

Coaxial Low pass Filter

BLP-44+

50Ω DC to 44 MHz



Generic photo used for illustration purposes only
CASE STYLE: FF55

The Big Deal

- High rejection
- Sharp cut-off
- Connectorized package

Product Overview

BLP-44+ is a 50Ω Low pass filter in a connectorized package covering DC to 44 MHz. This filter build with high Q capacitors and wire welded inductors for with reliability. This filter offers sharp rejection and low insertion loss for use in test and measurement system applications.

Key Features

Feature	Advantages
High rejection	Attenuates unwanted spurious and harmonics
Sharp cut-off	This enables the filter rejects the near band interaction and provides the high selectivity.
Connectorized package	Easy to interface with other devices and well suited for test setups

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



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Features

- High rejection
- Sharp cut-off
- Rugged shielded case

Applications

- Defense communications
- Receivers / Transmitters
- Harmonic rejection

Electrical Specifications at 25°C

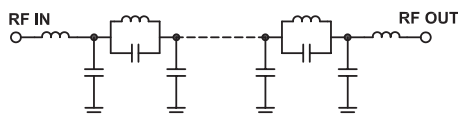
Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC - 44	—	0.6	1 dB
	Freq. Cut-Off	F2	48.5	—	3.0	— dB
	VSWR	DC-F1	DC - 44	—	1.2	1.5 :1
Stop Band	Rejection Loss	F3-F4	59 - 65.5	20	30	— dB
		F4-F5	65.5 - 600	40	46	— dB
	VSWR	F3-F5	59 - 600	—	20	— :1

Maximum Ratings

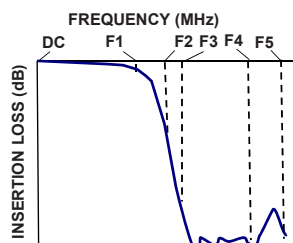
Operating Temperature	-40°C to 85°C
Storage Temperature	-55°C to 100°C
RF Power Input	0.5 W Max

Permanent damage may occur if any of these limits are exceeded.

Functional Schematic



Typical Frequency Response

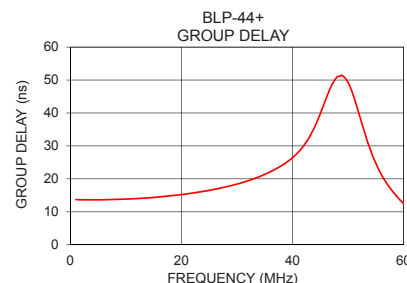
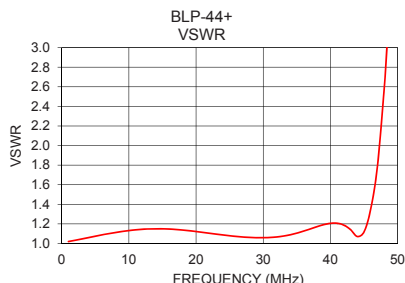
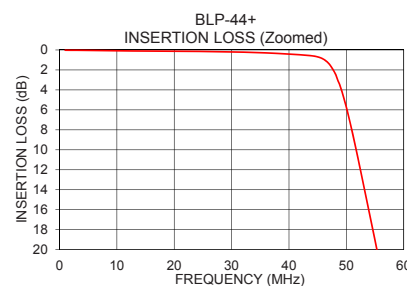


+RoHS Compliant

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

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)	Frequency (MHz)	Group Delay (nsec)
1.0	0.03	1.02	1	13.69
10.0	0.08	1.13	4	13.65
20.0	0.13	1.12	6	13.67
25.0	0.15	1.08	8	13.75
30.0	0.19	1.06	10	13.88
35.0	0.27	1.11	12	14.03
44.0	0.59	1.07	14	14.24
48.5	3.03	3.12	16	14.51
56.0	21.93	38.01	18	14.84
59.0	30.57	54.13	20	15.23
60.0	33.61	58.92	22	15.69
65.5	57.57	82.04	24	16.22
100.0	68.76	135.59	26	16.85
300.0	70.36	74.61	28	17.55
420.0	60.65	67.14	30	18.42
450.0	59.40	67.44	32	19.43
480.0	58.59	66.39	34	20.65
500.0	58.11	65.75	36	22.13
540.0	57.62	66.61	40	26.43
600.0	58.60	66.70	44	35.77



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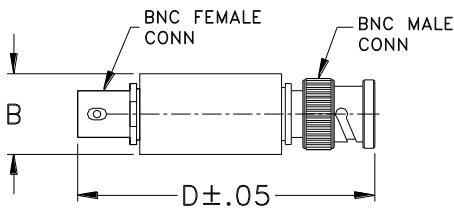
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Pad Connections

PORT - 1	BNC-MALE
PORT - 2	BNC-FEMALE

Outline Drawing



Outline Dimensions (inch)

A	B	C	D	E	Wt.
--	0.57	--	2.59	--	grams
--	14.47	--	65.79	--	40

Note: Please refer to case style drawing for details

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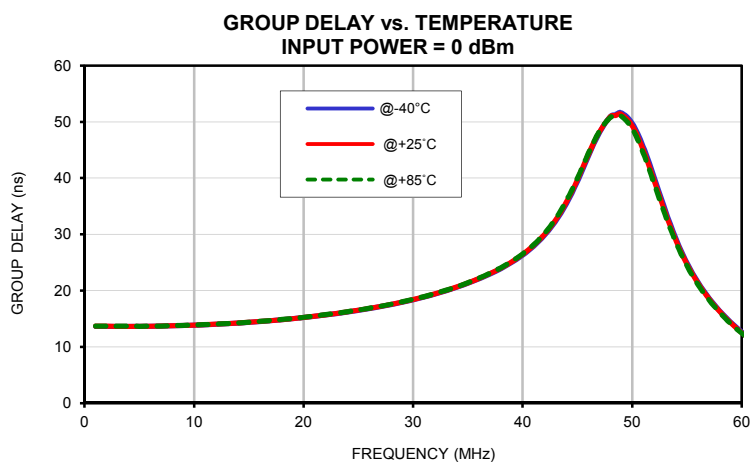
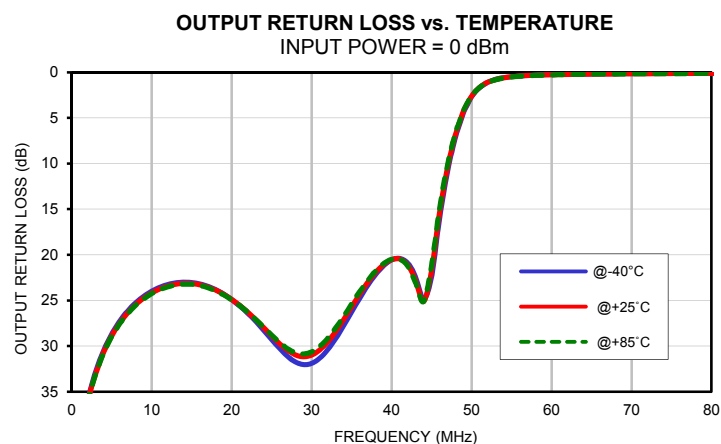
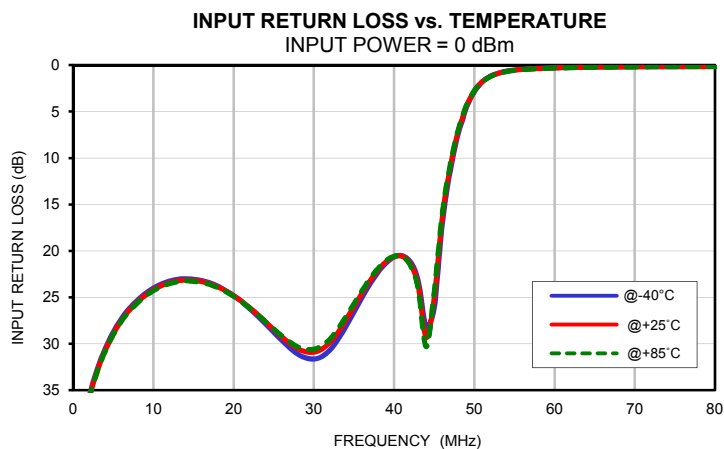
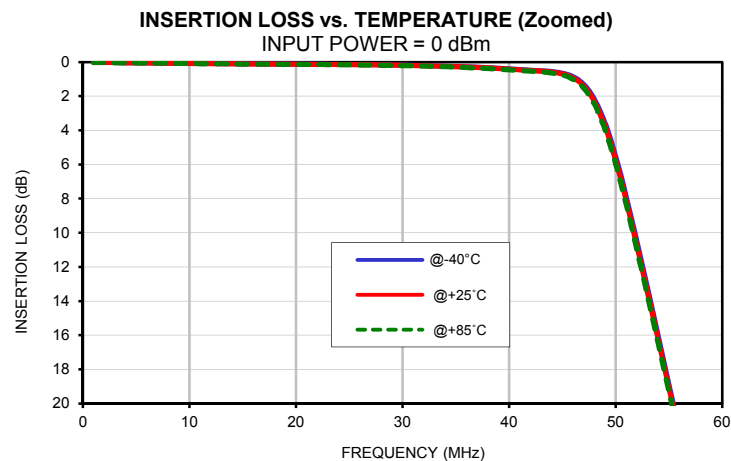
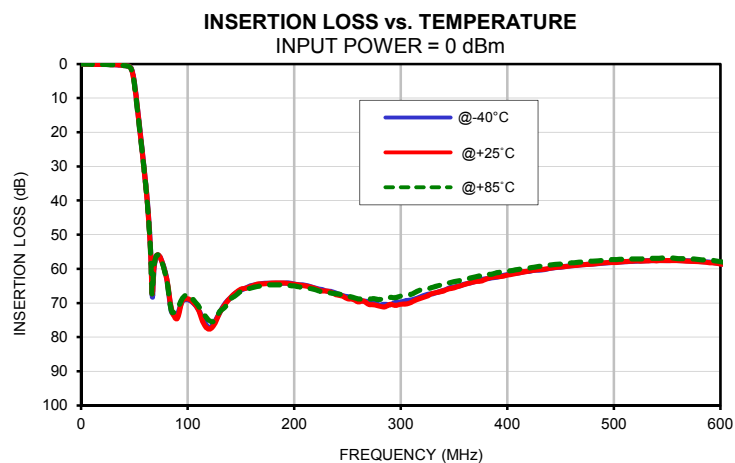
Typical Performance Data

FREQ.	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
(MHz)	(dB)			(dB)			(dB)		
	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C	@-40°C	@+25°C	@+85°C
1.0	0.02	0.03	0.03	40.29	40.32	40.25	40.96	40.92	40.79
10.0	0.07	0.08	0.08	24.01	24.20	24.29	23.99	24.17	24.25
11.0	0.08	0.08	0.09	23.57	23.74	23.84	23.58	23.76	23.84
12.0	0.08	0.09	0.10	23.26	23.43	23.52	23.27	23.43	23.51
13.0	0.09	0.10	0.10	23.07	23.22	23.32	23.08	23.23	23.31
15.0	0.10	0.11	0.11	23.05	23.18	23.27	23.03	23.15	23.23
18.0	0.11	0.12	0.13	23.78	23.85	23.94	23.82	23.87	23.94
19.0	0.11	0.12	0.13	24.26	24.30	24.37	24.30	24.33	24.39
20.0	0.12	0.13	0.13	24.81	24.81	24.88	24.89	24.88	24.93
40.0	0.39	0.42	0.45	20.66	20.61	20.57	20.57	20.53	20.49
20.0	0.12	0.13	0.13	24.81	24.81	24.88	24.89	24.88	24.93
22.0	0.12	0.13	0.14	26.20	26.12	26.15	26.38	26.26	26.28
26.0	0.14	0.16	0.17	29.63	29.24	29.14	30.25	29.73	29.60
28.0	0.16	0.17	0.18	31.12	30.55	30.34	31.75	30.97	30.72
30.0	0.18	0.19	0.21	31.65	30.90	30.59	31.90	30.99	30.64
31.0	0.19	0.20	0.22	31.37	30.57	30.22	31.33	30.44	30.05
35.0	0.26	0.27	0.30	26.58	26.01	25.70	26.25	25.71	25.40
40.0	0.39	0.42	0.45	20.66	20.61	20.57	20.57	20.53	20.49
41.0	0.43	0.45	0.49	20.52	20.58	20.62	20.39	20.46	20.49
42.0	0.46	0.49	0.53	21.12	21.34	21.50	20.89	21.09	21.21
44.0	0.55	0.59	0.64	28.18	29.31	30.30	24.88	25.12	25.12
45.0	0.65	0.70	0.76	26.25	25.10	24.42	22.46	21.71	21.14
48.5	2.85	3.03	3.21	5.98	5.77	5.66	5.72	5.51	5.39
50.0	5.52	5.76	5.98	2.85	2.78	2.76	2.70	2.63	2.60
55.0	18.88	19.12	19.34	0.52	0.54	0.57	0.47	0.49	0.52
56.0	21.69	21.93	22.14	0.44	0.46	0.48	0.40	0.41	0.44
59.0	30.31	30.57	30.78	0.30	0.32	0.34	0.28	0.29	0.31
60.0	33.34	33.61	33.83	0.28	0.29	0.32	0.25	0.27	0.29
65.0	53.39	54.00	54.48	0.20	0.22	0.23	0.19	0.20	0.21
65.5	56.79	57.57	58.08	0.20	0.21	0.22	0.18	0.19	0.21
80.0	62.38	62.52	62.82	0.13	0.14	0.15	0.12	0.12	0.13
100.0	69.05	68.76	67.59	0.12	0.13	0.12	0.10	0.10	0.10
150.0	66.24	65.95	66.54	0.16	0.16	0.15	0.12	0.11	0.11
200.0	64.51	64.54	65.01	0.19	0.19	0.18	0.13	0.13	0.12
220.0	65.71	65.72	66.15	0.20	0.20	0.19	0.14	0.14	0.13
250.0	68.13	68.76	67.99	0.21	0.21	0.21	0.14	0.14	0.14
280.0	70.64	70.95	69.02	0.22	0.23	0.22	0.14	0.15	0.15
300.0	69.76	70.36	67.95	0.22	0.23	0.23	0.14	0.15	0.15
320.0	68.04	68.51	66.05	0.22	0.24	0.24	0.14	0.16	0.16
350.0	65.31	65.53	63.77	0.22	0.24	0.25	0.14	0.16	0.16
390.0	62.44	62.30	61.14	0.22	0.25	0.26	0.14	0.16	0.17
400.0	61.73	61.85	60.66	0.22	0.26	0.26	0.14	0.16	0.17
420.0	60.74	60.65	59.79	0.22	0.26	0.27	0.14	0.16	0.18
430.0	60.37	60.21	59.30	0.22	0.26	0.27	0.14	0.17	0.18
440.0	59.89	59.83	58.88	0.22	0.26	0.27	0.14	0.17	0.18
450.0	59.50	59.40	58.59	0.22	0.26	0.27	0.14	0.17	0.18
460.0	59.10	59.12	58.25	0.22	0.26	0.28	0.14	0.17	0.18
470.0	58.75	58.81	57.98	0.22	0.26	0.28	0.14	0.17	0.18
480.0	58.56	58.59	57.73	0.22	0.26	0.28	0.14	0.17	0.19
490.0	58.41	58.24	57.51	0.22	0.26	0.28	0.14	0.17	0.19
500.0	58.04	58.11	57.27	0.22	0.26	0.28	0.14	0.17	0.19
510.0	57.90	57.88	57.22	0.22	0.26	0.28	0.14	0.17	0.19
520.0	57.75	57.70	57.15	0.22	0.26	0.28	0.14	0.17	0.19
530.0	57.64	57.68	57.04	0.21	0.26	0.28	0.14	0.17	0.19
540.0	57.58	57.62	56.96	0.21	0.26	0.28	0.14	0.17	0.19
550.0	57.57	57.61	56.86	0.21	0.26	0.29	0.14	0.17	0.19
560.0	57.54	57.57	57.00	0.21	0.26	0.29	0.14	0.18	0.20
570.0	57.67	57.76	57.04	0.21	0.26	0.29	0.15	0.18	0.20
580.0	57.85	57.89	57.30	0.21	0.26	0.29	0.15	0.18	0.20
600.0	58.51	58.60	57.90	0.21	0.26	0.29	0.15	0.18	0.20

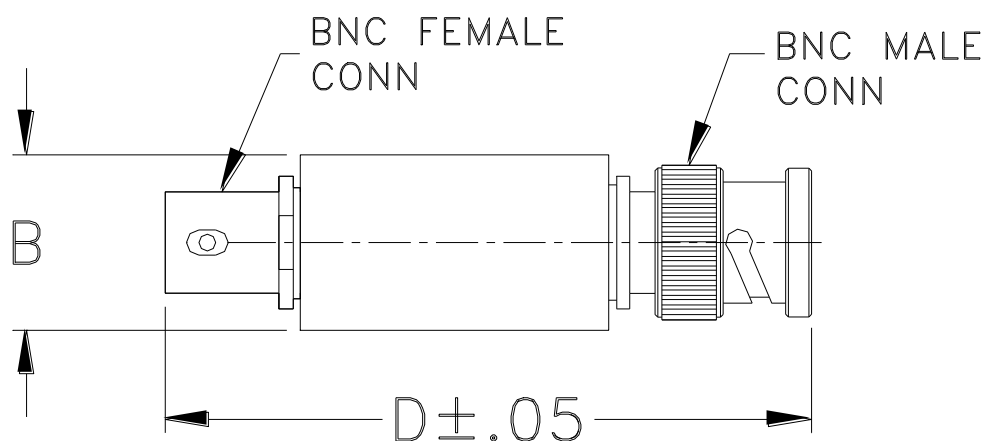
Typical Performance Data

FREQ.	GROUP DELAY		
(MHz)	(ns)		
	@-40°C	@+25°C	@+85°C
1.0	13.65	13.69	13.70
2.0	13.64	13.66	13.69
3.0	13.63	13.65	13.67
4.0	13.63	13.65	13.67
5.0	13.62	13.63	13.66
6.0	13.65	13.67	13.69
7.0	13.68	13.69	13.71
8.0	13.73	13.75	13.77
9.0	13.78	13.80	13.82
10.0	13.86	13.88	13.89
11.0	13.92	13.94	13.95
12.0	14.01	14.03	14.05
13.0	14.11	14.12	14.14
14.0	14.21	14.24	14.26
15.0	14.35	14.36	14.39
16.0	14.49	14.51	14.53
17.0	14.65	14.67	14.69
18.0	14.82	14.84	14.86
19.0	15.01	15.03	15.04
20.0	15.21	15.23	15.25
21.0	15.43	15.45	15.48
22.0	15.66	15.69	15.72
23.0	15.92	15.95	15.98
24.0	16.19	16.22	16.25
25.0	16.49	16.52	16.54
26.0	16.81	16.85	16.87
27.0	17.15	17.19	17.22
28.0	17.52	17.55	17.59
29.0	17.93	17.97	18.01
30.0	18.37	18.42	18.45
31.0	18.85	18.90	18.94
32.0	19.38	19.43	19.47
33.0	19.97	20.02	20.06
34.0	20.59	20.65	20.69
35.0	21.29	21.36	21.41
36.0	22.06	22.13	22.19
37.0	22.92	23.00	23.07
38.0	23.89	23.98	24.05
39.0	25.00	25.11	25.19
40.0	26.31	26.43	26.54
41.0	27.86	28.02	28.14
42.0	29.81	30.02	30.17
43.0	32.28	32.54	32.73
44.0	35.47	35.77	36.00
45.0	39.38	39.73	39.97
46.0	43.85	44.17	44.36
47.0	48.05	48.24	48.29
48.0	50.93	50.90	50.77
48.5	51.27	51.13	50.89
49.0	51.61	51.35	51.01
50.0	49.77	49.31	48.82

Typical Performance Curves



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.



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	-40° to 85°C	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