Coaxial

Bandpass Filter

50Ω Constant Impedance 18 to 25 MHz

SIF-21.4+

Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SIF-21.4+

+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-and stopbands, 1.3:1 typ.
- rugged shielded case
- custom fo models available

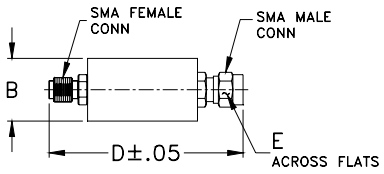
Applications

- harmonic rejection
- lab use

Bandpass Filter Electrical Specifications

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)
21.4	18-25	4.9 & 85	1.3 & 150	DC-220

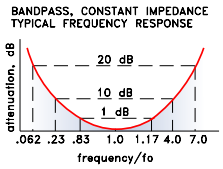
Outline Drawing



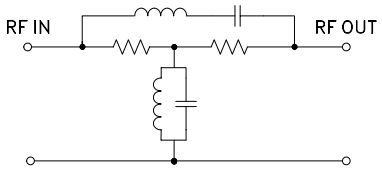
Outline Dimensions (inch / mm)

B	D	E	wt
.67	1.98	.312	grams
17.02	50.29	7.92	42.0

typical frequency response



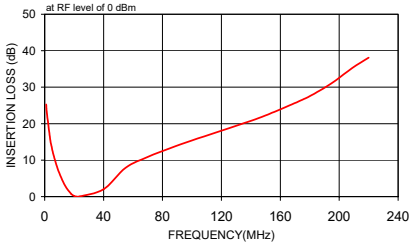
electrical schematic



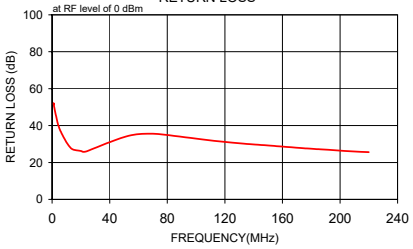
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB) x̄	Insertion Loss (dB) σ	Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
1.00	25.27	0.20	52.20	1.20	4.399
1.10	24.91	0.20	51.60	1.30	6.493
1.10	24.55	0.20	51.70	1.40	5.803
1.20	24.24	0.20	51.40	2.60	6.877
1.20	23.93	0.20	51.20	3.70	7.658
1.30	23.64	0.20	50.90	4.90	8.204
1.40	23.17	0.20	50.10	5.00	8.142
3.70	15.71	0.10	41.80	7.90	9.473
4.90	13.27	0.10	39.00	11.00	11.528
6.00	11.38	0.10	36.80	14.00	14.015
8.70	7.85	0.10	32.80	15.00	14.909
11.30	5.18	0.10	29.50	17.90	16.385
14.00	2.92	0.10	27.20	18.80	16.348
18.00	0.72	0.10	26.50	19.80	16.309
20.30	0.14	0.10	26.20	20.90	15.915
21.50	0.01	0.10	25.80	21.60	15.629
23.80	0.05	0.10	26.00	22.40	15.139
40.00	2.02	0.20	31.00	23.20	14.502
55.00	7.93	0.20	34.80	24.00	13.843
70.00	10.88	0.20	35.60	24.80	13.162
85.00	13.23	0.20	34.40	26.20	11.927
100.00	15.41	0.20	32.90	32.70	6.934
116.70	17.64	0.20	31.40	33.90	6.349
133.30	19.87	0.10	30.20	51.30	2.263
150.00	22.27	0.10	29.20	67.60	1.347
175.00	26.56	0.20	27.70	84.60	0.959
186.30	28.96	0.20	27.10	86.10	0.936
197.50	31.82	0.30	26.60	107.80	0.693
208.80	35.24	0.60	26.00	128.10	0.484
220.00	38.08	1.40	25.60	147.10	0.321

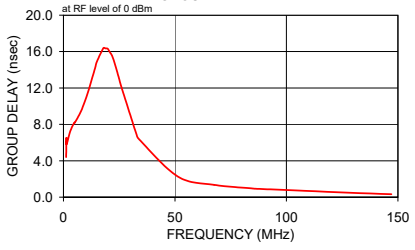
INSERTION LOSS



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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Coaxial Band Pass Filter(Constant Impedance) SIF-21.4+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
1.00	25.27	52.20
1.10	24.55	51.70
1.20	24.24	51.40
1.30	23.64	50.90
1.40	23.17	50.10
3.70	15.71	41.80
4.90	13.27	39.00
6.00	11.38	36.80
8.70	7.85	32.80
11.30	5.18	29.50
14.00	2.92	27.20
18.00	0.72	26.50
20.30	0.14	26.20
21.50	0.01	25.80
23.80	0.05	26.00
40.00	2.02	31.00
55.00	7.93	34.80
70.00	10.88	35.60
85.00	13.23	34.40
100.00	15.41	32.90
116.70	17.64	31.40
133.30	19.87	30.20
150.00	22.27	29.20
175.00	26.56	27.70
186.30	28.96	27.10
197.50	31.82	26.60
208.80	35.24	26.00
220.00	38.08	25.60

FREQUENCY (MHz)	GROUP DELAY (nsec)
1.20	4.399
1.30	6.493
1.40	5.803
2.60	6.877
3.70	7.658
4.90	8.204
5.00	8.142
7.90	9.473
11.00	11.528
14.00	14.015
15.00	14.909
18.80	16.348
19.80	16.309
20.90	15.915
21.60	15.629
22.40	15.139
24.00	13.843
24.80	13.162
26.20	11.927
32.70	6.934
33.90	6.349
51.30	2.263
67.60	1.347
84.60	0.959
86.10	0.936
107.80	0.693
128.10	0.484
147.10	0.321

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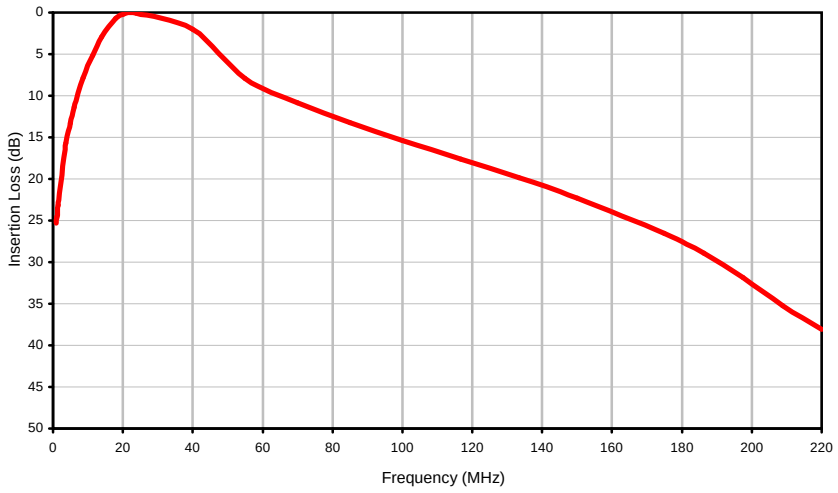
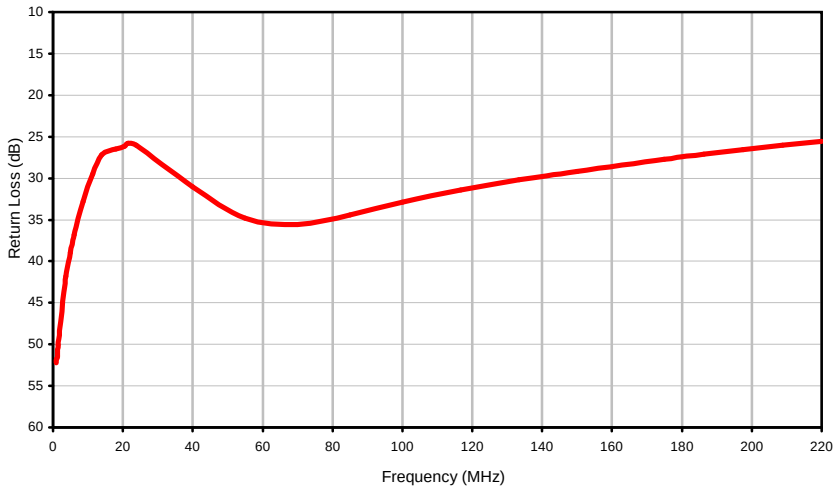
Typical Performance Curves

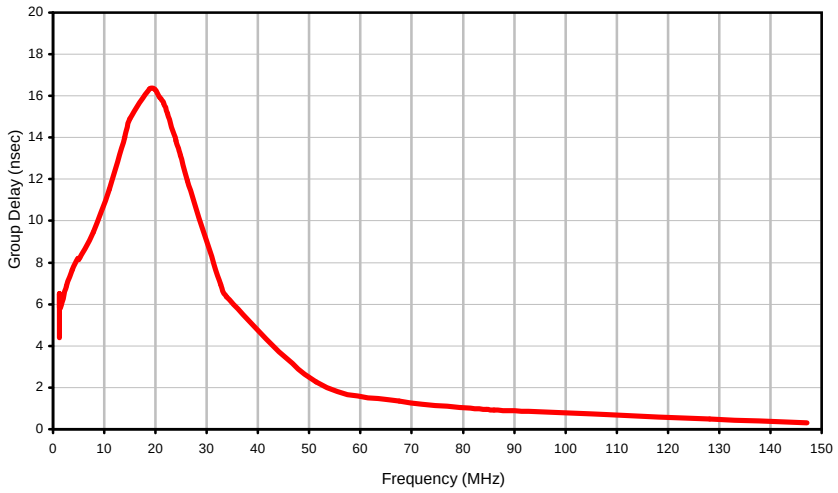
Insertion Loss



Return Loss



Group Delay



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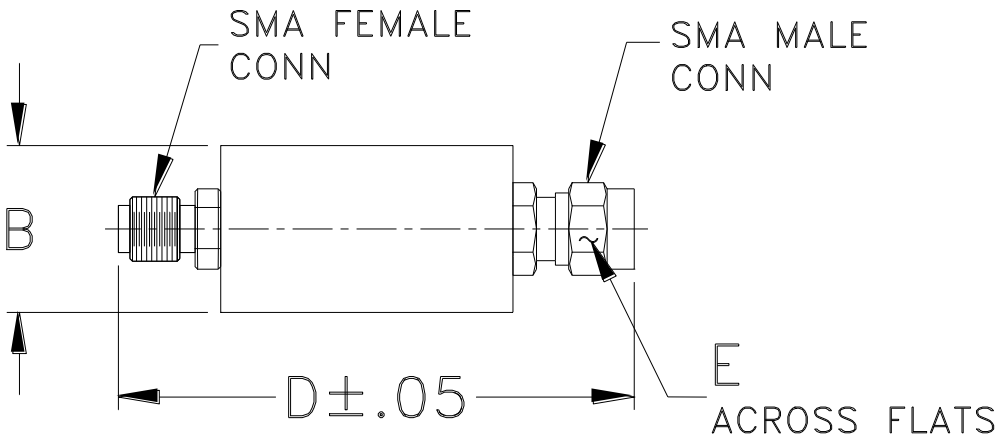
FF56
FF99

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF56	--	.46 (11.68)	--	1.70 (43.18)	.312 (7.92)	18.0
FF99	--	.70 (17.78)	--	1.98 (50.29)		42.0

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

Notes:
1. Case material: Brass.
2. Case finish: Nickel plate.

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Mini-Circuits

Environmental Specifications ENV28

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
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

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