

Low Pass Filter

PBLP-39+ PBLP-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.	

Pin Connections

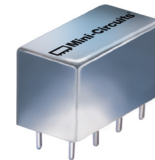
INPUT	1
OUTPUT	8
GROUND	2,3,4,5,6,7
CASE GROUND	2,3,4,5,6,7

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



CASE STYLE: A01

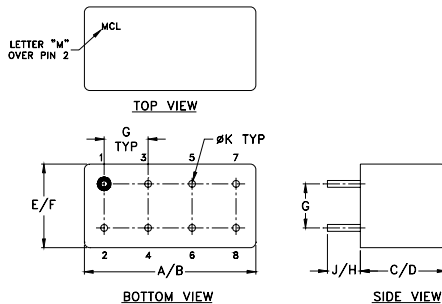
+RoHS Compliant

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

Low Pass Filter Electrical Specifications

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

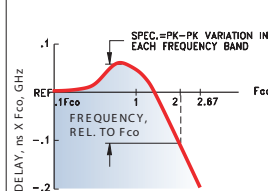
Outline Drawing



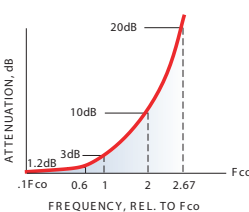
Outline Dimensions (inch/mm)

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

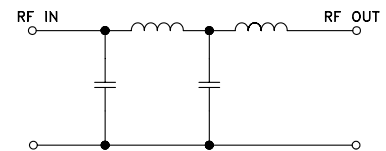
TYPICAL GROUP DELAY



TYPICAL FREQUENCY RESPONSE INSERTION LOSS

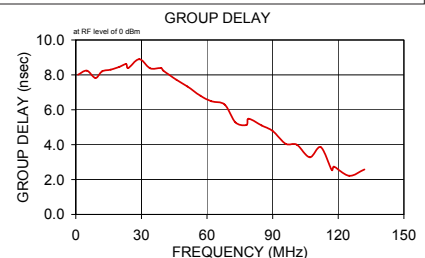
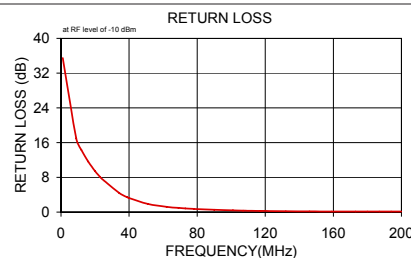
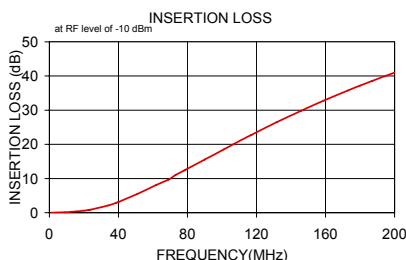


electrical schematic



Typical Performance Data

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



Notes

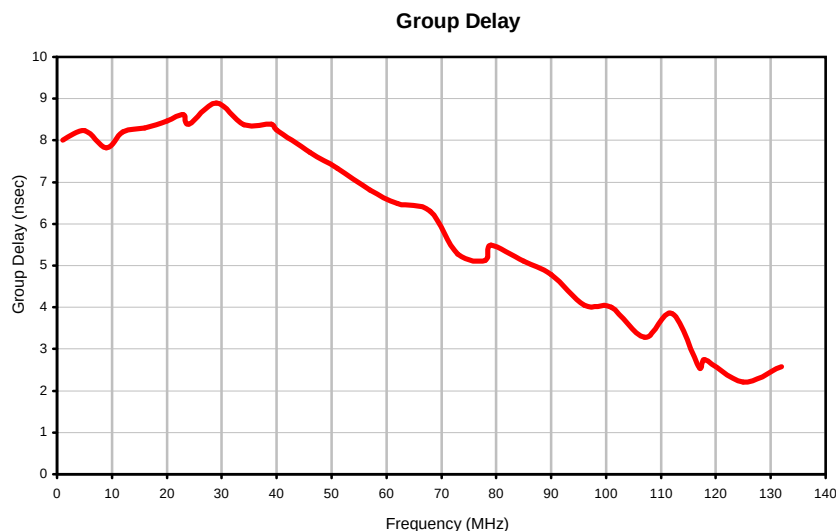
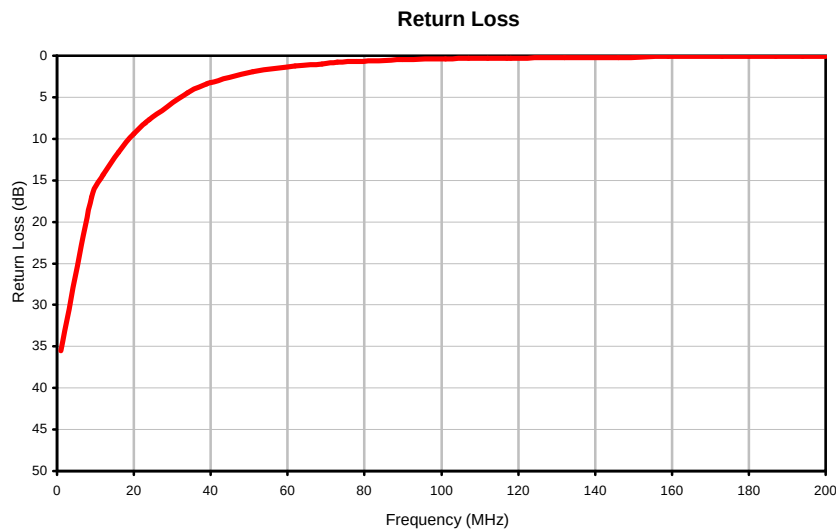
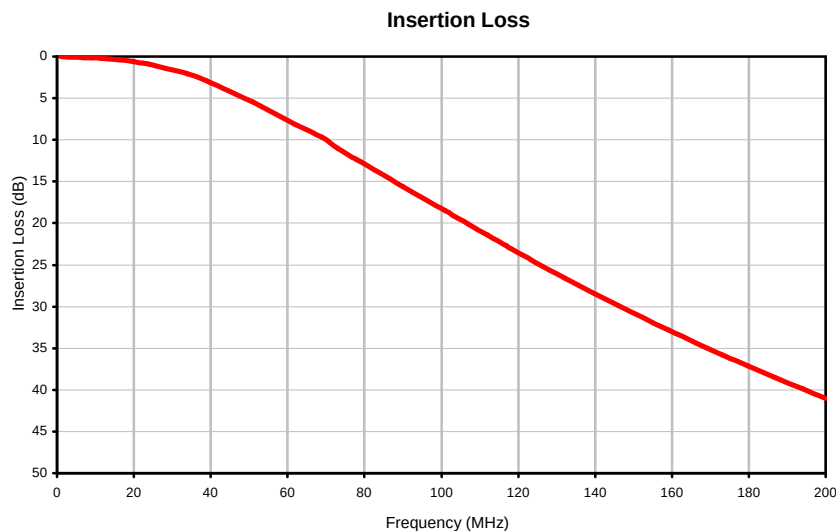
- Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
- Electrical specifications and performance data contained in this specification document are based on Mini-Circuit's applicable established test performance criteria and measurement instructions.
- 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



Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1	0.02	35.50	1	8.012
9	0.14	17.00	5	8.243
12	0.23	14.30	9	7.823
16	0.38	11.60	12	8.199
20	0.60	9.40	16	8.305
23	0.82	8.10	20	8.466
24	0.91	7.70	23	8.623
34	2.11	4.50	24	8.392
39	2.95	3.40	29	8.899
40	3.14	3.20	34	8.378
51	5.48	1.90	39	8.392
62	8.15	1.20	40	8.247
69	9.69	1.00	46	7.722
73	11.00	0.80	51	7.336
78	12.33	0.70	57	6.804
79	12.60	0.70	62	6.487
90	15.56	0.50	68	6.306
101	18.53	0.40	73	5.277
107	20.14	0.30	78	5.124
112	21.46	0.30	79	5.489
117	22.76	0.30	85	5.101
118	23.02	0.30	90	4.784
132	26.55	0.20	96	4.054
146	29.88	0.20	101	3.996
159	32.80	0.10	107	3.275
173	35.76	0.10	112	3.856
180	37.17	0.10	117	2.547
187	38.55	0.10	118	2.738
194	39.89	0.10	125	2.216
200	41.00	0.10	132	2.576

Typical Performance Curves



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS 9100 CERTIFIED RoHS compliant
P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



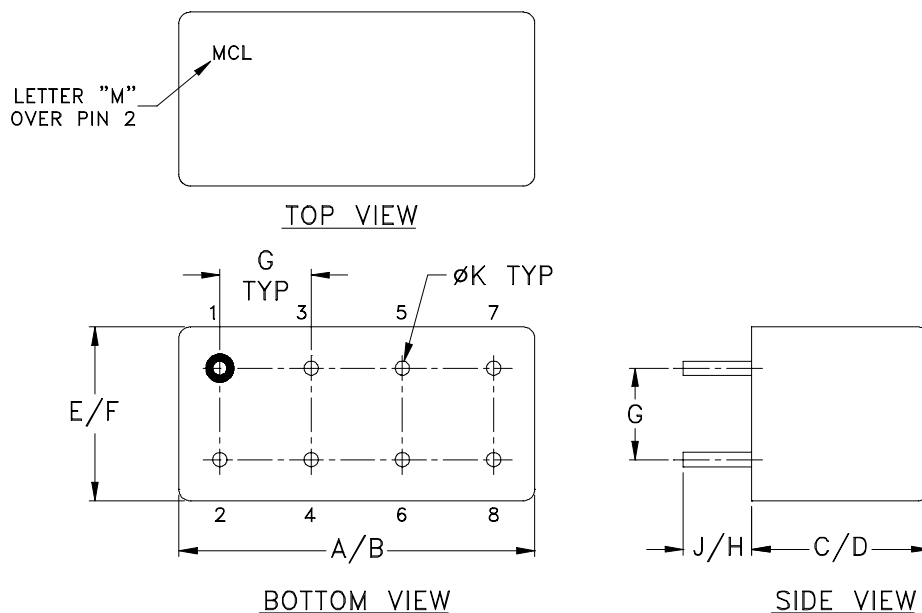
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



REV. X1
PBLP-39+
081222
Page 1 of 1

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. $\pm .03$; 3 Pl. $\pm .015$

Notes:

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

Mini-Circuits®

Distribution Centers NORTH AMERICA 800-654-7949 • 417-335-5935 • Fax 417-335-5945 • EUROPE 44-1252-832600 • Fax 44-1252-837010

Mini-Circuits ISO 9001 & ISO 14001 Certified

INTERNET <http://www.minicircuits.com>

P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661



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