

Coaxial Bandpass Filter

NON-CATALOG

NIF-21.4+
NIF-21.4

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.

Features

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

Applications

- harmonic rejection
- lab use



CASE STYLE: FF57

Connectors	Model	Price	Qty.
N-Type	NIF-21.4(+)	Contact Sales Dept.	

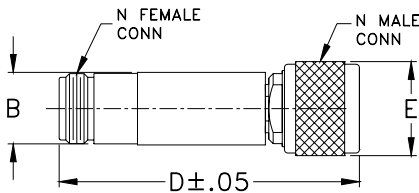
+ RoHS compliant in accordance with EU Directive (2002/95/EC)

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

Bandpass Filter Electrical Specifications

MODEL NO.	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	
NIF-21.4(+)	21.4	18-25	4.9 & 85	1.3 & 150	DC-220

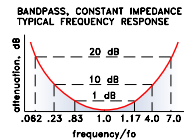
Outline Drawing



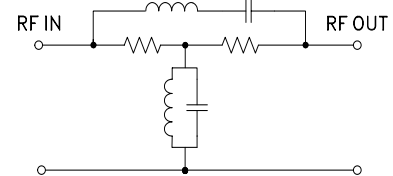
Outline Dimensions (inch/mm)

B	D	E	wt
.67	2.90	.82	grams
17.02	73.66	20.83	90.0

typical frequency response

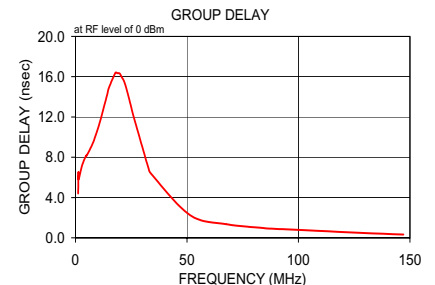
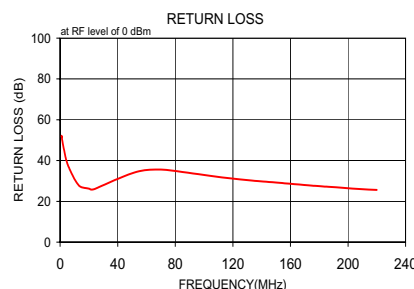


Electrical Schematic



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



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Notes: 1. Performance and quality attributes and conditions not expressly stated in this specification sheet are intended to be excluded and do not form a part of this specification sheet. 2. Electrical specifications and performance data contained herein are based on Mini-Circuits' applicable established test performance criteria and measurement instructions. 3. The parts covered by this specification sheet 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.

REV. A
M122594
NIF-21.4
100325

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

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)	FREQUENCY (MHz)	GROUP DELAY (nsec)
1.0	25.27	52.20	1.2	4.399
1.10	24.55	51.60	1.3	6.493
1.12	24.91	51.70	1.4	5.803
1.20	23.93	51.40	2.6	6.877
1.22	24.24	51.20	3.7	7.658
1.30	23.64	50.90	4.9	8.204
1.40	23.17	50.10	5.0	8.142
3.70	15.71	41.80	7.9	9.473
4.90	13.27	39.00	11.0	11.528
6.00	11.38	36.80	14.0	14.015
8.70	7.85	32.80	15.0	14.909
11.30	5.18	29.50	17.9	16.385
14.00	2.92	27.20	18.8	16.348
18.00	0.72	26.50	19.8	16.309
20.30	0.14	26.20	20.9	15.915
21.50	0.01	25.80	21.6	15.629
23.80	0.05	26.00	22.4	15.139
40.00	2.02	31.00	23.2	14.502
55.00	7.93	34.80	24.0	13.843
70.00	10.88	35.60	24.8	13.162
85.00	13.23	34.40	26.2	11.927
100.00	15.41	32.90	32.7	6.934
116.70	17.64	31.40	33.9	6.349
133.30	19.87	30.20	51.3	2.263
150.00	22.27	29.20	67.6	1.347
175.00	26.56	27.70	84.6	0.959
186.30	28.96	27.10	86.1	0.936
197.50	31.82	26.60	107.8	0.693
208.80	35.24	26.00	128.1	0.484
220.00	38.08	25.60	147.1	0.321

REV. X1
NIF-21.4+
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Page 1 of 1



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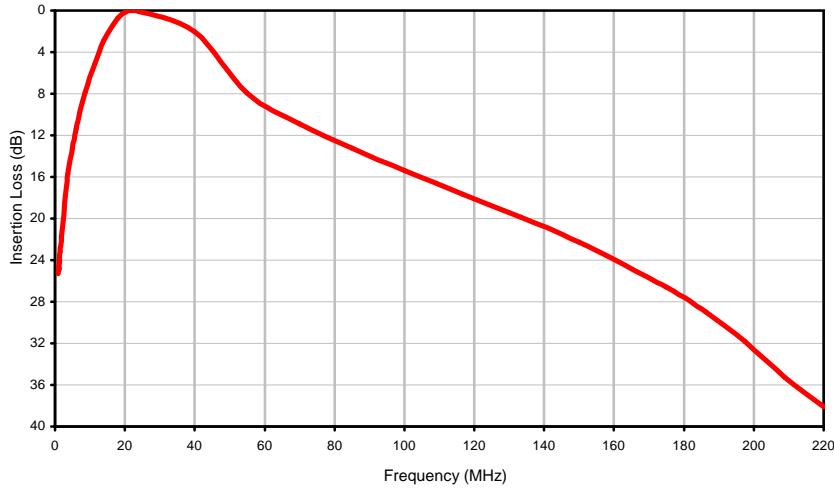
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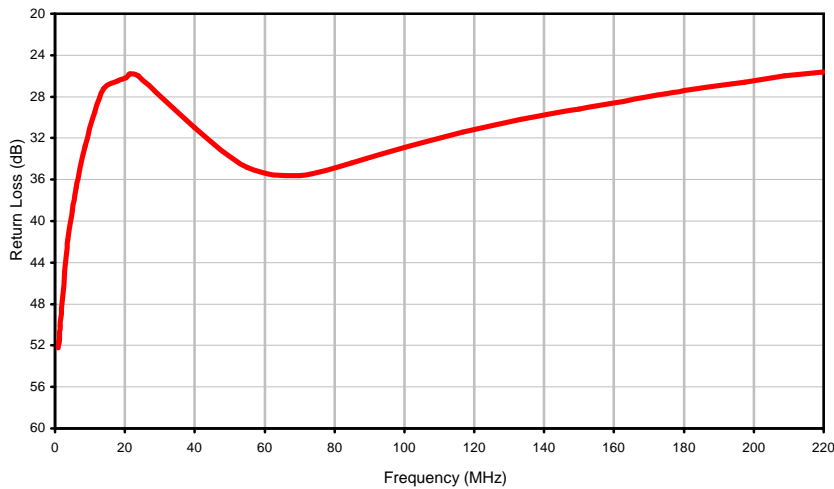
Coaxial Band Pass Filter (Constant Impedance) NIF-21.4+

Typical Performance Curves

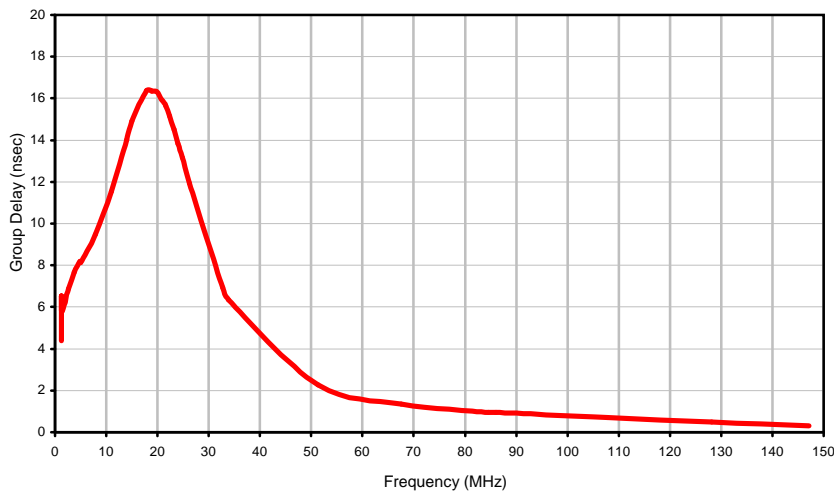
Insertion Loss



Return Loss



Group Delay



REV. X1
 NIF-21.4+
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 Page 1 of 1



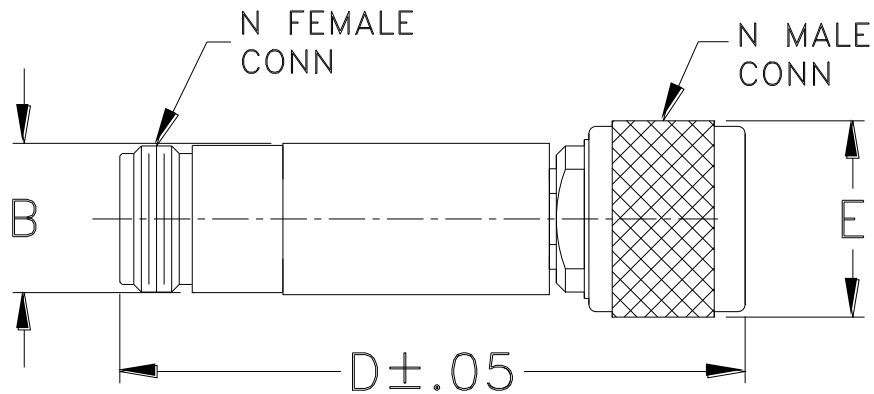
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Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF57	--	.70 (17.78)	--	2.90 (73.66)	.82 (20.83)	90.0

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

Note:

1. Case material: Stainless steel.

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