Coaxial

Low Pass Filter

BBLP-117+
BBLP-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.

Features

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

Applications

- linear modulation techniques
- voice transmission applications
- digital communications

CASE STYLE: FF55

Connectors	Model	Price	Qty.
BNC	BBLP-117(+)	Contact Sales Dept.	

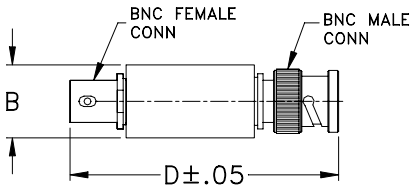
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Low Pass Filter Electrical Specifications

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

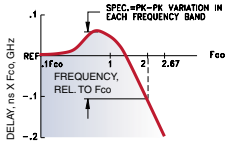
Outline Drawing



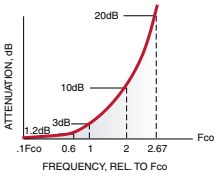
Outline Dimensions (inch / mm)

B	D	wt
.54	2.59	grams
13.72	65.79	40.0

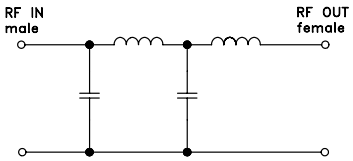
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS



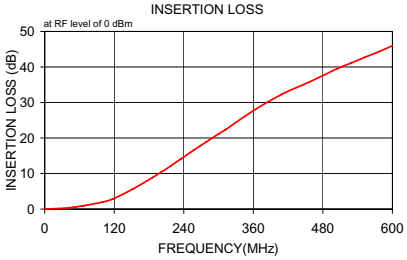
Electrical Schematic



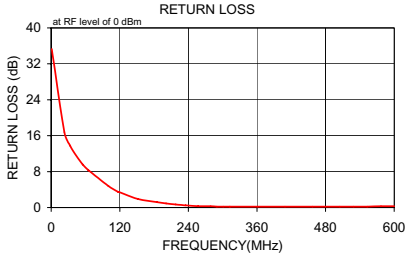
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
1.0	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

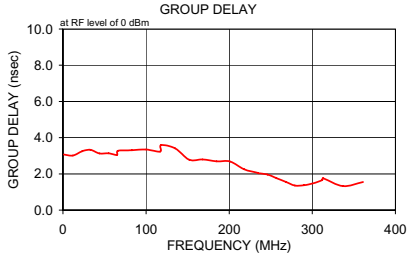
INSERTION LOSS



RETURN LOSS



GROUP DELAY



Mini-Circuits®
ISO 9001 ISO 14001 CERTIFIED
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com
RF/IF MICROWAVE COMPONENTS

REV. A
M98898
BBLP-117
070509

Coaxial Low Pass Filter (Flat Time Delay) BBLP-117+

Typical Performance Data

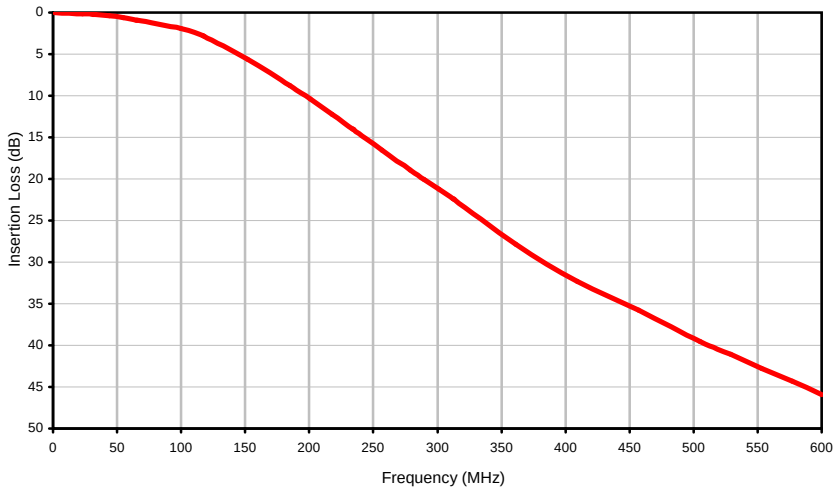
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
1.0	0.02	35.30
23.0	0.15	16.80
33.0	0.26	13.80
44.0	0.42	11.50
55.0	0.65	9.60
65.0	0.90	8.30
66.0	0.92	8.20
100.0	1.96	4.80
117.0	2.80	3.50
118.0	2.86	3.50
152.0	5.63	1.90
185.0	8.79	1.20
201.0	10.40	0.90
218.0	12.20	0.70
234.0	13.99	0.50
235.0	14.10	0.50
257.0	16.54	0.30
279.0	18.92	0.30
290.0	20.08	0.20
301.0	21.23	0.20
312.0	22.36	0.20
313.0	22.46	0.20
361.0	27.82	0.20
409.0	32.27	0.20
457.0	35.79	0.20
505.0	39.52	0.20
529.0	41.10	0.20
553.0	42.74	0.20
577.0	44.30	0.30
600.0	45.95	0.30

FREQUENCY (MHz)	GROUP DELAY (nsec)
1.0	3.075
12.0	3.015
23.0	3.252
33.0	3.331
44.0	3.126
55.0	3.140
65.0	3.044
66.0	3.271
83.0	3.303
100.0	3.348
117.0	3.233
118.0	3.593
135.0	3.409
152.0	2.782
168.0	2.798
185.0	2.689
201.0	2.681
218.0	2.252
234.0	2.060
235.0	2.038
246.0	1.965
257.0	1.759
268.0	1.562
279.0	1.358
290.0	1.372
301.0	1.483
312.0	1.659
313.0	1.765
337.0	1.324
361.0	1.555

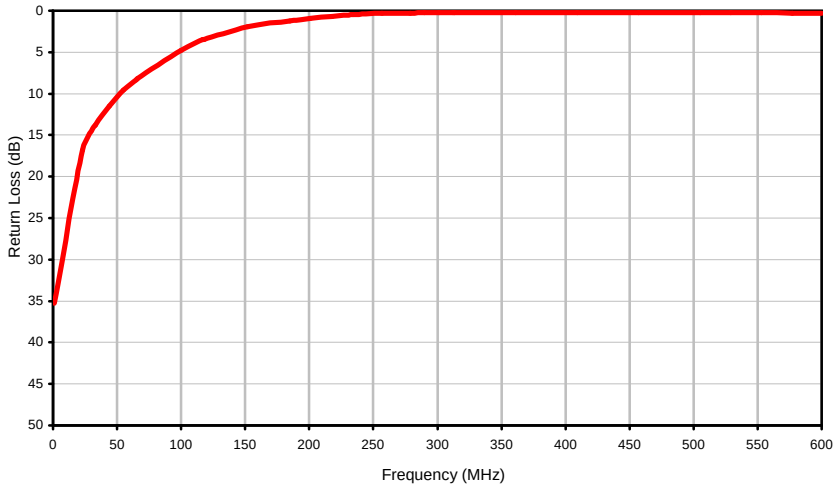
Coaxial Low Pass Filter (Flat Time Delay) BBLP-117+

Typical Performance Curves

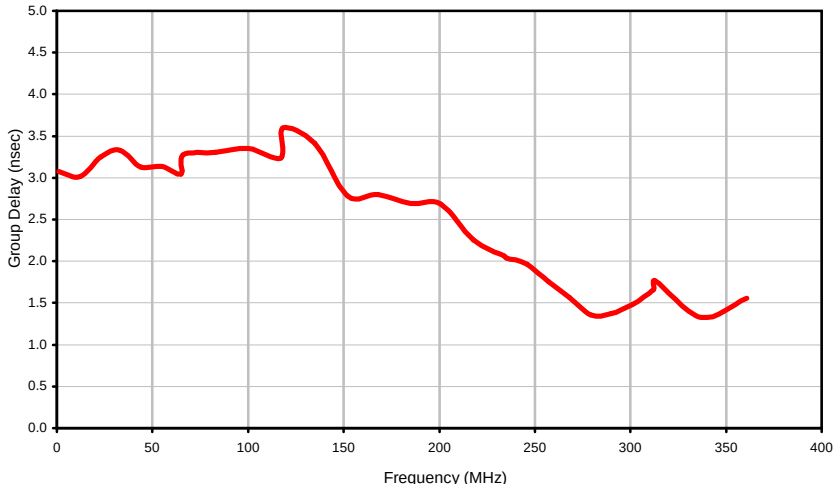
Insertion Loss



Return Loss



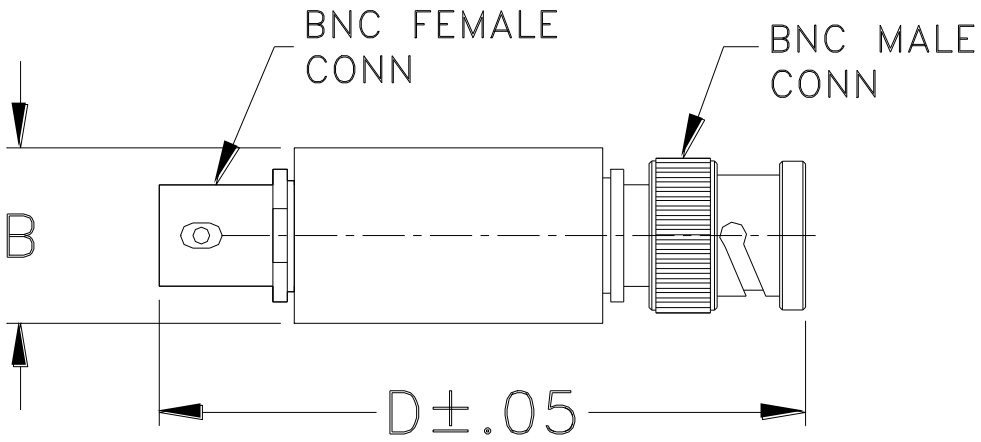
Group Delay



Case Style FF

FF55

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF55	-- --	.57 (14.47)	-- --	2.59 (65.79)	-- --	40.0

Dimensions are in inches (mm). Tolerances: 2Pl. +.03/-.04; 3Pl. ± .015

Note:

1. Case material: Stainless steel.

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