

Coaxial Low Pass Filter

NON-CATALOG

NBLP-200+
NBLP-200

50Ω Flat Time Delay DC to 120 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 NBLP models available with wide selection of cut-off frequencies

Applications

- linear modulation techniques
- voice transmission applications
- digital communications



CASE STYLE: FF57

Connectors	Model	Price	Qty.
N-Type	NBLP-200(+)	Contact Sales Dept.	

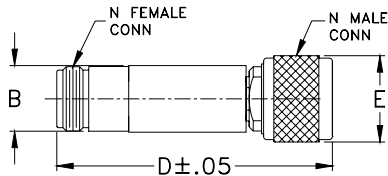
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Low Pass Filter Electrical Specifications

PASSBAND (MHz)	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)			X	X	X	X	X
DC-120	200	400-534	534	1.6:1	1.9:1	0.4	1.3	1.6

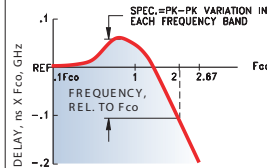
Outline Drawing



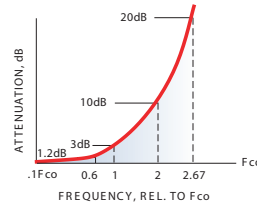
Outline Dimensions (inch/mm)

B	D	E	wt
.67	2.90	.82	grams
17.02	73.66	20.83	90.0

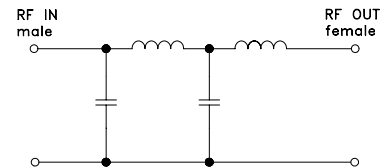
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS

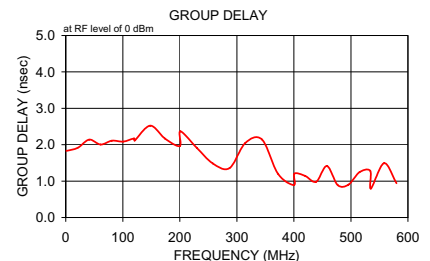
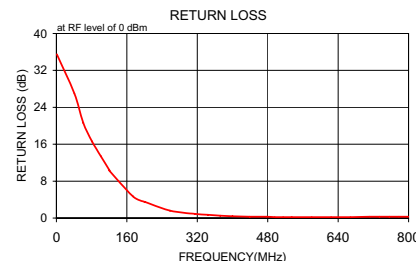


Electrical Schematic



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
1.0	0.04	35.5	1.0	1.829
41.0	0.10	27.0	21.0	1.915
61.0	0.16	20.6	41.0	2.140
81.0	0.22	16.6	61.0	2.006
101.0	0.33	13.4	81.0	2.109
120.0	0.52	10.4	101.0	2.087
121.0	0.53	10.2	120.0	2.170
174.0	2.10	4.7	121.0	2.113
200.0	3.22	3.5	148.0	2.521
201.0	3.26	3.5	174.0	2.169
258.0	6.65	1.6	200.0	1.964
315.0	9.45	0.9	201.0	2.367
344.0	11.17	0.7	230.0	1.912
372.0	13.45	0.5	258.0	1.485
400.0	15.58	0.4	287.0	1.356
401.0	15.65	0.4	315.0	2.048
439.0	17.90	0.3	344.0	2.142
477.0	20.36	0.3	372.0	1.206
496.0	21.60	0.2	400.0	0.894
515.0	22.72	0.2	401.0	1.205
534.0	23.75	0.2	420.0	1.143
535.0	23.81	0.2	439.0	0.984
580.0	26.67	0.2	458.0	1.412
624.0	29.26	0.2	477.0	0.888
668.0	31.05	0.2	496.0	0.903
712.0	33.19	0.3	515.0	1.244
734.0	34.36	0.3	534.0	1.282
756.0	35.72	0.3	535.0	0.796
778.0	37.00	0.3	558.0	1.491
800.0	37.94	1.1	580.0	0.941



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuit's applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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.

REV. A
M122594
NBLP-200
100201

Coaxial Low Pass Filter (Flat Time Delay)

NBLP-200+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1.0	0.04	35.50	1.0	1.829
41.0	0.10	27.00	21.0	1.915
61.0	0.16	20.60	41.0	2.140
81.0	0.22	16.60	61.0	2.006
101.0	0.33	13.40	81.0	2.109
120.0	0.52	10.40	101.0	2.087
121.0	0.53	10.20	120.0	2.170
174.0	2.10	4.70	121.0	2.113
200.0	3.22	3.50	148.0	2.521
201.0	3.26	3.50	174.0	2.169
258.0	6.65	1.60	200.0	1.964
315.0	9.45	0.90	201.0	2.367
344.0	11.17	0.70	230.0	1.912
372.0	13.45	0.50	258.0	1.485
400.0	15.58	0.40	287.0	1.356
401.0	15.65	0.40	315.0	2.048
439.0	17.90	0.30	344.0	2.142
477.0	20.36	0.30	372.0	1.206
496.0	21.60	0.20	400.0	0.894
515.0	22.72	0.20	401.0	1.205
534.0	23.75	0.20	420.0	1.143
535.0	23.81	0.20	439.0	0.984
580.0	26.67	0.20	458.0	1.412
624.0	29.26	0.20	477.0	0.888
668.0	31.05	0.20	496.0	0.903
712.0	33.19	0.30	515.0	1.244
734.0	34.36	0.30	534.0	1.282
756.0	35.72	0.30	535.0	0.796
778.0	37.00	0.30	558.0	1.491
800.0	37.94	0.30	580.0	0.941

REV. X1
NBLP-200+
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Page 1 of 1



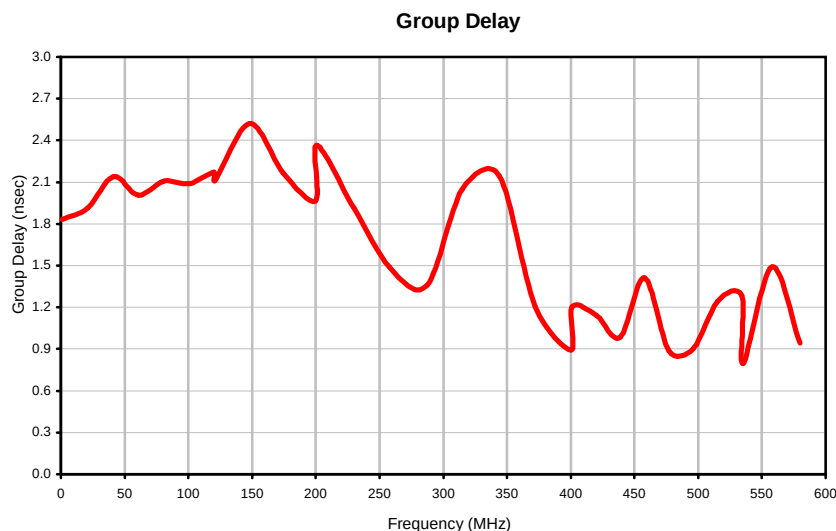
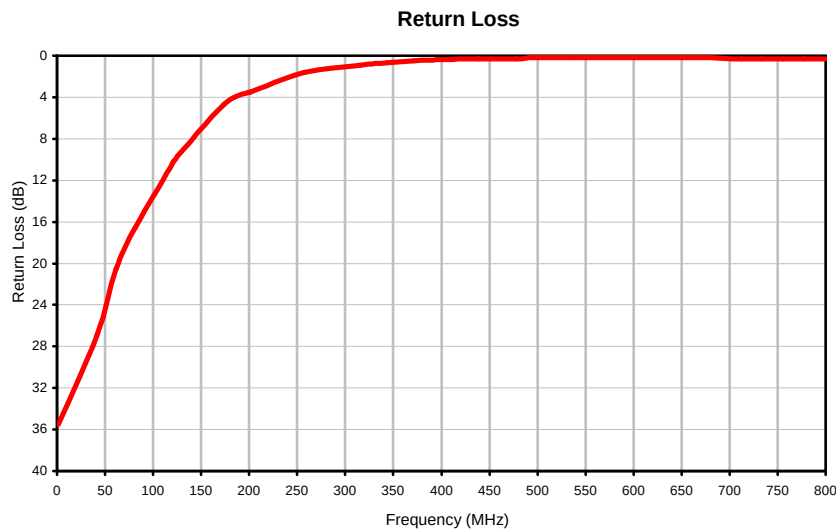
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Coaxial Low Pass Filter (Flat Time Delay)

NBLP-200+

Typical Performance Curves



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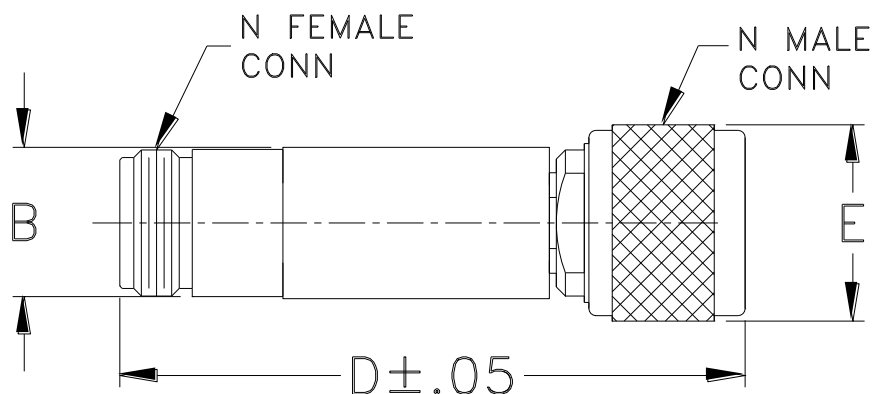


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REV. X1
NBLP-200+
060724
Page 1 of 1

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF57	--	.70 (17.78)	--	2.90 (73.66)	.82 (20.83)	90.0

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

Note:

1. Case material: Stainless steel.



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 85°C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
HAST	130°C, 85% RH, 96 hours	JESD22-A110
Humidity	90 to 95% RH, 240 hours, 50°C	MIL-STD-202, Method 103, Condition A, Except 50°C and end-point electrical test done within 12 hours
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
Solder Reflow Heat	Sn-Pb Eutectic Process: 225°C peak Pb-Free Process, 245°C peak	J-STD-020, Table 4-1, 4-2 and 5-2, Figure 5-1
Solderability	10X Magnification	J-STD-002, Para 4.2.5, Test S, 95% Coverage
Vibration (High Frequency)	20g peak, 20-2000 Hz, 4 times in each of three axes (total 12)	MIL-STD-883, Method 2007.3, Condition A
Mechanical Shock	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Marking Resistance to Solvents	Isopropyl alcohol + mineral spirits at 25°C; terpene defluxer at 25°C; distilled water + proylene glycol monomethyl ether + monoethanolamine at 63°C to 70°C	MIL-STD-202, Method 215