

Coaxial

Bandpass Filter

50Ω Constant Impedance 18 to 25 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.

Features

- low VSWR in pass-and stopbands, 1.3:1 typ.
- rugged shielded case
- custom to models available

Applications

- harmonic rejection
- lab use

SIF-21.4+

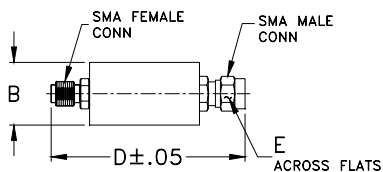

Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SIF-21.4+

+RoHS Compliant

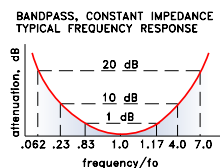
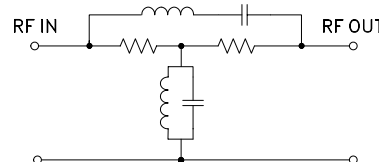
The +Suffix identifies RoHS Compliance. See our web site for RoHS Compliance methodologies and qualifications

Outline Drawing

Outline Dimensions (inch/mm)

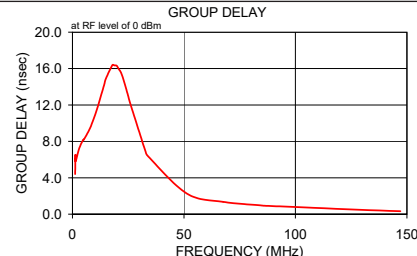
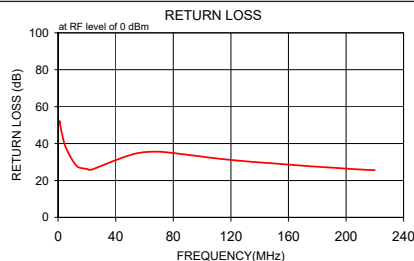
B	D	E	wt
.67	1.98	.312	grams
17.02	50.29	7.92	42.0

Bandpass Filter Electrical Specifications

CENTER FREQ. (MHz)	PASSBAND (MHz)	STOPBANDS		VSWR, 1.3:1 Typ. TOTAL BAND (MHz)
		(loss > 10 dB) at MHz	(loss > 20 dB) at MHz	
21.4	(loss < 1 dB) 18-25	4.9 & 85	1.3 & 150	DC-220

typical frequency response

electrical schematic

Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	$\bar{x}$	σ			
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


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


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 REV. C
M151107
SIF-21.4+
200522

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

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1.00	25.27	52.20	1.20	4.399
1.10	24.55	51.70	1.30	6.493
1.20	24.24	51.40	1.40	5.803
1.30	23.64	50.90	2.60	6.877
1.40	23.17	50.10	3.70	7.658
3.70	15.71	41.80	4.90	8.204
4.90	13.27	39.00	5.00	8.142
6.00	11.38	36.80	7.90	9.473
8.70	7.85	32.80	11.00	11.528
11.30	5.18	29.50	14.00	14.015
14.00	2.92	27.20	15.00	14.909
18.00	0.72	26.50	18.80	16.348
20.30	0.14	26.20	19.80	16.309
21.50	0.01	25.80	20.90	15.915
23.80	0.05	26.00	21.60	15.629
40.00	2.02	31.00	22.40	15.139
55.00	7.93	34.80	24.00	13.843
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186.30	28.96	27.10	86.10	0.936
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208.80	35.24	26.00	128.10	0.484
220.00	38.08	25.60	147.10	0.321

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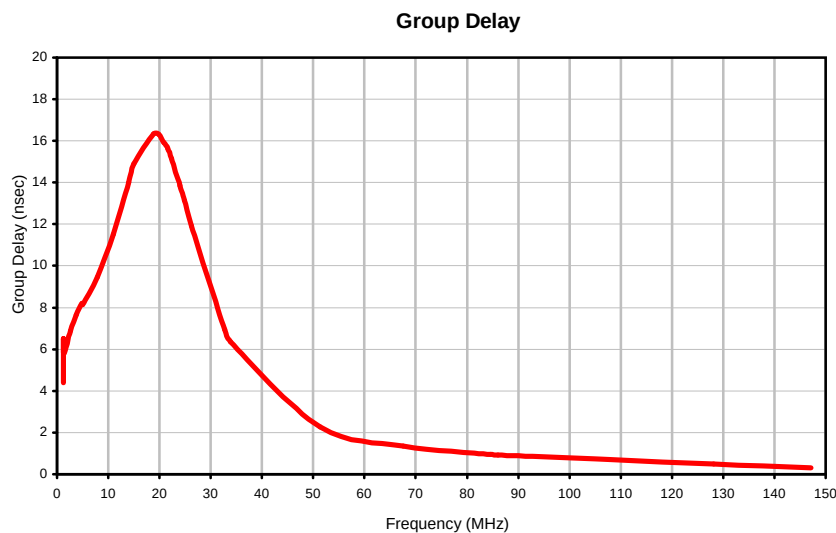
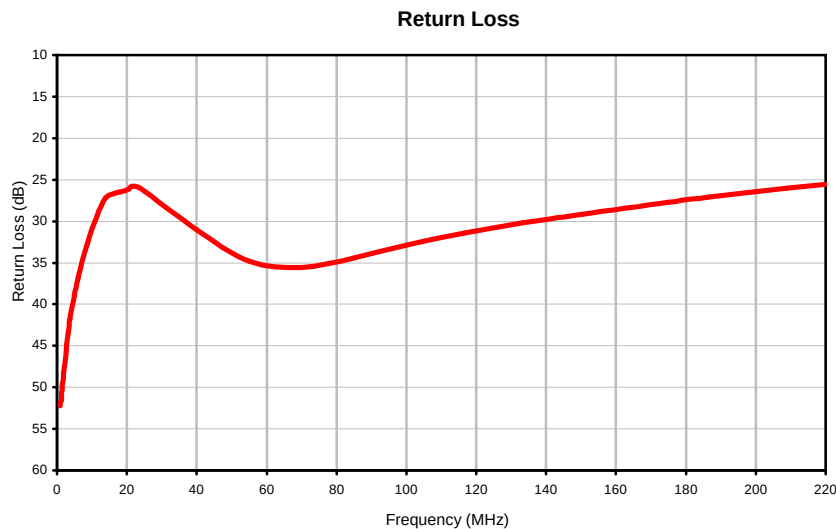
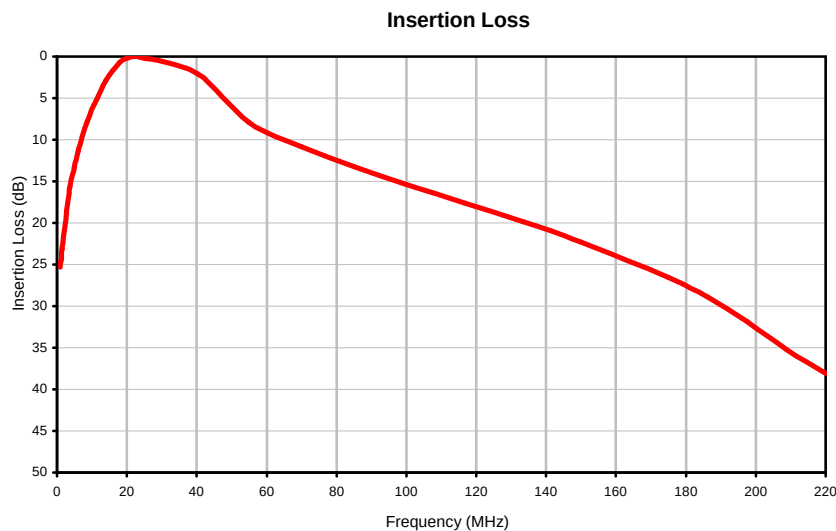


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Coaxial Band Pass Filter(Constant Impedance) SIF-21.4+

Typical Performance Curves



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SIF-21.4+
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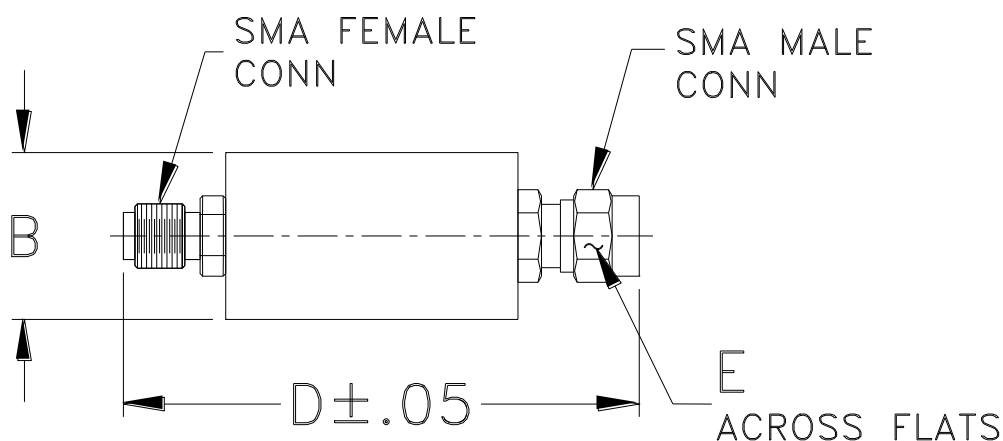
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FF56
FF99

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.



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