

Low Pass Filter

SBLP-156+

50Ω Flat Time Delay DC to 94 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-156+

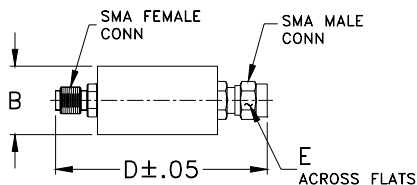
+RoHS Compliant

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

Electrical Specifications

PASSBAND (MHz)	f _{co} , MHz Nom.	STOPBAND (MHz)		VSWR (:1)		GROUP DELAY VARIATION (nsec)		
		(loss > 10 dB)	(loss > 20 dB)	DC-0.2f _{co}	DC-0.6f _{co}	DC-f _{co}	DC-2f _{co}	DC-2.67f _{co}
(loss < 1.2 dB) Min.	(loss 3 dB)			$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$
DC-94	156	312-416	416	1.3:1	1.1:1	0.3	1.1	1.5

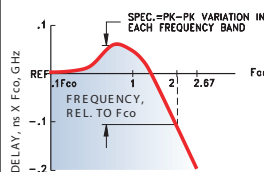
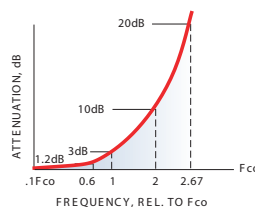
Outline Drawing



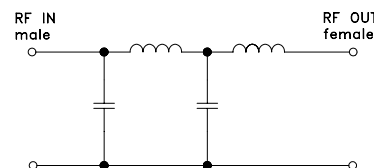
Outline Dimensions (inch/mm)

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

TYPICAL GROUP DELAY

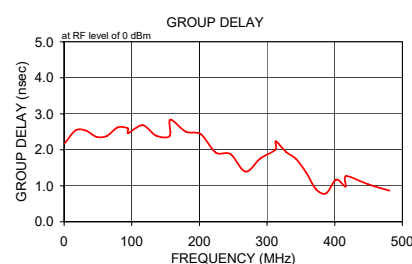
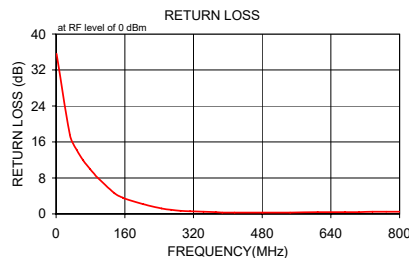
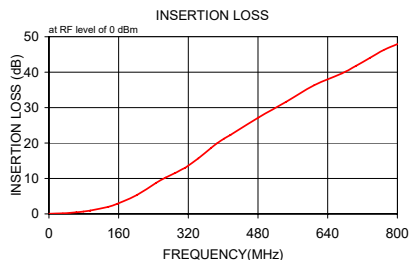
TYPICAL FREQUENCY RESPONSE
INSERTION LOSS

electrical schematic



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{X}$	σ			
1.0	0.05	0.1	35.6	1.0	2.185
32.0	0.17	0.1	17.6	17.0	2.540
48.0	0.30	0.1	14.2	32.0	2.534
63.0	0.46	0.1	11.9	48.0	2.358
79.0	0.68	0.1	10.0	63.0	2.382
94.0	0.92	0.1	8.3	79.0	2.619
95.0	0.93	0.1	8.2	94.0	2.595
136.0	1.98	0.1	4.6	95.0	2.467
156.0	2.79	0.2	3.6	116.0	2.682
157.0	2.85	0.2	3.5	136.0	2.392
202.0	5.33	0.2	2.2	156.0	2.383
246.0	8.75	0.3	1.2	167.0	2.835
268.0	10.25	0.3	0.9	180.0	2.501
290.0	11.57	0.3	0.7	202.0	2.433
312.0	12.97	0.3	0.6	224.0	1.923
313.0	13.03	0.3	0.6	246.0	1.878
343.0	15.67	0.3	0.5	268.0	1.392
372.0	18.60	0.3	0.4	290.0	1.756
387.0	20.01	0.3	0.3	312.0	2.001
402.0	21.23	0.3	0.3	313.0	2.235
416.0	22.25	0.3	0.3	328.0	1.944
417.0	22.32	0.3	0.3	343.0	1.740
481.0	27.17	0.5	0.3	358.0	1.360
545.0	31.67	0.7	0.3	372.0	0.911
609.0	36.32	1.0	0.4	387.0	0.786
673.0	39.65	1.2	0.4	402.0	1.170
705.0	41.78	1.2	0.4	416.0	0.978
737.0	44.07	1.6	0.5	417.0	1.269
769.0	46.28	1.6	0.5	449.0	1.042
800.0	47.95	1.8	0.5	481.0	0.864



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 Low Pass Filter (Flat Time Delay)

SBLP-156+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1.0	0.05	35.60	1.0	2.185
32.0	0.17	17.60	17.0	2.540
48.0	0.30	14.20	32.0	2.534
63.0	0.46	11.90	48.0	2.358
79.0	0.68	10.00	63.0	2.382
94.0	0.92	8.30	79.0	2.619
95.0	0.93	8.20	94.0	2.595
136.0	1.98	4.60	95.0	2.467
156.0	2.79	3.60	116.0	2.682
157.0	2.85	3.50	136.0	2.392
202.0	5.33	2.20	156.0	2.383
246.0	8.75	1.20	157.0	2.835
268.0	10.25	0.90	180.0	2.501
290.0	11.57	0.70	202.0	2.433
312.0	12.97	0.60	224.0	1.923
313.0	13.03	0.60	246.0	1.878
343.0	15.67	0.50	268.0	1.392
372.0	18.60	0.40	290.0	1.756
387.0	20.01	0.30	312.0	2.001
402.0	21.23	0.30	313.0	2.235
416.0	22.25	0.30	328.0	1.944
417.0	22.32	0.30	343.0	1.740
481.0	27.17	0.30	358.0	1.360
545.0	31.67	0.30	372.0	0.911
609.0	36.32	0.40	387.0	0.786
673.0	39.65	0.40	402.0	1.170
705.0	41.78	0.40	416.0	0.978
737.0	44.07	0.50	417.0	1.269
769.0	46.28	0.50	449.0	1.042
800.0	47.95	0.50	481.0	0.864

REV. X1
SBLP-156+
060725
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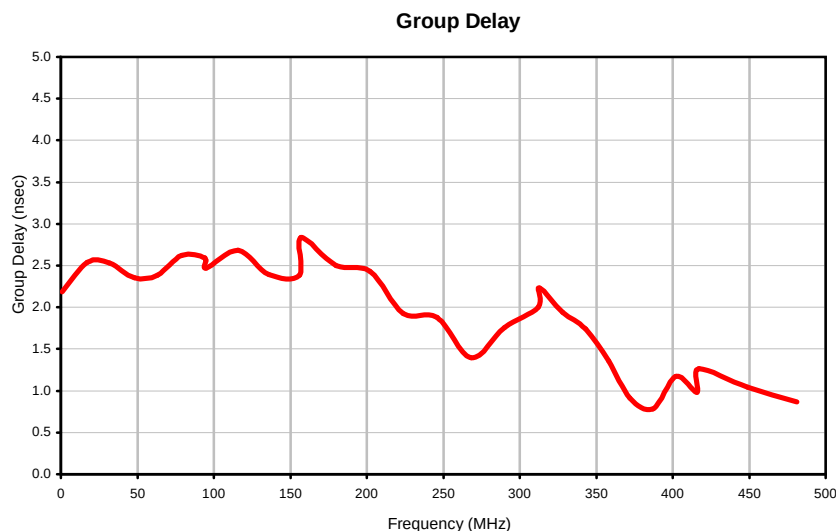
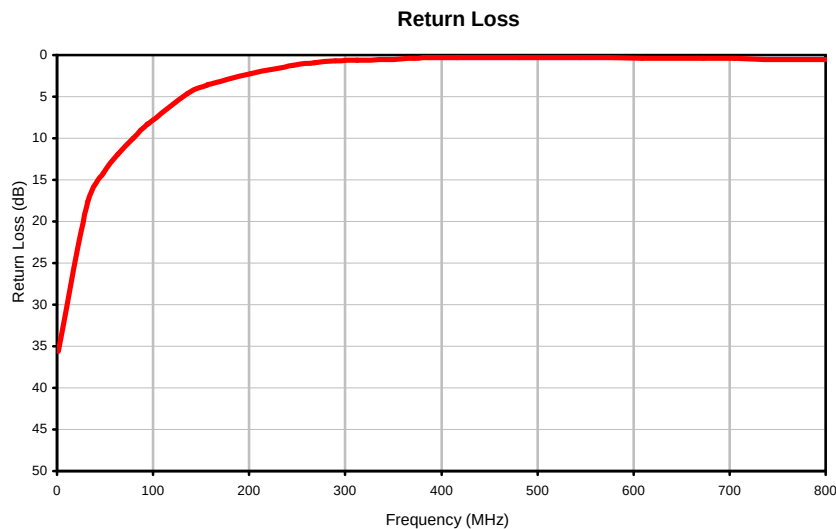
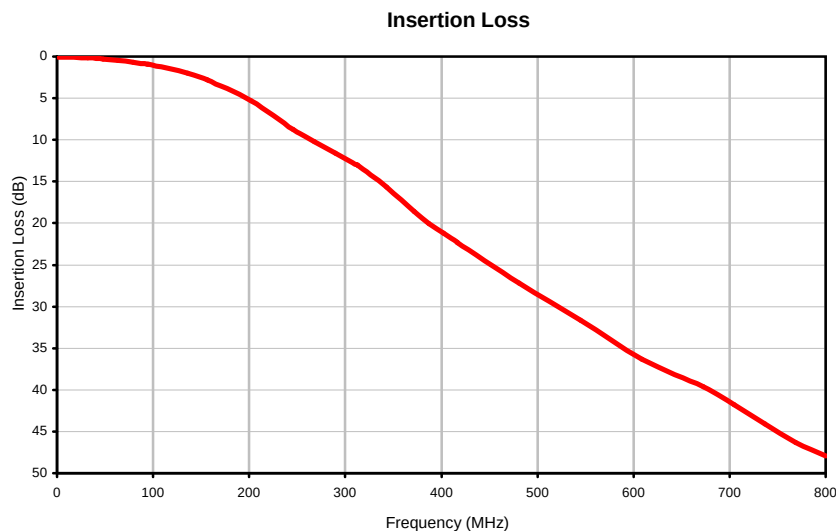
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Coaxial Low Pass Filter (Flat Time Delay)

SBLP-156+

Typical Performance Curves



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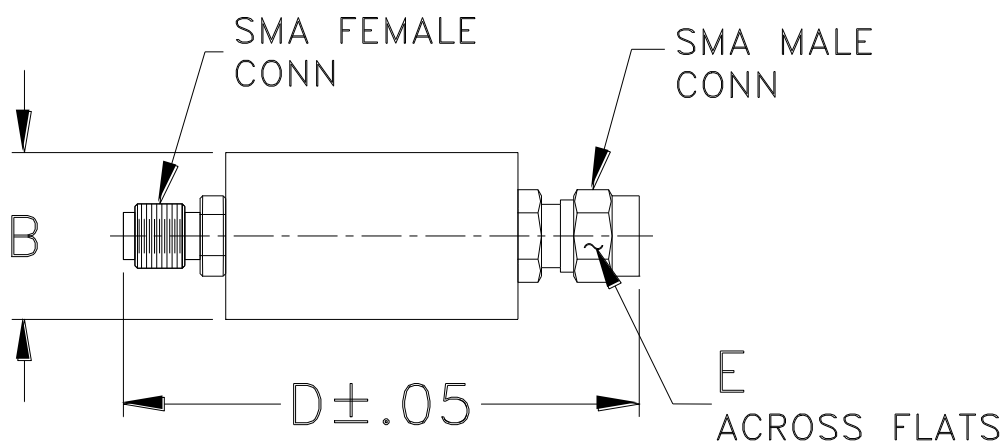
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FF56
FF99

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