Plug-In

Low Pass Filter

PBLP-300

50Ω Flat Time Delay DC to 180 MHz

CASE STYLE: A01

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.

Pin Connections

INPUT	1
OUTPUT	8
GROUND	2,3,4,5,6,7
CASE GROUND	2,3,4,5,6,7

Features

- flat group delay for low pulse distortion
- rugged shielded case, hermetic
- other PBLP models available with wide selection of cut-off frequencies

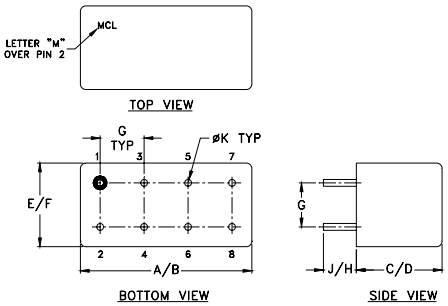
Applications

- linear modulation techniques
- voice transmission applications
- digital communications

Low Pass Filter Electrical Specifications

PASSBAND (MHz)	fco, MHz Nom.	STOPBAND (MHz)		VSWR (:1)		GROUP DELAY (nsec)		
(loss <1.2 dB) Min.	(loss 3 dB)	(loss > 10 dB)	(loss > 20 dB)	DC-0.2fco X	DC-0.6fco X	DC-fco X	DC-2fco X	DC-2.67fco X
DC-180	300	600-801	801	1.25:1	2.2:1	0.2	0.6	0.8

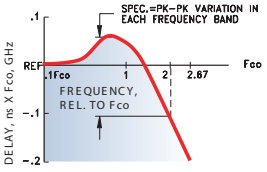
Outline Drawing



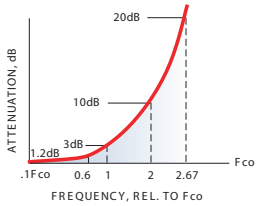
Outline Dimensions (inch / mm)

A	B	C	D	E	F
.770	.800	.385	.400	.370	.400
19.56	20.32	9.78	10.16	9.40	10.16
G	H	J	K		wt
.200	.20	.14	.031		grams
5.08	5.08	3.56	0.79		5.2

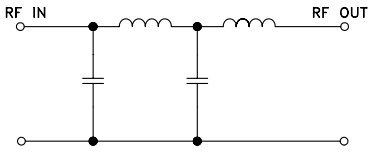
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS



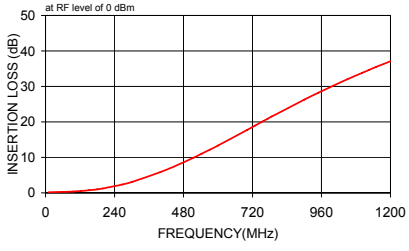
electrical schematic



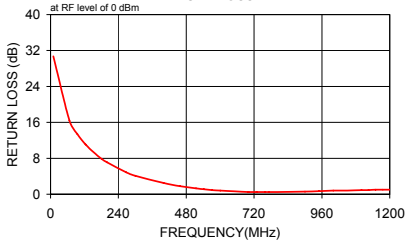
Typical Performance Data

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
1200.0	37.10	1.4	1.0	950.0	0.475

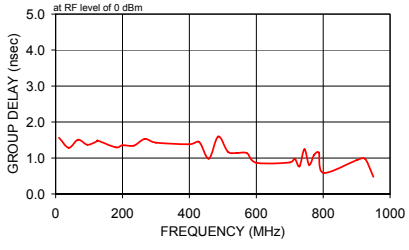
INSERTION LOSS



RETURN LOSS



GROUP DELAY



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.
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Plug-In Low Pass Filter (Flat Time Delay) PBLP-300

Typical Performance Data

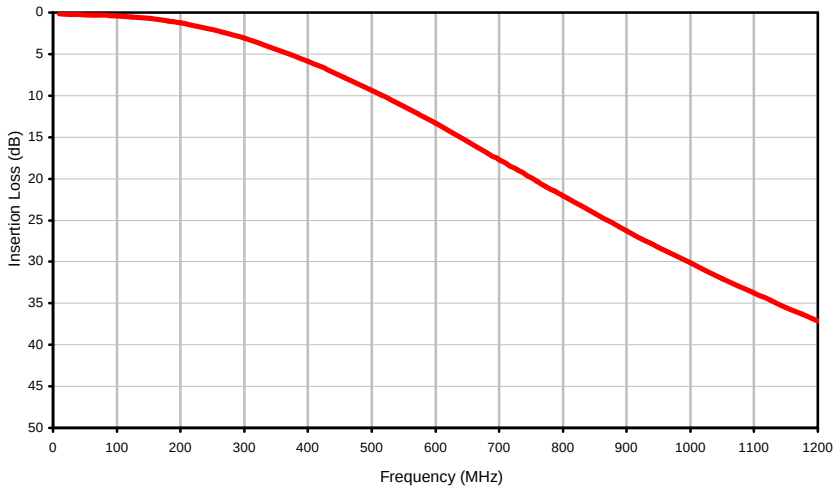
FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
10	0.16	30.70
67	0.27	16.40
95	0.37	13.40
124	0.53	11.10
152	0.73	9.40
180	0.99	7.90
200	1.24	7.10
267	2.35	4.90
300	3.06	4.10
400	5.85	2.50
458	7.82	1.80
515	9.91	1.30
543	11.02	1.10
572	12.18	0.90
600	13.35	0.80
700	17.70	0.50
729	18.96	0.50
758	20.25	0.50
773	20.92	0.50
787	21.51	0.50
801	22.10	0.50
900	26.28	0.60
950	28.25	0.70
1000	30.16	0.80
1050	32.02	0.80
1100	33.74	0.90
1125	34.62	0.90
1150	35.50	1.00
1175	36.29	1.00
1200	37.10	1.00

FREQUENCY (MHz)	GROUP DELAY (nsec)
10	1.563
39	1.282
67	1.509
95	1.368
124	1.468
125	1.487
180	1.297
200	1.351
234	1.343
267	1.534
300	1.427
400	1.383
429	1.448
458	0.984
486	1.599
515	1.173
543	1.140
572	1.134
600	0.869
700	0.878
715	0.983
729	0.767
744	1.244
758	0.807
773	1.089
787	1.144
801	0.587
900	0.940
925	0.980
950	0.475

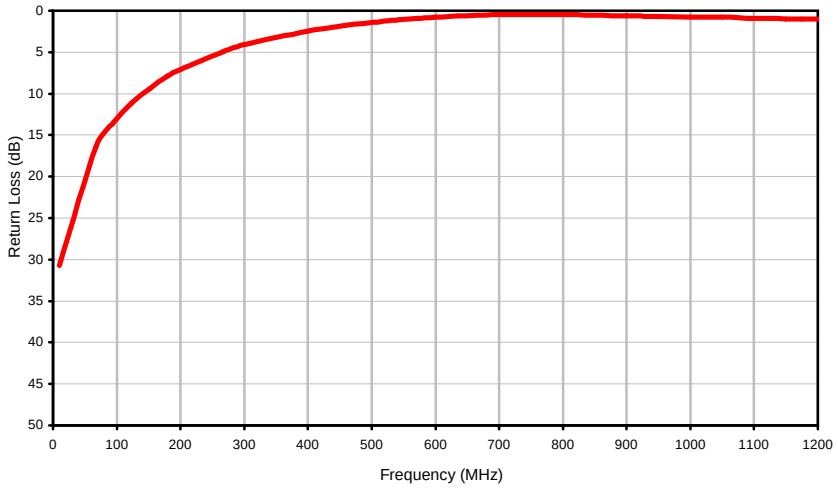
Plug-In Low Pass Filter (Flat Time Delay) PBLP-300

Typical Performance Curves

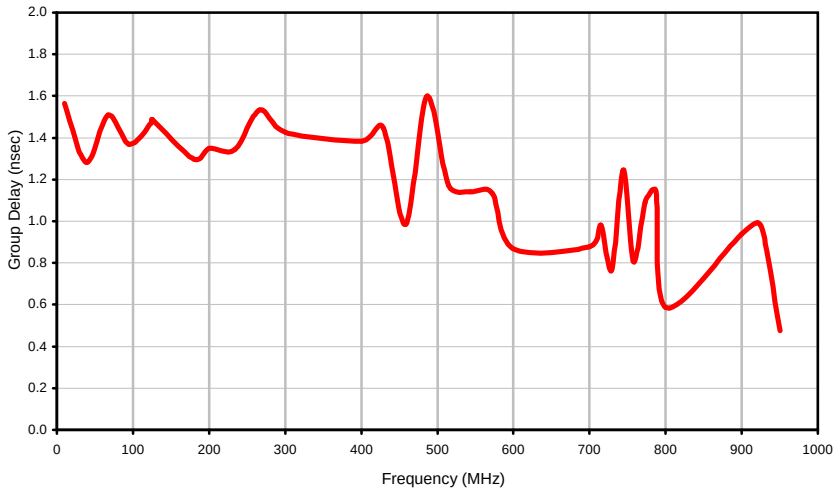
Insertion Loss



Return Loss



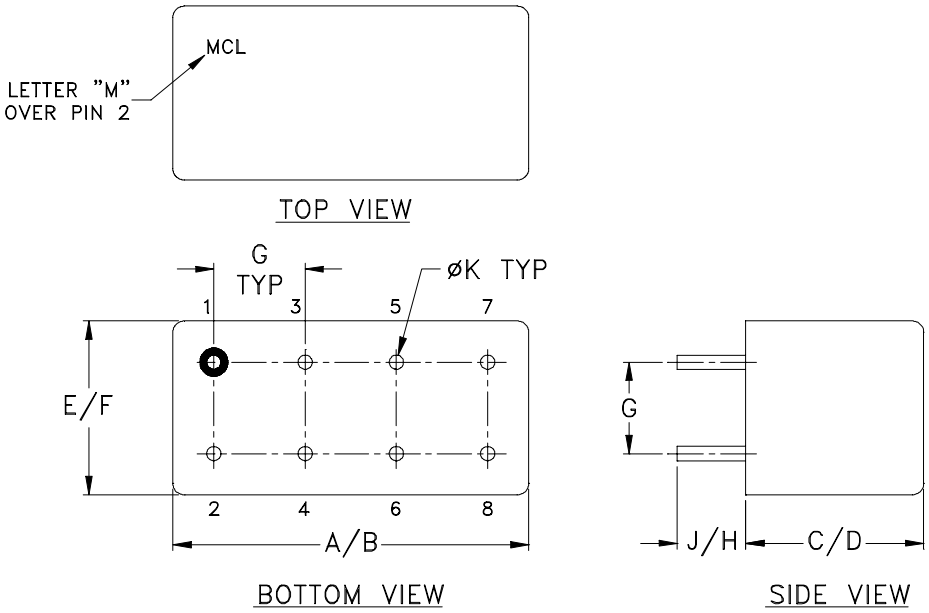
Group Delay



Case Style A

A01
A04
A05
A06

Outline Dimensions



CASE#	A	B	C	D	E	F	G	H	J	K	WT, GRAM
A01	.770 (19.56)	.800 (20.32)	.385 (9.78)	.400 (10.16)	.370 (9.40)	.400 (10.16)	.200 (5.08)	.20 (5.08)	.14 (3.56)	.031 (.79)	5.2
A04			.200 (5.08)	.210 (5.33)							3.7
A05			.240 (6.10)	.250 (6.35)							3.7
A06			.285 (7.24)	.310 (7.87)							5.2

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

Notes:

1. Header material: C.R.S.
   Pin material: #52 alloy.
   Cover material: Cupro-Nickel.
2. Pin finish: Electro Tin-Silver.
3. Insulated spacer available. Request P/N B14-045-01.
4. Tolerance on pin diameter +/-.005 inch.
5. Glass meniscus 0.015 inch max.
6. Blue bead indicates Pin 1. Pin numbers do not appear on unit, for reference only.

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Environmental Specifications ENV01

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
Thermal Shock	-55° to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except +100°C
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	50g, 11 ms, 1/2-sine, 18 shocks: 3 each direction, each of 3 axes	MIL-STD-202, Method 213, Condition A
Moisture Resistance	10 cycles, 24 hours per cycle	MIL-STD-202, Method 106, Condition A, except 50°C and end point electrical test done within 12 hours
Solderability	10X Magnification	J-STD-002, 95% Coverage
Resistance to Solder Heat	260°C for 10 seconds	MIL-STD-202, Method 210, Condition B
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
Terminal Strength	4 1/2 Pound Pull	MIL-STD-202, Method 211, Condition A

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
Gross Leak	125°C Bubble Test	MIL-STD-202, Method 112, Condition D
Barometric Pressure	100,000 Feet	MIL-STD-202, Method 105, Condition D