Coaxial

High Pass Filter

SHP-175+

50Ω 160 to 1200 MHz

Generic photo used for illustration purposes only

CASE STYLE: FF99

Connectors	Model
SMA	SHP-175+

+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

- rugged shielded case
- other standard and custom SHP models available with wide selection of fco

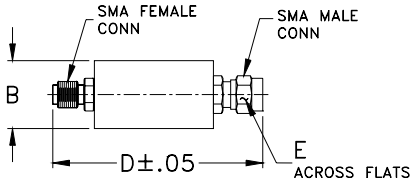
Applications

- lab use
- transmitters/receivers
- radio communications

High Pass Filter Electrical Specifications

STOPBAND (MHz) (loss > 40 dB)	STOPBAND (MHz) (loss > 20 dB)	fco (MHz) Nom. (loss 3 dB)	PASSBAND (MHz) (loss <1 dB)	VSWR (:1) Stopband Typ.	VSWR (:1) Passband Typ.
DC-70	70-105	140	160-1200	17	1.5

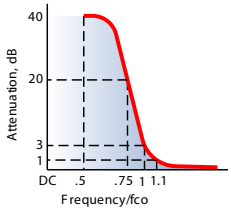
Outline Drawing



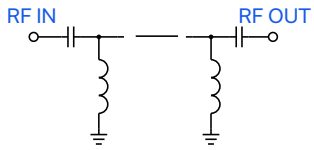
Outline Dimensions (inch / mm)

B	D	E	WT GRAMS
.70	1.98	.312	42.0
(17.78)	(50.29)	(7.92)	

typical frequency response



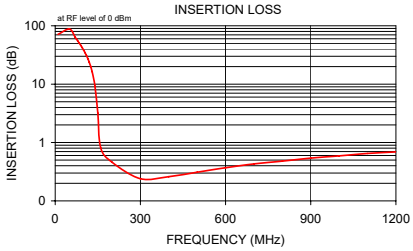
electrical schematic



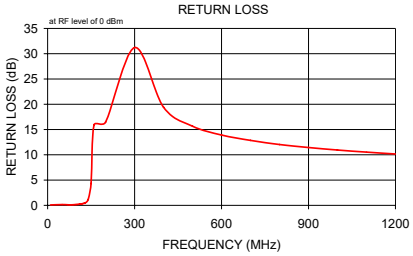
Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)		Return Loss (dB)	Frequency (MHz)	Group Delay (nsec)
	x̄				
10.00	71.26	4.82	0.08	10.00	11.56
50.00	88.13	7.75	0.15	50.00	3.48
70.00	64.08	0.60	0.11	70.00	1.95
75.00	59.06	0.35	0.09	75.00	2.87
80.00	54.47	0.39	0.09	80.00	3.70
85.00	50.30	0.30	0.11	85.00	2.88
90.00	46.22	0.36	0.12	90.00	3.16
95.00	42.26	0.37	0.15	95.00	3.46
100.00	38.41	0.38	0.16	100.00	3.85
105.00	34.67	0.41	0.20	105.00	3.98
110.00	30.99	0.41	0.23	110.00	4.15
115.00	27.32	0.43	0.27	115.00	4.63
120.00	23.70	0.45	0.33	120.00	5.22
125.00	20.06	0.46	0.39	125.00	5.93
130.00	16.41	0.48	0.50	130.00	6.93
135.00	12.76	0.49	0.71	135.00	8.35
140.00	9.17	0.47	1.17	140.00	10.35
150.00	3.19	0.29	4.33	150.00	14.46
160.00	0.82	0.05	15.90	160.00	12.65
200.00	0.46	0.04	16.46	200.00	4.88
300.00	0.24	0.01	31.22	300.00	1.97
400.00	0.26	0.01	19.40	400.00	1.19
500.00	0.31	0.01	15.65	500.00	0.86
600.00	0.37	0.01	13.91	600.00	0.67
700.00	0.43	0.01	12.85	700.00	0.56
800.00	0.48	0.01	12.04	800.00	0.50
900.00	0.54	0.01	11.44	900.00	0.46
1000.00	0.59	0.01	10.95	1000.00	0.43
1100.00	0.65	0.01	10.53	1100.00	0.40
1200.00	0.69	0.02	10.16	1200.00	0.38

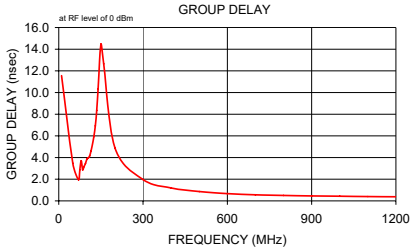
INSERTION LOSS



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 High Pass Filter SHP-175+

Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS (dB)	RETURN LOSS (dB)
10.0	71.26	0.08
50.0	88.13	0.15
70.0	64.08	0.11
80.0	54.47	0.09
90.0	46.22	0.12
100.0	38.41	0.16
110.0	30.99	0.23
120.0	23.70	0.33
130.0	16.41	0.50
140.0	9.17	1.17
150.0	3.19	4.33
160.0	0.82	15.90
200.0	0.46	16.46
250.0	0.27	31.80
300.0	0.24	31.22
350.0	0.24	23.54
400.0	0.26	19.40
450.0	0.29	17.08
500.0	0.31	15.65
550.0	0.35	14.64
600.0	0.37	13.91
650.0	0.41	13.32
700.0	0.43	12.85
750.0	0.46	12.39
800.0	0.48	12.04
850.0	0.51	11.72
900.0	0.54	11.44
1000.0	0.59	10.95
1050.0	0.61	10.73
1100.0	0.65	10.53
1150.0	0.67	10.35
1200.0	0.69	10.16
1300.0	0.75	9.89
1400.0	0.78	9.64
1500.0	0.82	9.45
1550.0	0.85	9.36
1600.0	0.86	9.31
1650.0	0.86	9.24
1700.0	0.88	9.21
1750.0	0.89	9.17
2000.0	0.91	9.26
2500.0	0.86	10.25
3000.0	0.72	12.71
3500.0	0.69	18.10
4000.0	0.69	23.77
5000.0	2.08	15.75
5500.0	3.16	21.69
6000.0	3.52	12.49
6500.0	4.79	11.35
7000.0	8.71	15.34
8000.0	3.87	12.54
8500.0	2.50	17.77
9000.0	4.94	17.62
9500.0	13.08	7.73
10000.0	6.61	9.91

FREQUENCY (MHz)	GROUP DELAY (nsec)
10.0	11.56
50.0	3.48
70.0	1.95
80.0	3.70
90.0	3.16
100.0	3.85
110.0	4.15
120.0	5.22
130.0	6.93
140.0	10.35
150.0	14.46
160.0	12.65
200.0	4.88
250.0	2.87
300.0	1.97
350.0	1.49
400.0	1.19
450.0	0.99
500.0	0.86
550.0	0.76
600.0	0.67
650.0	0.61
700.0	0.56
750.0	0.53
800.0	0.50
850.0	0.47
900.0	0.46
1000.0	0.43
1050.0	0.41
1100.0	0.40
1150.0	0.40
1200.0	0.38
1300.0	0.37
1400.0	0.36
1500.0	0.34
1550.0	0.34
1600.0	0.34
1650.0	0.34
1700.0	0.33
1750.0	0.33
2000.0	0.32
2500.0	0.32
3000.0	0.32
3500.0	0.34
4000.0	0.35
5000.0	0.45
5500.0	0.66
6000.0	0.45
6500.0	0.47
7000.0	0.65
8000.0	0.46
8500.0	0.45
9000.0	0.63
9500.0	1.55
10000.0	0.73

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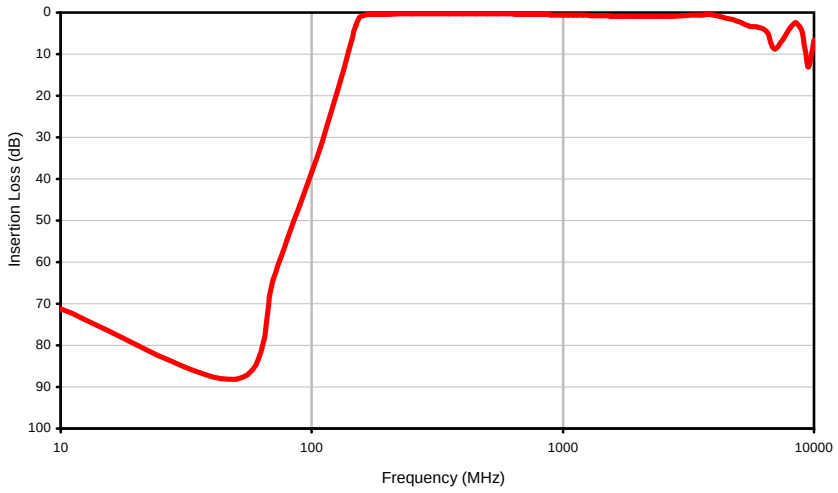
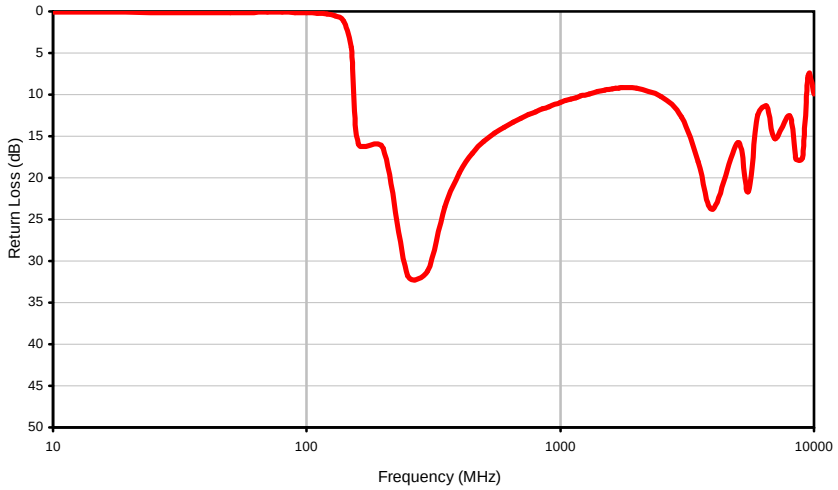
Typical Performance Curves

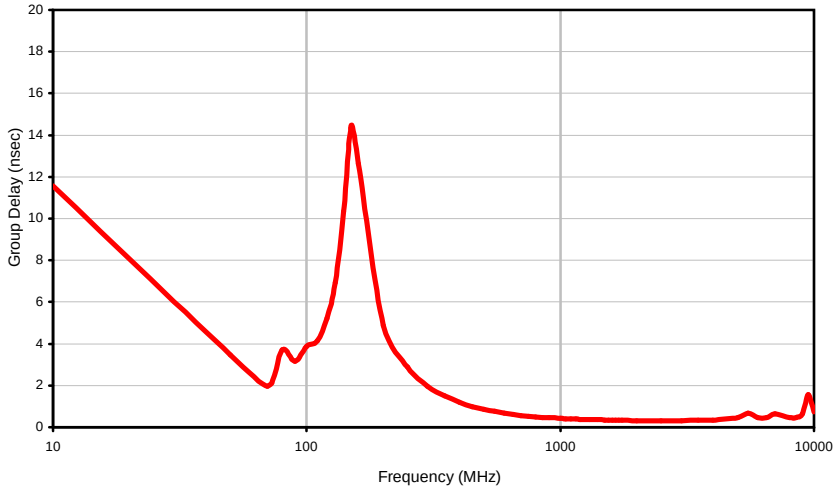
Insertion Loss



Return Loss



Group Delay



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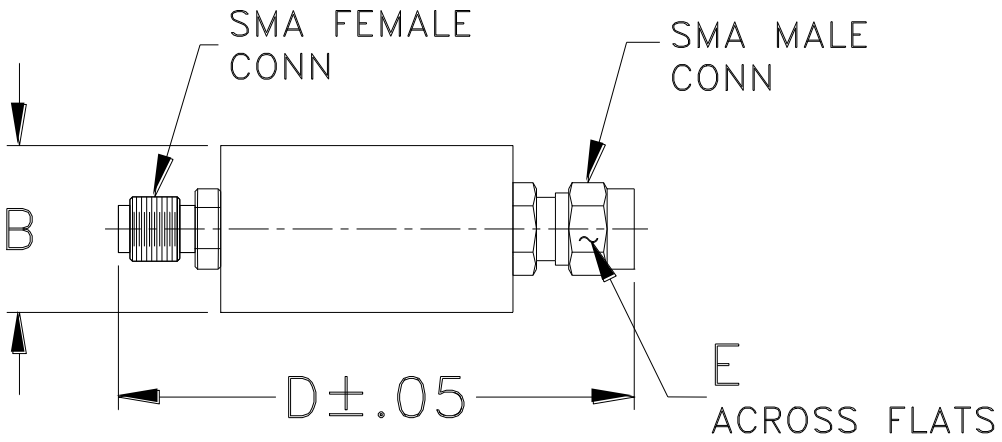
FF56
FF99

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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