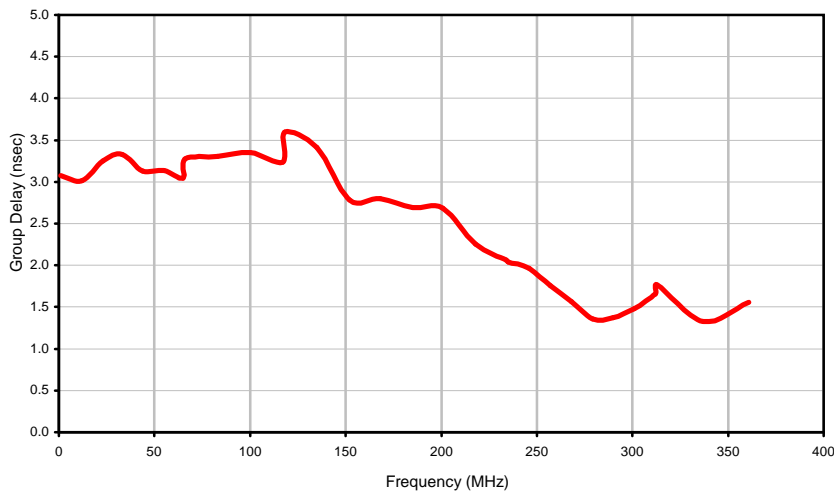
Insertion Loss



Return Loss



Group Delay



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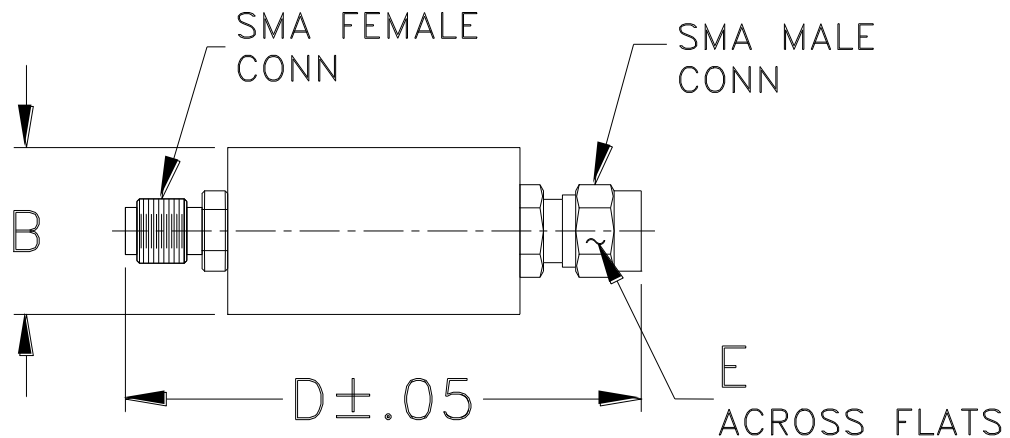


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FF56
FF99

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.



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