Coaxial

High Pass Filter NON-CATALOG VHF-8400

50Ω 9000 to 13000 MHz

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	7W max. at 25°C

**Passband rating, derate linearly to 3W at 100°C ambient.*
Permanent damage may occur if any of these limits are exceeded.

Features

- Low cost
- Small size
- 5 sections
- Temperature stable
- Excellent power handling, 7W
- DC block in/out, breakdown voltage, 1kV typ.

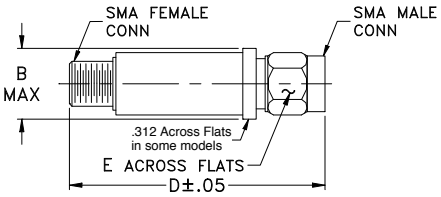
CASE STYLE: FF704

Connectors	Model
SMA	VHF-8400

Application

- Sub-harmonic rejection and DC blocking
- Transmitters/Receivers
- Lab use
- Instrumentation
- Test equipment

Outline Drawing



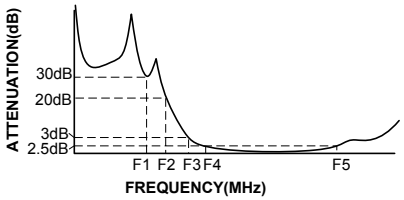
Outline Dimensions (inch / mm)

B	D	E	wt.
.410	1.43	.312	grams
10.41	36.32	7.92	10

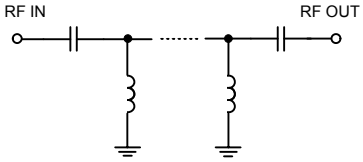
High Pass Filter Electrical Specifications (T_{AMB}= 25°C)

STOPBAND (MHz) (Loss>30dB) Typ. DC-F1	STOPBAND (MHz) (Loss>20dB) Min. DC-F2	fco, MHz Nom. (Loss 3dB) Typ. F3	PASSBAND (MHz) (Loss<2.5dB) Max. F4-F5	PASSBAND (MHz) (Loss<3dB) Max.	VSWR Typ. Stopband (MHz) 1.5:1	VSWR Typ. Frequency (MHz) 1.5:1	NO. OF SECTIONS
DC-5700	DC-6000	8400	9500-13000	9000-13000	20:1	9000-13000	5

Typical Frequency Response



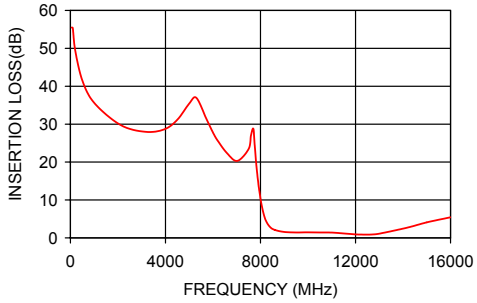
Electrical schematic



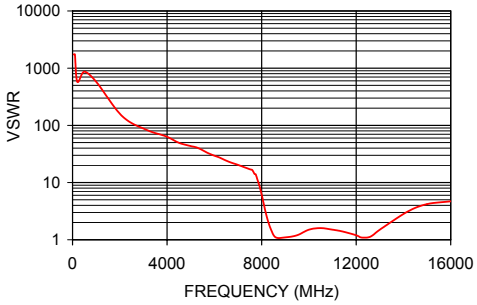
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	55.48	1737.18
500	41.57	868.59
4500	31.17	49.64
5700	36.69	31.60
6000	27.78	29.46
7500	23.46	17.05
8020	9.65	5.68
8400	2.88	1.50
8600	2.11	1.15
9000	1.57	1.06
9500	1.43	1.24
10000	1.47	1.46
12000	0.92	1.22
13000	1.10	1.48
16000	5.43	4.72

VHF-8400
INSERTION LOSS



VHF-8400
VSWR



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.
C. 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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Typical Performance Data

FREQUENCY (MHz)	INSERTION LOSS @ +25° C (dB)	INPUT RETURN LOSS @ +25° C (dB)	OUTPUT RETURNLOSS @ +25° C (dB)
38	59.86	0.08	0.01
50	58.86	0.01	0.03
290	46.41	0.03	0.01
500	41.63	0.03	0.04
1000	35.89	0.03	0.04
1500	32.69	0.07	0.05
2000	30.76	0.13	0.09
2500	29.68	0.15	0.13
3000	29.37	0.16	0.17
3500	29.92	0.24	0.19
4000	31.45	0.26	0.22
4500	34.99	0.25	0.26
5000	46.58	0.25	0.22
5700	32.89	0.38	0.32
6000	28.58	0.43	0.32
6500	23.87	0.58	0.39
7500	27.70	0.99	0.72
8020	9.25	2.83	2.32
8400	2.32	10.31	9.35
8600	1.43	15.25	14.22
9000	0.97	18.26	18.80
9500	0.86	15.18	15.68
10000	0.89	13.06	13.30
10500	0.84	12.94	13.15
11000	0.80	14.48	14.63
11500	0.66	19.01	18.03
12000	0.62	28.36	21.73
12500	0.72	17.03	16.06
13000	1.12	10.91	10.70
13500	1.75	7.12	7.23
14000	2.56	4.90	4.92
14500	3.32	3.73	3.92
15000	3.92	3.02	3.14
15500	4.20	2.80	2.84
16000	4.17	2.93	2.95
16500	3.68	3.46	3.48
17000	2.83	4.87	4.85
17500	1.73	8.35	8.38
18000	1.17	23.58	18.38
18500	1.96	9.50	8.51
19300	5.31	3.12	2.82

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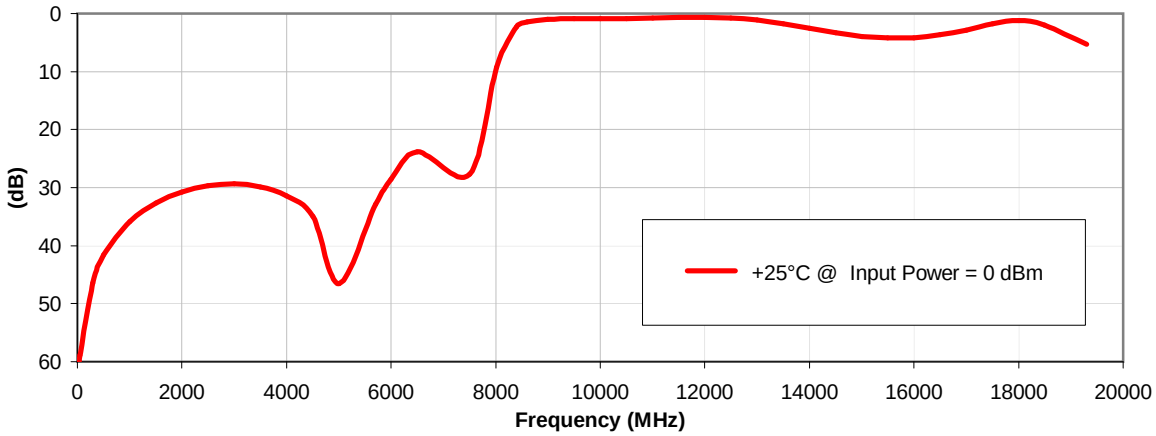
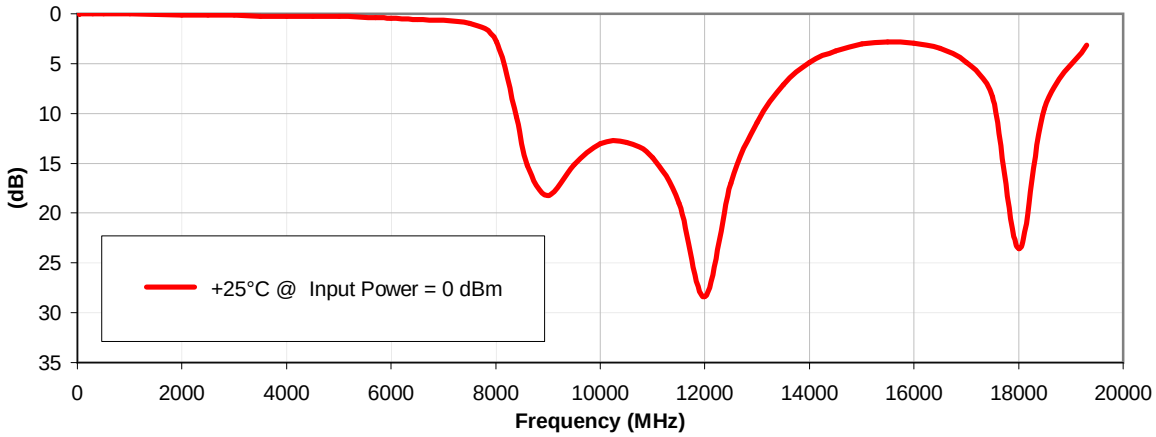
Typical Performance Curves

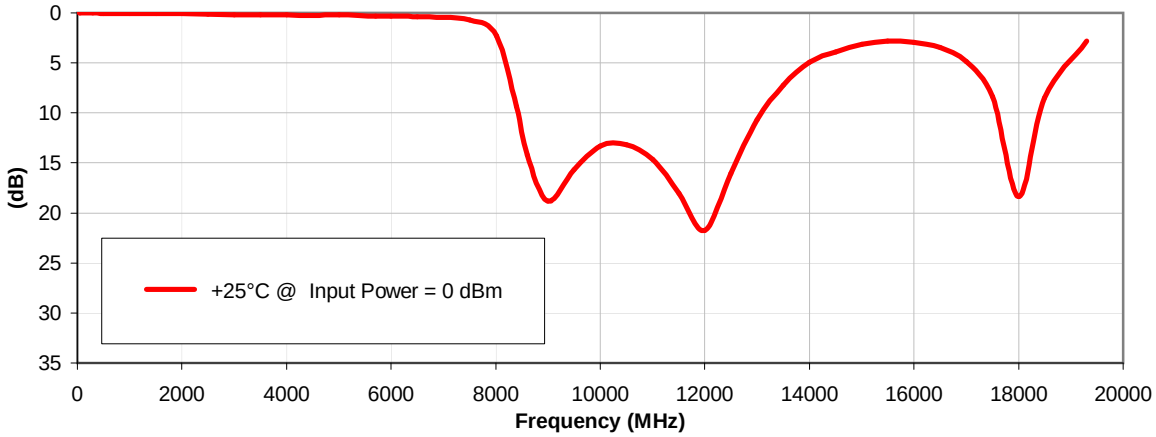
INSERTION LOSS



INPUT RETURN LOSS



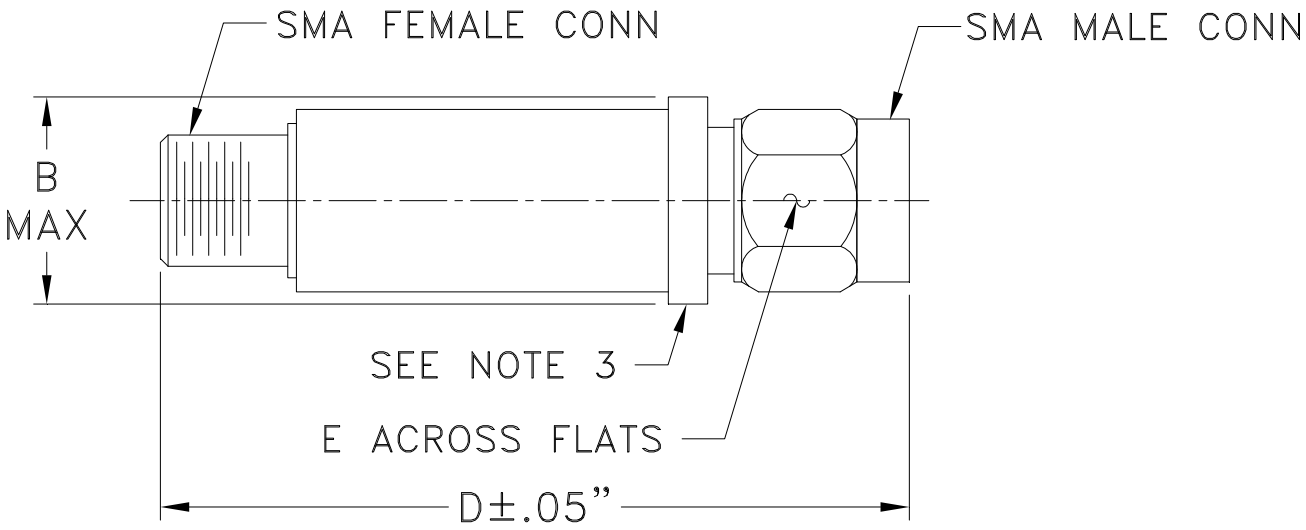
OUTPUT RETURN LOSS



Case Style FF

FF704

Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF704	-- --	.410 (10.41)	-- --	1.43 (36.32)	.312 (7.92)	10.0

Dimensions are in inches (mm). Tolerances: 2Pl. ± .04; 3Pl. ± .030

Notes:

1. Case material: Stainless steel.
2. Case finish: Gold plated.
3. Round Flange may have .312 Across Flats in some models.

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