Plug-In

Bandpass Filter

PIF-30+

50Ω Constant Impedance 25 to 35 MHz



Generic photo used for illustration purposes only

CASE STYLE: A01

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

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

- low VSWR in pass & stopbands, 1.3:1 typ.
- shielded welded case, hermetically sealed
- custom designs available

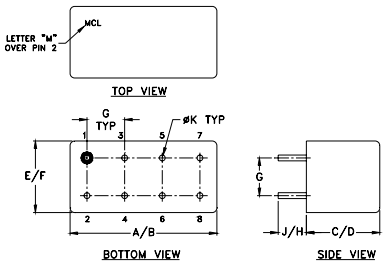
Applications

- harmonic rejection
- lab use
- military/hi-rel applications

Pin Connections

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

Outline Drawing



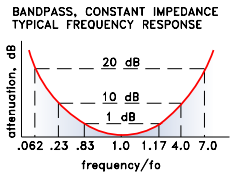
Outline Dimensions (inch / mm)

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

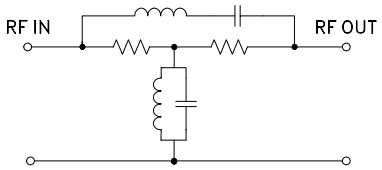
Bandpass Filter Electrical Specifications

MODEL NO.	CENTER FREQ. (MHz)	PASSBAND (MHz) (loss<1 dB)	STOPBANDS (loss > 10 dB) at MHz	STOPBANDS (loss > 20 dB) at MHz	VSWR, 1.3:1 Typ. TOTAL BAND (MHz)
PIF-30+	30	25-35	7 & 120	1.9 & 210	DC-330

typical frequency response

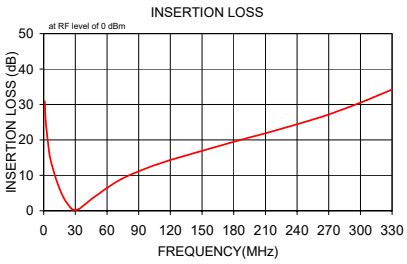


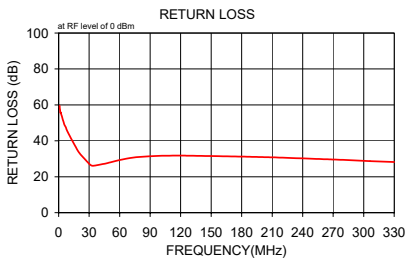
electrical schematic

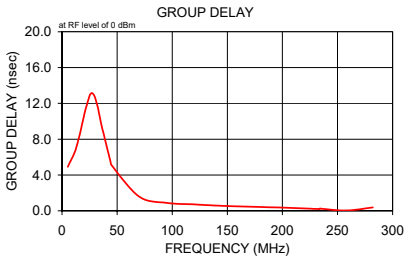


Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
1.0	30.97	0.1	59.5	5.3	4.911
1.2	29.52	0.1	57.9	7.0	5.392
1.4	28.29	0.1	57.1	8.0	5.612
1.5	27.23	0.1	56.5	12.0	6.685
1.7	26.25	0.1	56.0	16.0	8.448
1.9	25.40	0.1	55.5	20.0	10.612
2.0	24.95	0.1	55.8	21.0	11.190
5.3	16.33	0.1	49.5	25.0	12.864
7.0	13.88	0.1	47.5	26.0	13.075
8.0	12.64	0.1	46.0	27.3	13.145
12.0	8.66	0.1	41.6	28.8	12.980
16.0	5.59	0.1	37.4	30.0	12.639
20.0	3.10	0.1	33.5	31.0	12.237
26.0	0.66	0.1	29.6	32.3	11.647
28.7	0.26	0.1	28.0	33.8	10.775
31.0	0.25	0.1	26.7	35.0	10.047
33.7	0.55	0.1	26.1	36.0	9.449
44.0	2.99	0.1	27.1	44.0	5.471
45.0	3.25	0.1	27.2	45.0	5.093
70.0	8.33	0.1	30.4	70.0	1.581
95.0	11.72	0.1	31.5	95.0	0.883
120.0	14.33	0.1	31.8	120.0	0.718
121.0	14.43	0.1	31.8	121.0	0.703
180.0	19.47	0.1	31.2	150.8	0.518
210.0	21.85	0.1	30.8	180.3	0.428
211.0	21.93	0.1	30.8	210.0	0.305
258.6	26.09	0.2	29.8	233.8	0.196
282.4	28.52	0.2	29.3	234.0	0.244
306.2	31.23	0.3	28.7	258.0	0.031
330.0	34.20	0.4	28.2	282.0	0.378







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

Plug-In Band Pass Filter (Constant Impedance) PIF-30+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
1.0	30.97	59.50
1.2	29.52	57.90
1.4	28.29	57.10
1.5	27.23	56.50
1.7	26.25	56.00
1.9	25.40	55.50
2.0	24.95	55.80
5.3	16.33	49.50
7.0	13.88	47.50
8.0	12.64	46.00
12.0	8.66	41.60
16.0	5.59	37.40
20.0	3.10	33.50
26.0	0.66	29.60
28.7	0.26	28.00
31.0	0.25	26.70
33.7	0.55	26.10
44.0	2.99	27.10
45.0	3.25	27.20
70.0	8.33	30.40
95.0	11.72	31.50
120.0	14.33	31.80
121.0	14.43	31.80
180.0	19.47	31.20
210.0	21.85	30.80
211.0	21.93	30.80
258.6	26.09	29.80
282.4	28.52	29.30
306.2	31.23	28.70
330.0	34.20	28.20

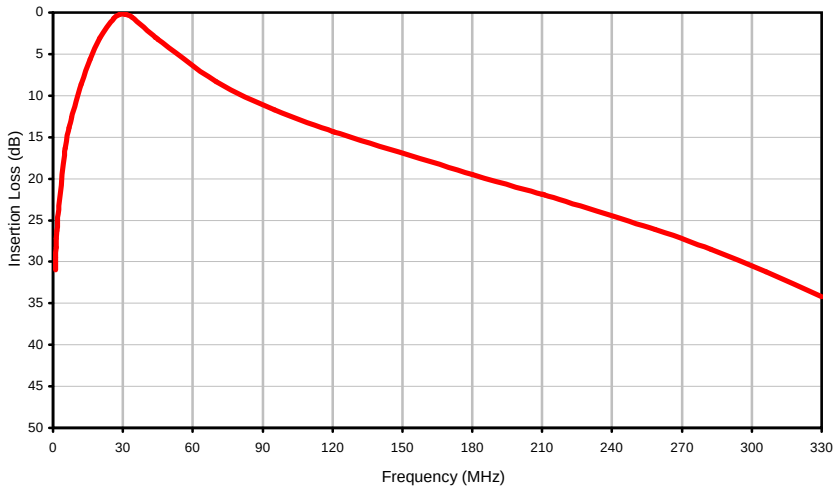
FREQUENCY (MHz)	GROUP DELAY (nsec)
5.3	4.911
7.0	5.392
8.0	5.612
12.0	6.685
16.0	8.448
20.0	10.612
21.0	11.190
25.0	12.864
26.0	13.075
27.3	13.145
28.8	12.980
30.0	12.639
31.0	12.237
32.3	11.647
33.8	10.775
35.0	10.047
36.0	9.449
44.0	5.471
45.0	5.093
70.0	1.581
95.0	0.883
120.0	0.718
121.0	0.703
150.8	0.518
180.3	0.428
210.0	0.305
233.8	0.196
234.0	0.244
258.0	0.031
282.0	0.378

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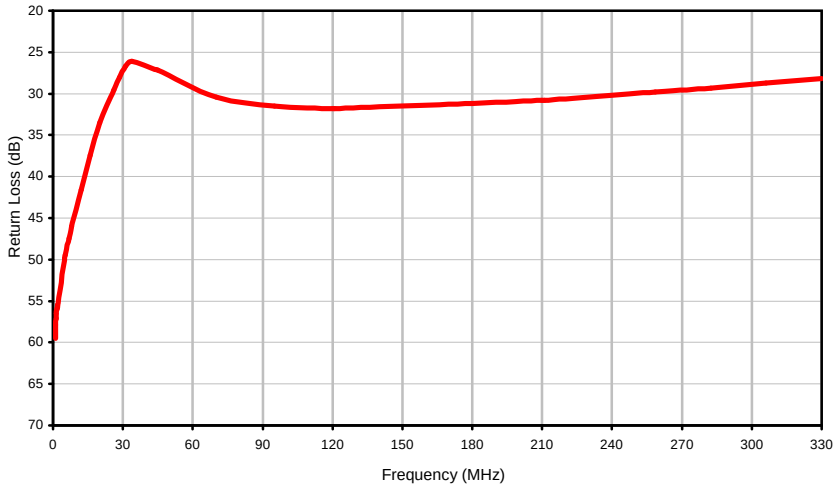
Plug-In Band Pass Filter (Constant Impedance) PIF-30+

Typical Performance Curves

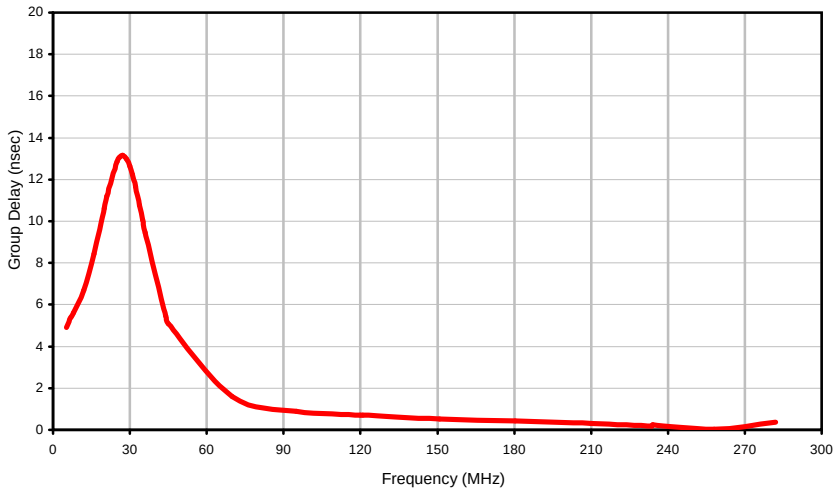
Insertion Loss



Return Loss



Group Delay

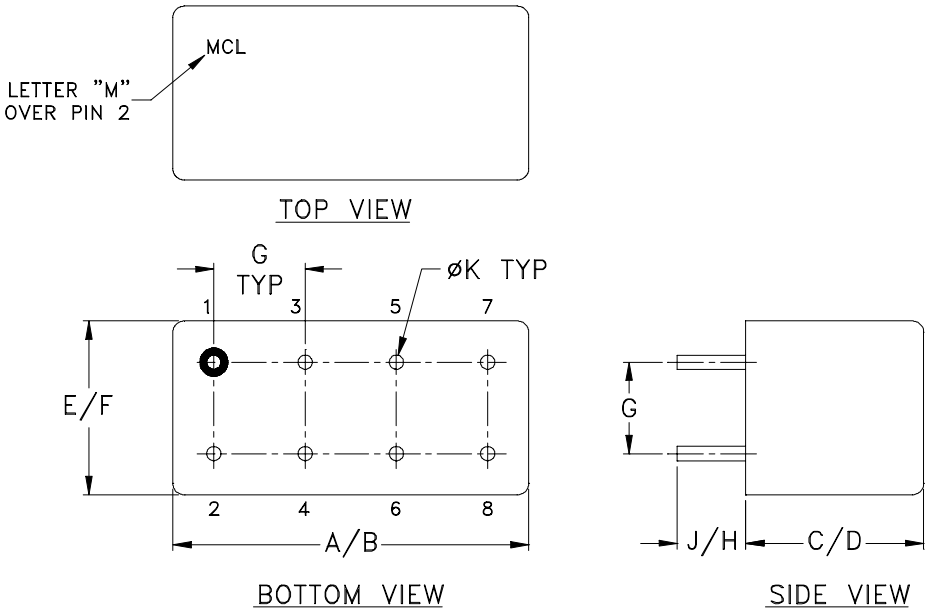


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Case Style A

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

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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

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