

Coaxial

Low Pass Filter

50Ω Flat Time Delay DC to 850 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

SBLP-1870+

SBLP-1870



Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SBLP-1870(+)

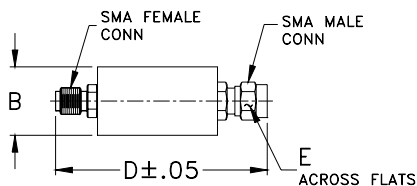
+RoHS Compliant

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

Electrical Specifications

PASSBAND (MHz)	fco, MHz Nom.	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
(loss < 1.2 dB) Min.	(loss 3 dB)			$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$	$\bar{X}$
DC-850	1870	3740-5000	5000	1.45:1	2.9:1	0.05	0.1	0.15

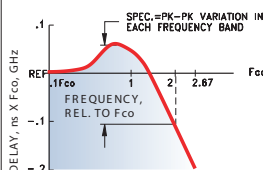
Outline Drawing



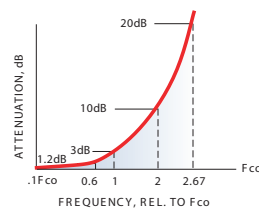
Outline Dimensions (inch)

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

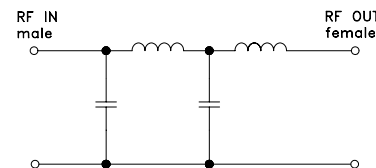
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE

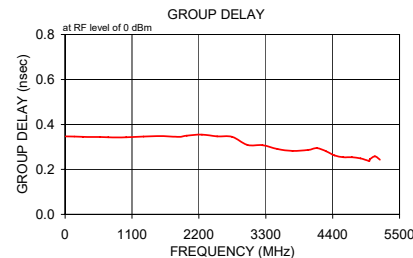


electrical schematic



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{X}$	σ			
10.0	0.01	0.1	47.2	10.0	0.347
152.3	0.05	0.1	22.6	152.3	0.346
433.0	0.22	0.1	14.1	290.8	0.345
571.6	0.36	0.1	11.6	433.0	0.344
710.1	0.53	0.1	9.8	571.6	0.344
850.0	0.73	0.1	8.3	710.1	0.343
1002.1	0.96	0.1	7.2	850.0	0.342
1582.4	2.28	0.1	4.0	1002.1	0.343
1870.0	3.21	0.1	3.1	1290.4	0.346
2001.7	3.65	0.1	2.8	1582.4	0.348
2499.6	5.91	0.3	1.6	1870.0	0.345
2997.5	9.36	0.7	0.7	2001.7	0.350
3244.6	11.63	1.0	0.5	2248.8	0.355
3491.7	13.38	1.1	0.3	2499.6	0.347
3740.0	15.60	1.2	0.3	2746.7	0.345
4000.8	17.72	1.2	0.3	2997.5	0.309
4289.1	20.35	1.2	0.3	3244.6	0.308
4573.6	23.49	1.3	0.3	3491.7	0.291
4715.9	25.12	1.3	0.3	3740.0	0.282
4858.2	26.62	1.4	0.2	4000.8	0.287
5000.0	28.10	1.4	0.3	4143.1	0.295
5011.7	28.25	1.4	0.3	4289.1	0.281
5176.4	30.15	1.5	0.2	4431.4	0.262
5341.1	32.09	1.8	0.2	4573.6	0.254
5505.8	34.13	2.6	0.2	4715.9	0.254
5670.6	36.22	4.0	0.2	4858.2	0.249
5752.9	37.22	5.2	0.2	5000.0	0.238
5835.3	37.22	6.7	0.2	5011.7	0.245
5917.6	39.23	8.2	0.2	5094.0	0.258
6000.0	39.53	8.0	0.2	5176.4	0.243



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


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SBLP-1870+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
10.00	0.01	47.20	10.00	0.347
152.30	0.05	22.60	152.30	0.346
433.00	0.22	14.10	290.80	0.345
571.60	0.36	11.60	433.00	0.344
710.10	0.53	9.80	571.60	0.344
850.00	0.73	8.30	710.10	0.343
1002.10	0.96	7.20	850.00	0.342
1582.40	2.28	4.00	1002.10	0.343
1870.00	3.21	3.10	1290.40	0.346
2001.70	3.65	2.80	1582.40	0.348
2499.60	5.91	1.60	1870.00	0.345
2997.50	9.36	0.70	2001.70	0.350
3244.60	11.63	0.50	2248.80	0.355
3491.70	13.38	0.30	2499.60	0.347
3740.00	15.60	0.30	2746.70	0.345
4000.80	17.72	0.30	2997.50	0.309
4289.10	20.35	0.30	3244.60	0.308
4573.60	23.49	0.30	3491.70	0.291
4715.90	25.12	0.30	3740.00	0.282
4858.20	26.62	0.20	4000.80	0.287
5000.00	28.10	0.30	4143.10	0.295
5011.70	28.25	0.30	4289.10	0.281
5176.40	30.15	0.20	4431.40	0.262
5341.10	32.09	0.20	4573.60	0.254
5505.80	34.13	0.20	4715.90	0.254
5670.60	36.22	0.20	4858.20	0.249
5752.90	37.22	0.20	5000.00	0.238
5835.30	37.22	0.20	5011.70	0.245
5917.60	39.23	0.20	5094.00	0.258
6000.00	39.53	0.20	5176.40	0.243

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Patent Pending

Mini-Circuits®

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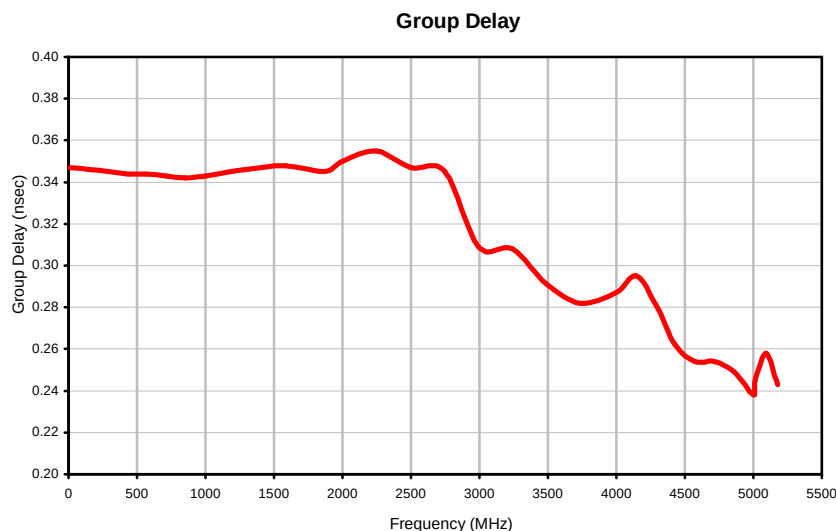
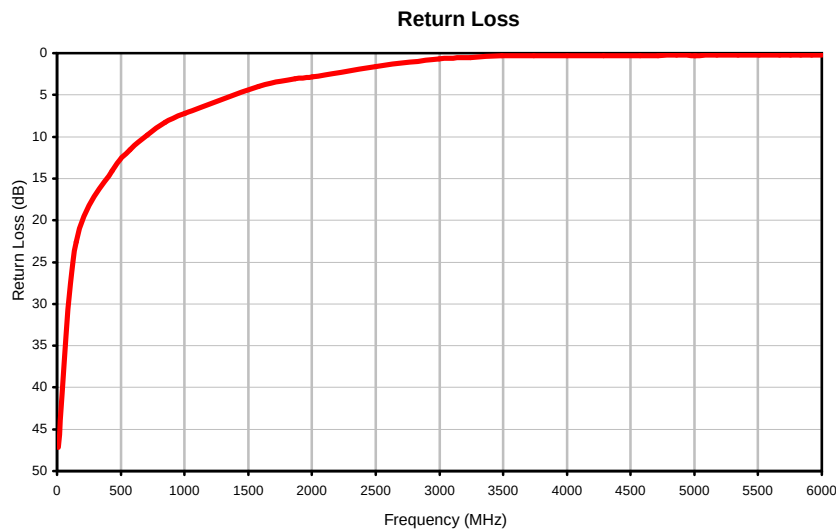
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Coaxial Low Pass Filter (Flat Time Delay)

SBLP-1870+

Typical Performance Curves



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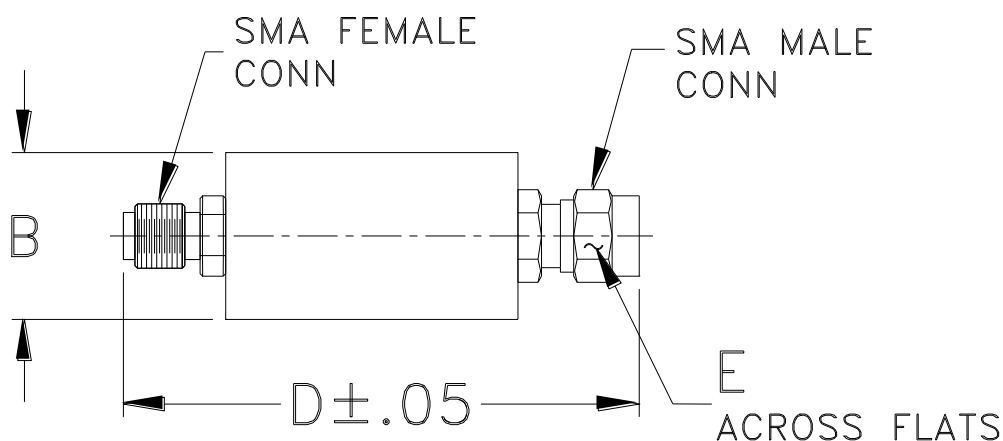
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FF56
FF99

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