Coaxial

Low Pass Filter

NBLP-300+
NBLP-300

50Ω Flat Time Delay DC to 180 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 NBLP models available with wide selection of cut-off frequencies

Applications

- linear modulation techniques
- voice transmission applications
- digital communications

CASE STYLE: FF57

Connectors	Model
N-Type	NBLP-300(+)

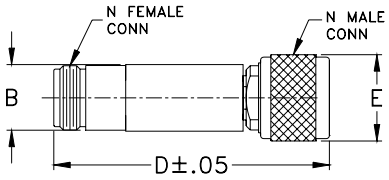
+RoHS Compliant

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 X	VSWR (:1) DC-0.6fco X	GROUP DELAY VARIATION (nsec) DC-fco X	GROUP DELAY VARIATION (nsec) DC-2fco X	GROUP DELAY VARIATION (nsec) DC-2.67fco X
DC-180	300	600-801	801	1.25:1	2.2:1	0.2	0.6	0.8

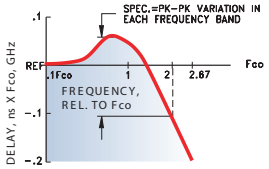
Outline Drawing



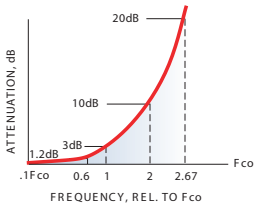
Outline Dimensions (inch / mm)

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

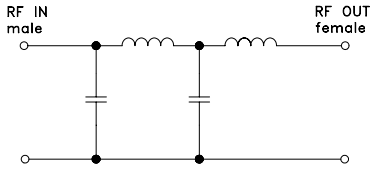
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS

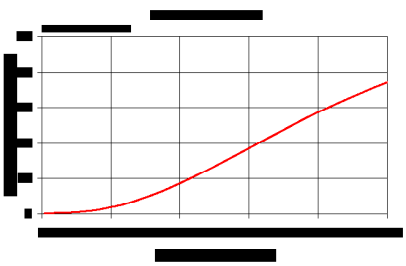


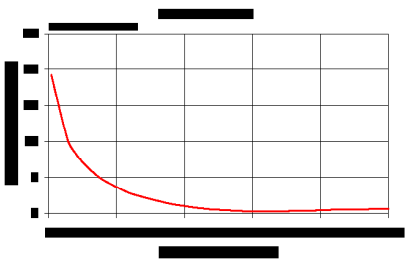
electrical schematic

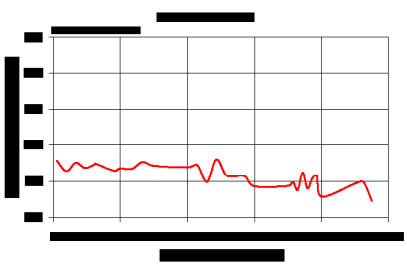


Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
10.0	0.16	0.2	30.7	10.0	1.563
67.0	0.27	0.2	16.4	39.0	1.282
95.0	0.37	0.1	13.4	67.0	1.509
124.0	0.53	0.1	11.1	95.0	1.368
152.0	0.73	0.1	9.4	124.0	1.468
180.0	0.99	0.1	7.9	125.0	1.487
200.0	1.24	0.1	7.1	180.0	1.297
267.0	2.35	0.2	4.9	200.0	1.351
300.0	3.06	0.2	4.1	234.0	1.343
400.0	5.85	0.2	2.5	267.0	1.534
458.0	7.82	0.2	1.8	300.0	1.427
515.0	9.91	0.3	1.3	400.0	1.383
543.0	11.02	0.4	1.1	429.0	1.448
572.0	12.18	0.4	0.9	458.0	0.984
600.0	13.35	0.5	0.8	486.0	1.599
700.0	17.70	0.5	0.5	515.0	1.173
729.0	18.96	0.6	0.5	543.0	1.140
758.0	20.25	0.6	0.5	572.0	1.134
773.0	20.92	0.6	0.5	600.0	0.869
787.0	21.51	0.6	0.5	700.0	0.878
801.0	22.10	0.6	0.5	715.0	0.983
900.0	26.28	0.7	0.6	729.0	0.767
950.0	28.25	0.7	0.7	744.0	1.244
1000.0	30.16	0.8	0.8	758.0	0.807
1050.0	32.02	0.9	0.8	773.0	1.089
1100.0	33.74	0.9	0.9	787.0	1.144
1125.0	34.62	1.1	0.9	801.0	0.587
1150.0	35.50	1.2	1.0	900.0	0.940
1175.0	36.29	1.2	1.0	925.0	0.980







Notes

A. 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.
B. Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
C. 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) NBLP-300+

Typical Performance Data

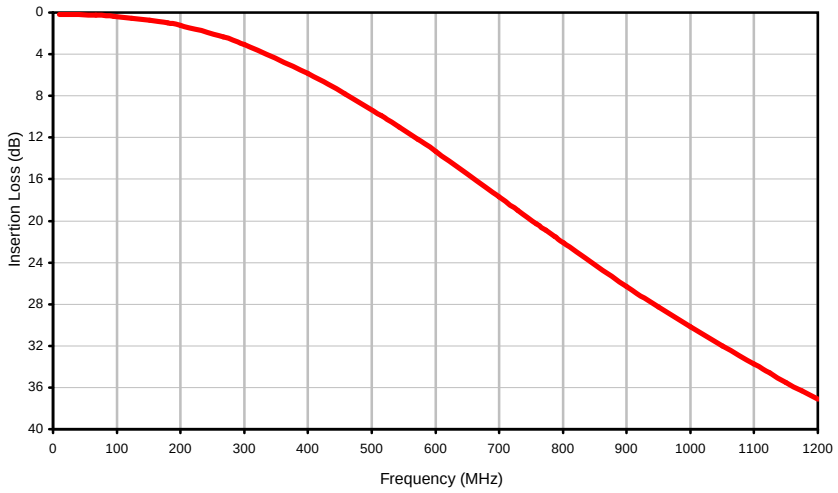
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
10.0	0.16	30.70
67.0	0.27	16.40
95.0	0.37	13.40
124.0	0.53	11.10
152.0	0.73	9.40
180.0	0.99	7.90
200.0	1.24	7.10
267.0	2.35	4.90
300.0	3.06	4.10
400.0	5.85	2.50
458.0	7.82	1.80
515.0	9.91	1.30
543.0	11.02	1.10
572.0	12.18	0.90
600.0	13.35	0.80
700.0	17.70	0.50
729.0	18.96	0.50
758.0	20.25	0.50
773.0	20.92	0.50
787.0	21.51	0.50
801.0	22.10	0.50
900.0	26.28	0.60
950.0	28.25	0.70
1000.0	30.16	0.80
1050.0	32.02	0.80
1100.0	33.74	0.90
1125.0	34.62	0.90
1150.0	35.50	1.00
1175.0	36.29	1.00
1200.0	37.10	1.00

FREQUENCY (MHz)	GROUP DELAY (nsec)
10.0	1.563
39.0	1.282
67.0	1.509
95.0	1.368
124.0	1.468
125.0	1.487
180.0	1.297
200.0	1.351
234.0	1.343
267.0	1.534
300.0	1.427
400.0	1.383
429.0	1.448
458.0	0.984
486.0	1.599
515.0	1.173
543.0	1.140
572.0	1.134
600.0	0.869
700.0	0.878
715.0	0.983
729.0	0.767
744.0	1.244
758.0	0.807
773.0	1.089
787.0	1.144
801.0	0.587
900.0	0.940
925.0	0.980
950.0	0.475

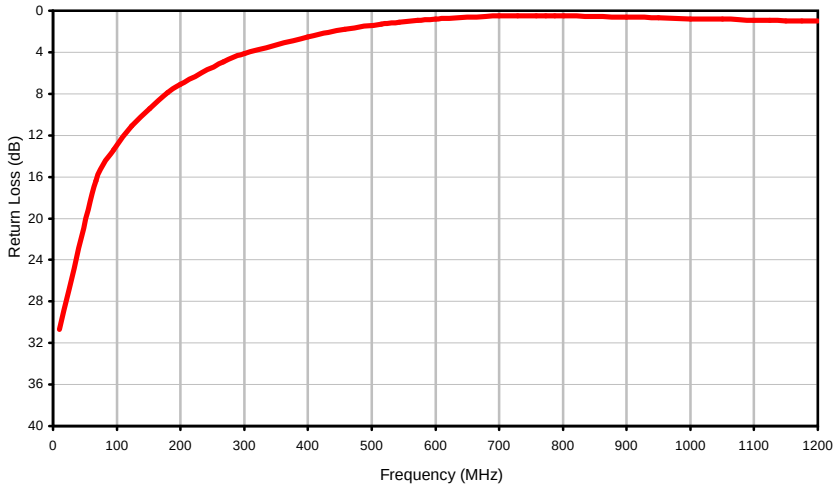
Coaxial Low Pass Filter (Flat Time Delay) NBLP-300+

Typical Performance Curves

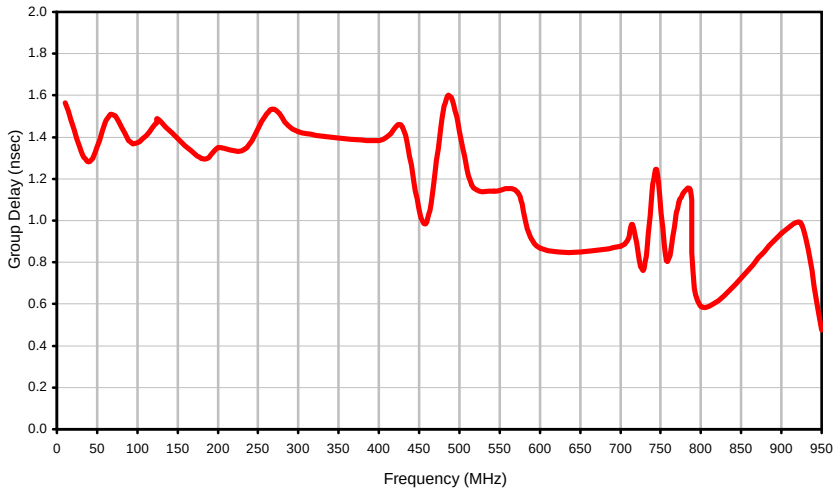
Insertion Loss



Return Loss



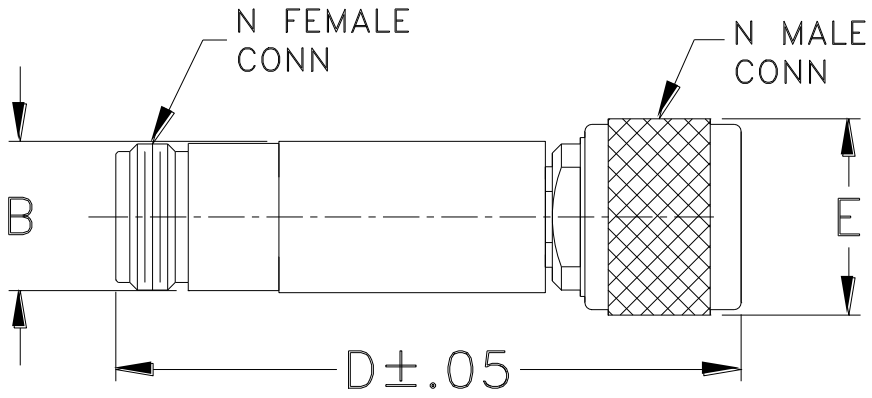
Group Delay



Case Style FF

FF57

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.

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