

# Low Pass Filter

NBLP-39+

50Ω Flat Time Delay DC to 23 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	Price	Qty.
N-Type	NBLP-39+	\$39.95 ea.	(1-9)

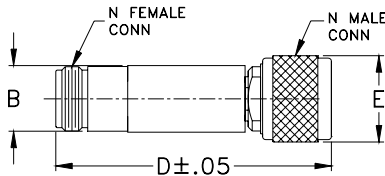
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

The +Suffix has been added in order to identify RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications.

### Low Pass Filter Electrical Specifications

PASSBAND (MHz) (loss <1.2 dB) Min.	f <sub>co</sub> , MHz Nom. (loss 3 dB)	STOPBAND (MHz)		VSWR (:1)		GROUP DELAY VARIATION (nsec)		
		(loss > 10 dB)	(loss > 20 dB)	DC-0.2f <sub>co</sub>	DC-0.6f <sub>co</sub>	DC-f <sub>co</sub>	DC-2f <sub>co</sub>	DC-2.67f <sub>co</sub>
DC-23	39	78-117	117	1.3:1	2.3:1	0.7	4.0	5.0

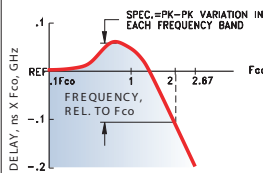
### Outline Drawing



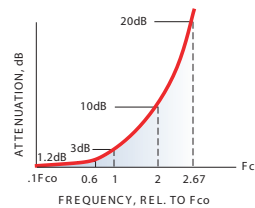
### Outline Dimensions (inch/mm)

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

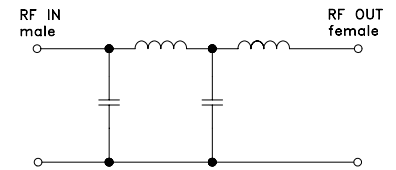
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS

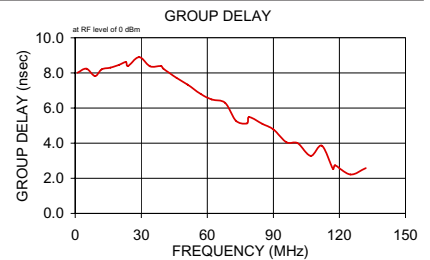
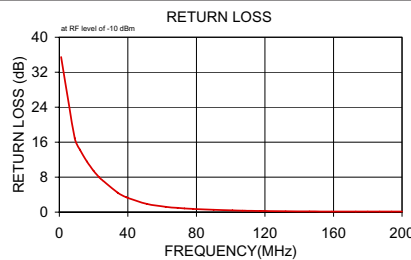
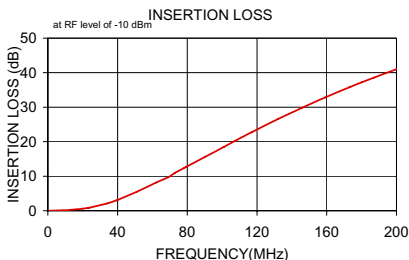


### electrical schematic



### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	$\sigma$			
1.0	0.02	0.00	35.5	1.0	8.012
9.0	0.14	0.00	17.0	5.0	8.243
12.0	0.23	0.01	14.3	9.0	7.823
16.0	0.38	0.01	11.6	12.0	8.199
20.0	0.60	0.02	9.4	16.0	8.305
23.0	0.82	0.02	8.1	20.0	8.466
24.0	0.91	0.02	7.7	23.0	8.623
34.0	2.11	0.03	4.5	24.0	8.392
39.0	2.95	0.04	3.4	29.0	8.899
40.0	3.14	0.04	3.2	34.0	8.378
51.0	5.48	0.06	1.9	39.0	8.392
62.0	8.15	0.07	1.2	40.0	8.247
69.0	9.69	0.08	1.0	46.0	7.722
73.0	11.00	0.09	0.8	51.0	7.336
78.0	12.33	0.10	0.7	57.0	6.804
79.0	12.60	0.10	0.7	62.0	6.487
90.0	15.56	0.13	0.5	68.0	6.306
101.0	18.53	0.15	0.4	73.0	5.277
107.0	20.14	0.16	0.3	78.0	5.124
112.0	21.46	0.16	0.3	79.0	5.489
117.0	22.76	0.17	0.3	85.0	5.101
118.0	23.02	0.17	0.3	90.0	4.784
132.0	26.55	0.17	0.2	96.0	4.054
146.0	29.88	0.17	0.2	101.0	3.996
159.0	32.80	0.17	0.1	107.0	3.275
173.0	35.76	0.16	0.1	112.0	3.856
180.0	37.17	0.15	0.1	117.0	2.547
187.0	38.55	0.16	0.1	118.0	2.738
194.0	39.89	0.15	0.1	125.0	2.216
200.0	41.00	0.16	0.1	132.0	2.576



For detailed performance specs & shopping online see web site

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IF/RF MICROWAVE COMPONENTS

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](http://www.minicircuits.com/MCLStore/terms.jsp).

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