

Coaxial Bandpass Filter

SIF-50+

50Ω Constant Impedance 41 to 58 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 fo models available

Applications

- harmonic rejection
- lab use



Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors Model
SMA SIF-70+

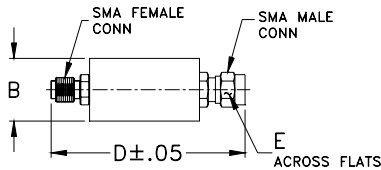
+RoHS Compliant

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

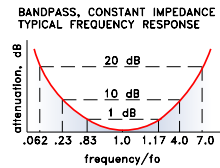
Bandpass Filter Electrical Specifications

CENTER FREQ. (MHz)	PASSBAND (MHz) (loss < 1 dB)	STOPBANDS		VSWR, 1.3:1 Typ. TOTAL BAND (MHz)
		(loss > 10 dB) at MHz	(loss > 20 dB) at MHz	
50	41-58	11.5 & 200	3.1 & 350	DC-440

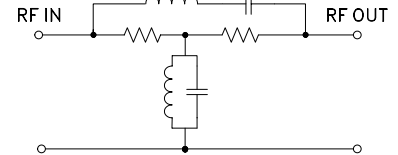
Outline Drawing



typical frequency response



electrical schematic

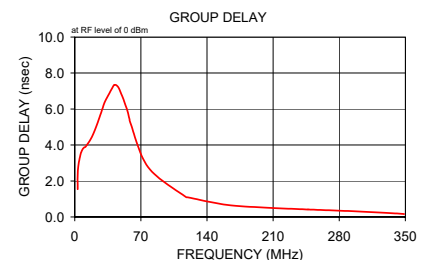
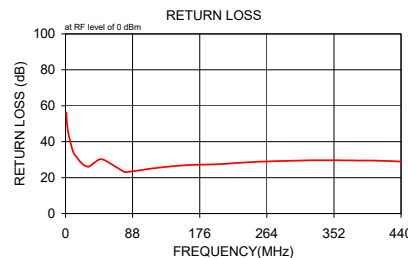
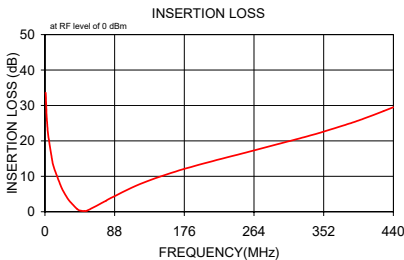


Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	\bar{x}	σ			
1.0	33.62	0.2	56.3	3.1	1.540
1.4	30.60	0.2	53.5	3.2	2.572
1.8	28.39	0.2	51.1	5.9	3.434
2.3	26.60	0.2	49.3	8.7	3.800
2.7	25.16	0.2	47.6	11.4	3.893
3.1	23.91	0.2	46.4	11.6	3.910
4.0	21.72	0.3	43.9	18.2	4.448
9.0	14.63	0.2	35.6	24.4	5.257
11.5	12.44	0.2	33.2	31.1	6.290
20.0	7.25	0.2	28.5	32.2	6.428
23.7	5.61	0.2	27.1	41.0	7.293
27.3	4.18	0.2	26.3	41.7	7.342
31.0	2.95	0.2	26.2	43.9	7.325
41.0	0.70	0.1	29.3	46.2	7.197
45.5	0.28	0.1	30.2	48.7	6.905
50.0	0.21	0.1	30.0	51.3	6.571
53.0	0.34	0.1	29.3	53.1	6.309
77.0	3.12	0.1	23.2	55.9	5.874
80.0	3.52	0.1	23.1	57.9	5.441
120.0	7.84	0.1	25.4	58.9	5.242
160.0	10.99	0.2	27.0	77.6	2.769
200.0	13.61	0.2	27.5	117.5	1.114
250.0	16.51	0.2	28.8	119.5	1.093
316.7	20.38	0.4	29.6	160.3	0.679
350.0	22.46	0.4	29.7	200.7	0.525
390.0	25.29	0.6	29.5	246.9	0.414
402.5	26.25	0.7	29.5	251.2	0.408
415.0	27.29	0.8	29.3	298.5	0.306
427.5	28.35	0.9	29.2	342.8	0.185
440.0	29.49	1.0	28.9	348.7	0.163

Outline Dimensions (inch/mm)

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



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-Circuit's 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-Circuit's website at www.minicircuits.com/MCLStore/terms.jsp



Coaxial Band Pass Filter(Constant Impedance) SIF-50+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1.00	33.62	56.30	3.10	1.540
1.40	30.60	53.50	3.20	2.572
1.80	28.39	51.10	5.90	3.434
2.30	26.60	49.30	8.70	3.800
2.70	25.16	47.60	11.40	3.893
3.10	23.91	46.40	11.60	3.910
4.00	21.72	43.90	18.20	4.448
9.00	14.63	35.60	24.40	5.257
11.50	12.44	33.20	31.10	6.290
20.00	7.25	28.50	32.20	6.428
23.70	5.61	27.10	41.00	7.293
27.30	4.18	26.30	41.70	7.342
31.00	2.95	26.20	43.90	7.325
41.00	0.70	29.30	46.20	7.197
45.50	0.28	30.20	48.70	6.905
50.00	0.21	30.00	51.30	6.571
53.00	0.34	29.30	53.10	6.309
77.00	3.12	23.20	55.90	5.874
80.00	3.52	23.10	57.90	5.441
120.00	7.84	25.40	58.90	5.242
160.00	10.99	27.00	77.60	2.769
200.00	13.61	27.50	117.50	1.114
250.00	16.51	28.80	119.50	1.093
316.70	20.38	29.60	160.30	0.679
350.00	22.46	29.70	200.70	0.525
390.00	25.29	29.50	246.90	0.414
402.50	26.25	29.50	251.20	0.408
415.00	27.29	29.30	298.50	0.306
427.50	28.35	29.20	342.80	0.185
440.00	29.49	28.90	348.70	0.163

REV. X1
SIF-50+
070530
Page 1 of 1



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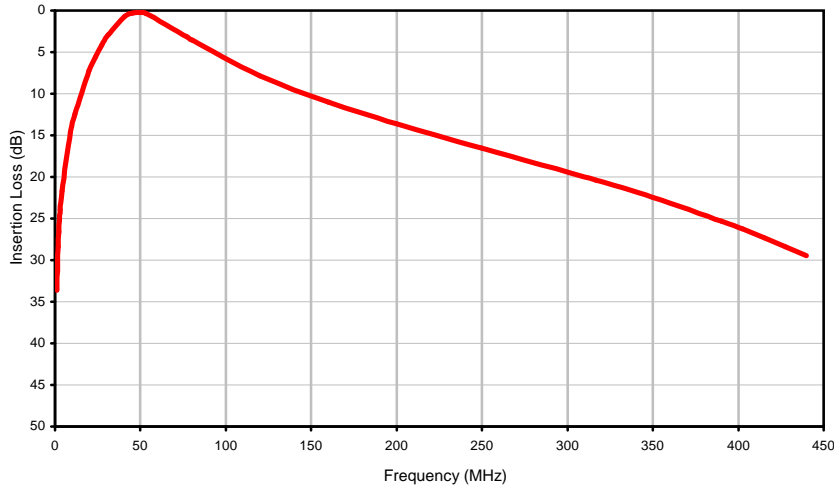
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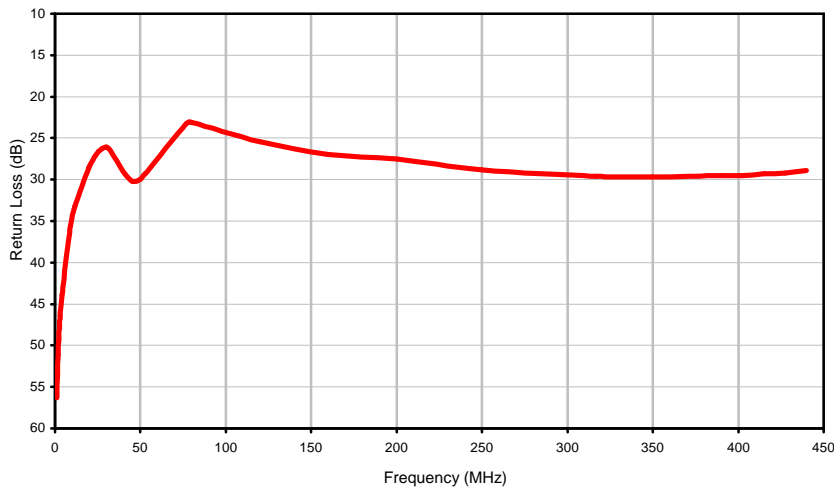
Coaxial Band Pass Filter(Constant Impedance) SIF-50+

Typical Performance Curves

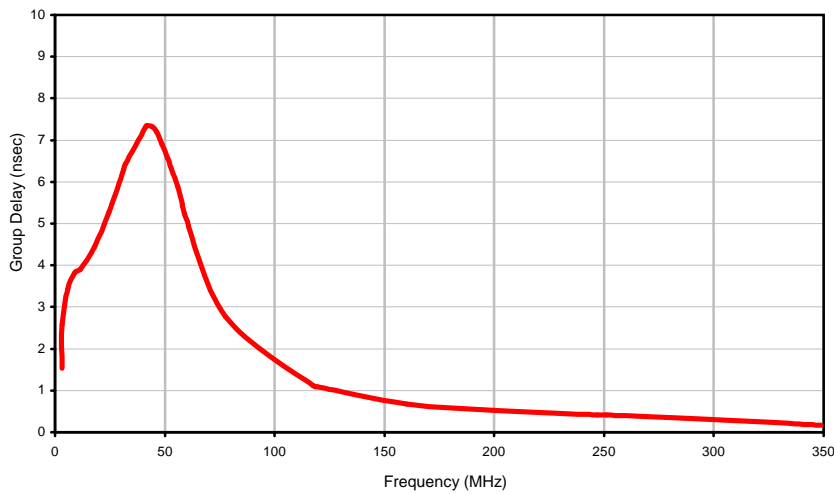
Insertion Loss



Return Loss



Group Delay



REV. X1
SIF-50+
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Page 1 of 1



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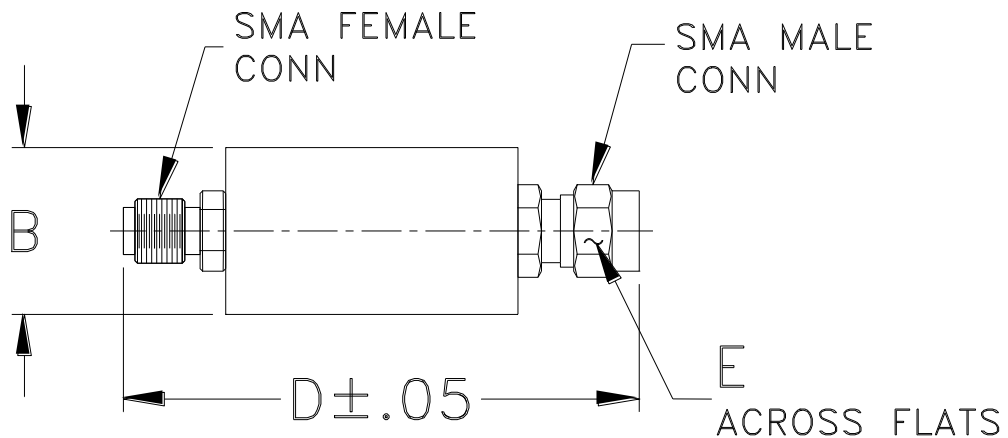


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Outline Dimensions

FF56
FF99



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