

Coaxial Low Pass Filter

NON-CATALOG

NBLP-156+
NBLP-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.

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-156(+)	Contact Sales Dept.	

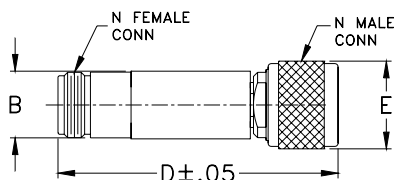
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Low Pass Filter Electrical Specifications

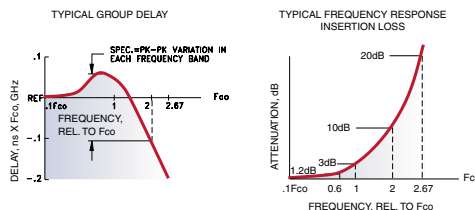
PASSBAND (MHz)	fco, MHz Nom.	STOPBAND (MHz)	VSWR (:1)	GROUP DELAY VARIATION (nsec)
(loss < 1.2 dB)			DC-0.2fco DC-0.6fco	DC-fco DC-2fco DC-2.67fco
Min.	(loss 3 dB)	(loss > 10 dB) (loss > 20 dB)	$\bar{X}$ $\bar{X}$	$\bar{X}$ $\bar{X}$ $\bar{X}$
DC-94	156	312-416 416	1.3:1 1.1:1	0.3 1.1 1.5

Outline Drawing

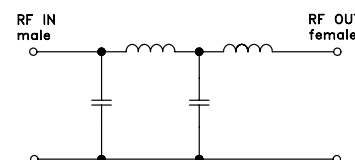


Outline Dimensions (inch/mm)

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

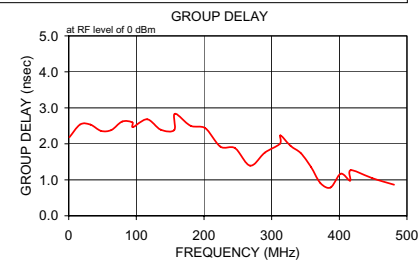
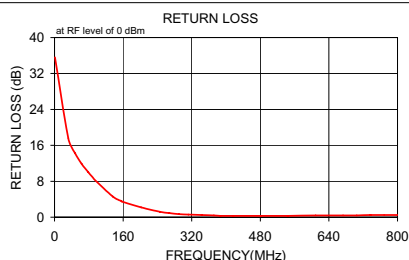
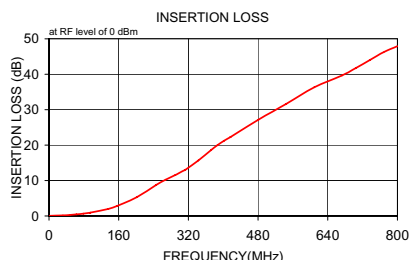


Electrical Schematic



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	157.0	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



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

ALL NEW
minicircuits.com

REV. A
M98898
NBLP-156
070419

Coaxial Low Pass Filter (Flat Time Delay)

NBLP-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

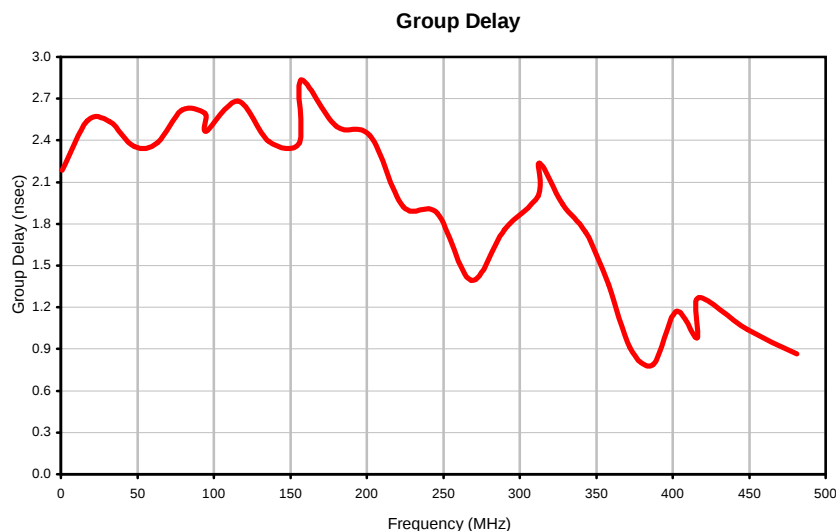
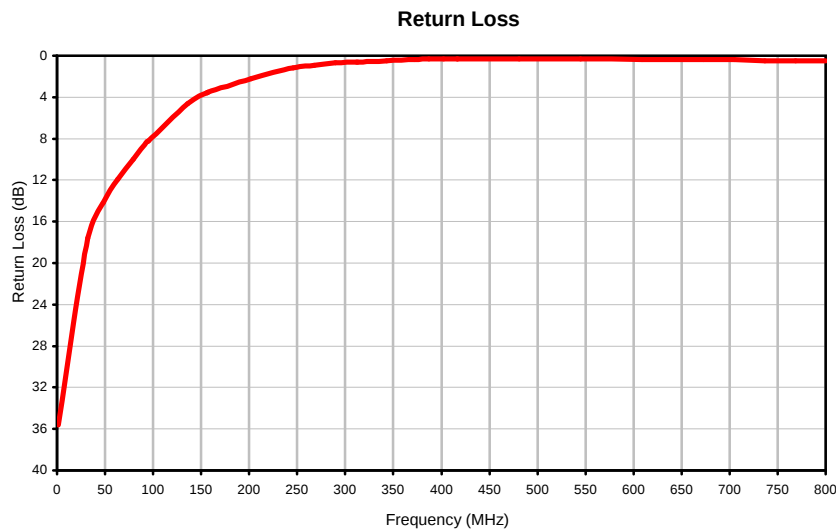
REV. X1
NBLP-156
060724
Page 1 of 1



Mini-Circuits®
IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED • RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



Typical Performance Curves



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 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