Coaxial

High Pass Filter

VHF-7150+

50Ω 7900 to 11000 MHz

CASE STYLE: FF704

Connectors	Model
SMA	VHF-7150+

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	6W 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

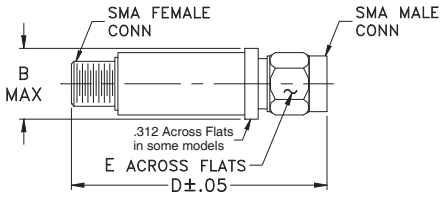
- Rugged uni-body construction, small size
- 5 sections
- Temperature stable
- Excellent power handling, 6W
- Low cost

Application

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

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

Outline Drawing



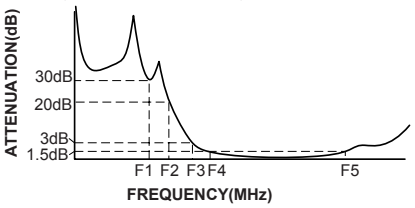
Outline Dimensions (inch / mm)

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

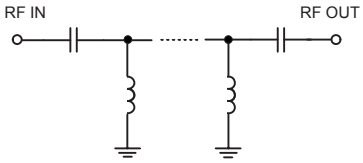
High Pass Filter Electrical Specifications (T_{AMB}= 25°C)

STOPBAND (MHz) (Loss>30dB) Typ. DC-F1	STOPBAND (MHz) (Loss>20dB) Min. DC-F2	fco, MHz Nom. (Loss 3dB) Typ. F3	PASSBAND (MHz) (Loss<1.5dB) Typ. F4-F5	PASSBAND (MHz) (Loss<2dB) Max.	VSWR Typ. Stopband Frequency (MHz) 1.5:1		NO. OF SECTIONS
DC-5100	DC-6150	7150	8500-10500	7900-11000	20:1	7250-11000	5

Typical Frequency Response



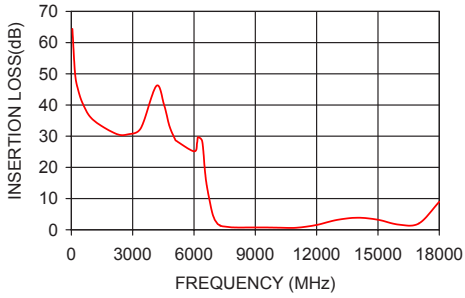
Electrical schematic



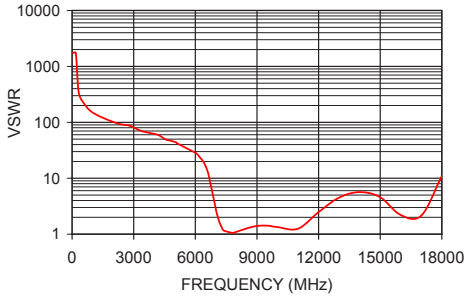
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	64.41	1737.18
1060	35.25	144.77
2800	30.63	86.86
4160	46.10	59.91
5100	28.66	42.38
6000	25.15	28.49
6150	27.88	25.56
6650	13.32	11.31
7150	1.94	1.73
7250	1.45	1.40
7900	0.77	1.07
8500	0.73	1.27
10500	0.68	1.15
11000	0.65	1.25
12000	1.56	2.48
15000	3.21	4.57
18000	8.97	10.89

VHF-7150+
INSERTION LOSS



VHF-7150+
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

Coaxial High Pass Filter VHF-7150+

Typical Performance Data

FREQ. (MHz)	INSERTION LOSS (dB)			INPUT RETURN LOSS (dB)			OUTPUT RETURNLOSS (dB)		
	@ -55° C	@ +25° C	@ +100° C	@ -55° C	@ +25° C	@ +100° C	@ -55° C	@ +25° C	@ +100° C
40	63.05	66.51	63.82	0.09	0.06	0.10	0.02	0.02	0.01
100	55.23	55.51	55.23	0.03	0.01	0.03	0.00	0.01	0.00
200	49.54	49.40	48.93	0.01	0.01	0.00	0.00	0.02	0.02
300	45.97	45.85	45.67	0.04	0.01	0.02	0.03	0.01	0.00
400	43.40	43.44	43.33	0.00	0.03	0.03	0.00	0.04	0.05
500	41.47	41.42	41.37	0.05	0.02	0.02	0.04	0.00	0.01
600	39.94	39.91	39.92	0.02	0.02	0.02	0.00	0.05	0.07
700	38.67	38.62	38.62	0.03	0.02	0.03	0.03	0.02	0.04
800	37.55	37.52	37.53	0.04	0.00	0.01	0.02	0.04	0.07
900	36.62	36.63	36.67	0.02	0.07	0.08	0.03	0.03	0.07
1000	35.69	35.68	35.73	0.06	0.01	0.00	0.02	0.04	0.08
2000	31.03	31.08	31.09	0.01	0.08	0.11	0.11	0.18	0.22
3000	30.79	30.95	31.03	0.06	0.16	0.19	0.09	0.21	0.29
4000	38.34	38.90	39.38	0.10	0.22	0.25	0.12	0.26	0.38
5000	31.02	30.75	30.47	0.17	0.34	0.44	0.18	0.35	0.49
5100	29.54	29.34	29.12	0.20	0.36	0.46	0.19	0.38	0.53
6000	23.86	24.18	24.46	0.34	0.56	0.74	0.35	0.57	0.84
6150	24.96	25.56	26.20	0.39	0.63	0.82	0.39	0.64	0.91
7000	6.39	5.62	5.04	3.08	4.05	4.99	2.85	3.73	4.50
7150	3.29	3.07	2.88	5.99	7.25	8.52	5.70	6.82	7.82
7900	0.53	0.79	1.00	26.01	23.07	21.03	28.58	25.70	24.39
8000	0.49	0.76	0.98	25.09	22.57	20.26	28.41	25.59	23.80
8500	0.46	0.72	0.95	16.27	17.45	16.49	17.27	18.49	17.36
9000	0.47	0.73	0.94	14.18	14.74	15.31	15.07	15.09	14.79
10000	0.39	0.67	0.91	15.21	15.30	15.10	15.46	15.25	13.88
10500	0.33	0.58	0.82	17.44	20.34	18.82	17.56	20.11	17.45
11000	0.25	0.57	0.82	44.55	27.74	31.05	28.45	31.38	25.93
12000	0.81	1.25	1.51	9.23	9.02	9.28	8.98	9.17	9.72
13000	2.24	3.07	3.82	4.32	4.02	3.54	4.47	4.00	3.62
14000	4.96	4.22	4.10	1.71	2.75	3.13	1.83	2.66	3.13
15000	3.90	4.07	3.55	2.46	2.93	3.94	2.54	2.80	3.68
16000	2.74	2.52	2.94	4.17	5.28	5.53	3.48	4.82	5.31
17000	1.00	1.33	1.80	15.86	25.32	19.03	9.41	13.84	18.61
18000	4.43	6.67	8.52	2.84	2.37	1.80	3.13	2.37	2.31
18100	5.15	7.48	9.60	2.21	1.98	1.57	2.59	1.98	1.97
18200	6.11	8.35	10.53	1.81	1.73	1.37	2.07	1.73	1.73
18300	7.01	9.31	11.57	1.44	1.47	1.22	1.71	1.48	1.51
18400	8.10	10.25	12.53	1.15	1.31	1.13	1.34	1.29	1.40
18500	9.23	11.28	13.52	0.93	1.17	1.01	1.07	1.17	1.30
18600	10.33	12.32	14.53	0.71	1.02	0.98	0.79	1.03	1.23
18700	11.74	13.48	15.50	0.60	0.93	0.96	0.66	0.95	1.16
18800	12.97	14.75	16.67	0.40	0.84	1.00	0.50	0.84	1.12
18900	14.49	16.07	17.91	0.40	0.80	0.94	0.40	0.84	1.07
19000	15.92	17.66	19.44	0.34	0.74	0.93	0.32	0.73	1.04
19100	17.52	19.42	21.20	0.25	0.69	0.96	0.28	0.70	1.03
19200	19.40	21.49	23.40	0.27	0.65	0.90	0.23	0.65	1.01
19300	21.41	24.07	26.33	0.17	0.66	0.97	0.19	0.59	0.97
19400	24.17	27.22	29.94	0.21	0.61	0.97	0.17	0.61	0.97
19500	27.58	31.35	33.46	0.17	0.63	1.03	0.08	0.55	0.98
19600	32.18	33.91	31.95	0.18	0.62	1.06	0.09	0.60	0.96
19700	32.95	30.99	28.25	0.20	0.57	1.05	0.01	0.55	0.97
19800	28.46	27.37	25.26	0.18	0.62	1.12	0.08	0.60	0.94
19900	24.79	24.49	23.00	0.20	0.57	1.16	0.07	0.59	0.94
20000	22.06	22.38	21.23	0.22	0.61	1.25	0.11	0.61	0.93

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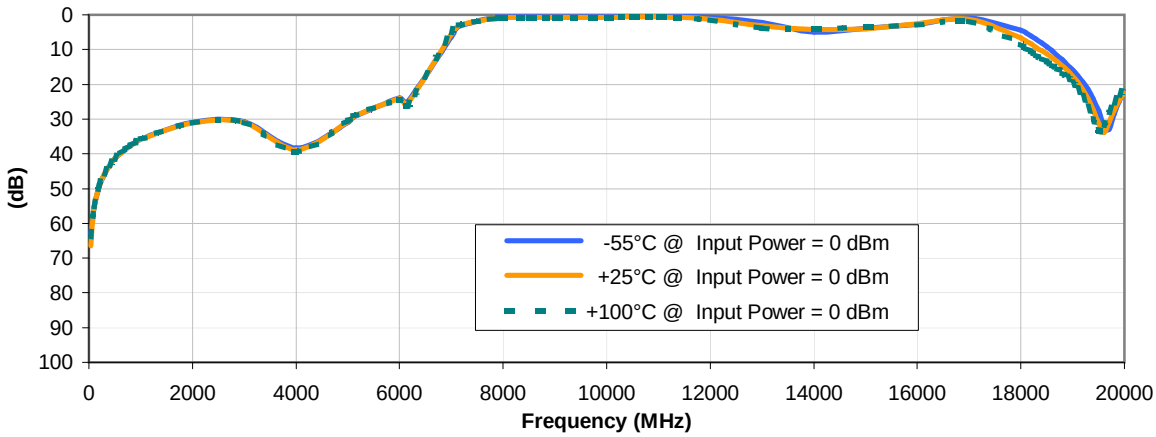
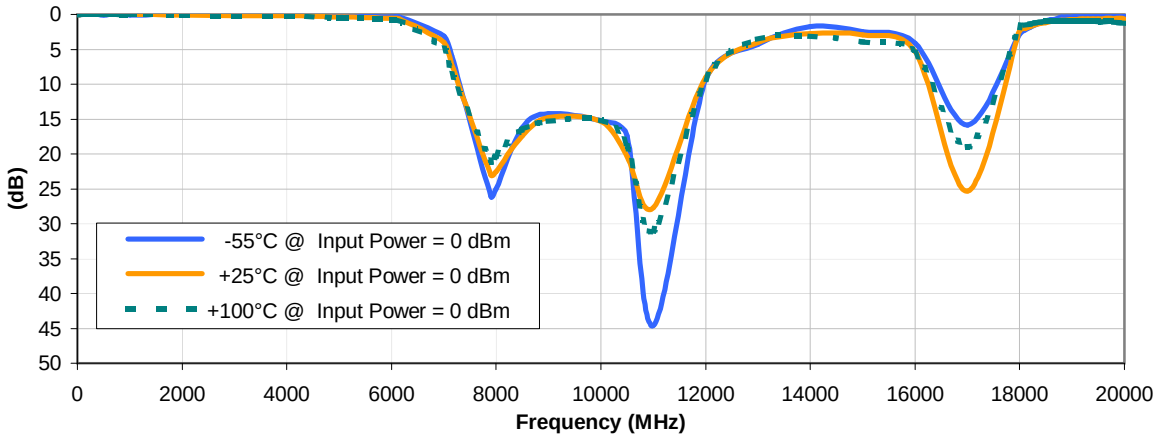
Typical Performance Curves

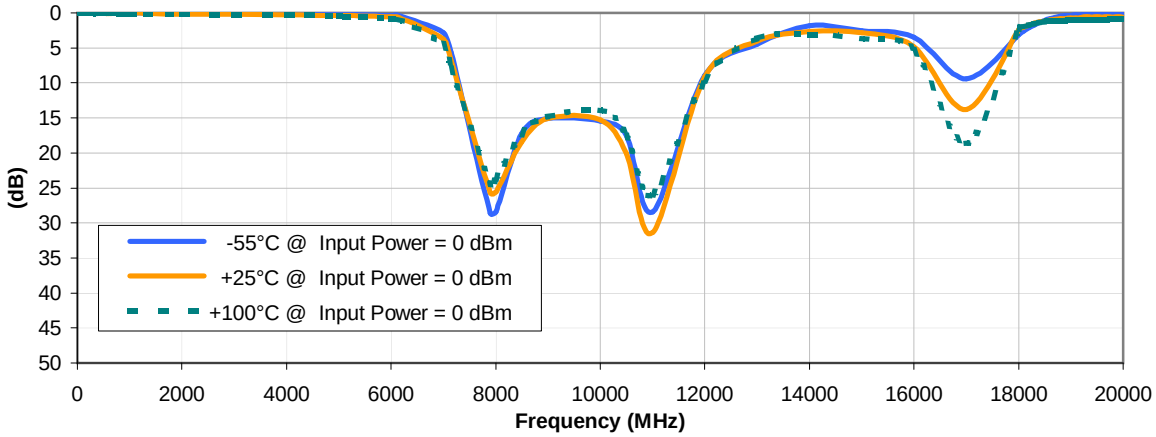
INSERTION LOSS vs. TEMPERATURE



INPUT RETURN LOSS vs. TEMPERATURE



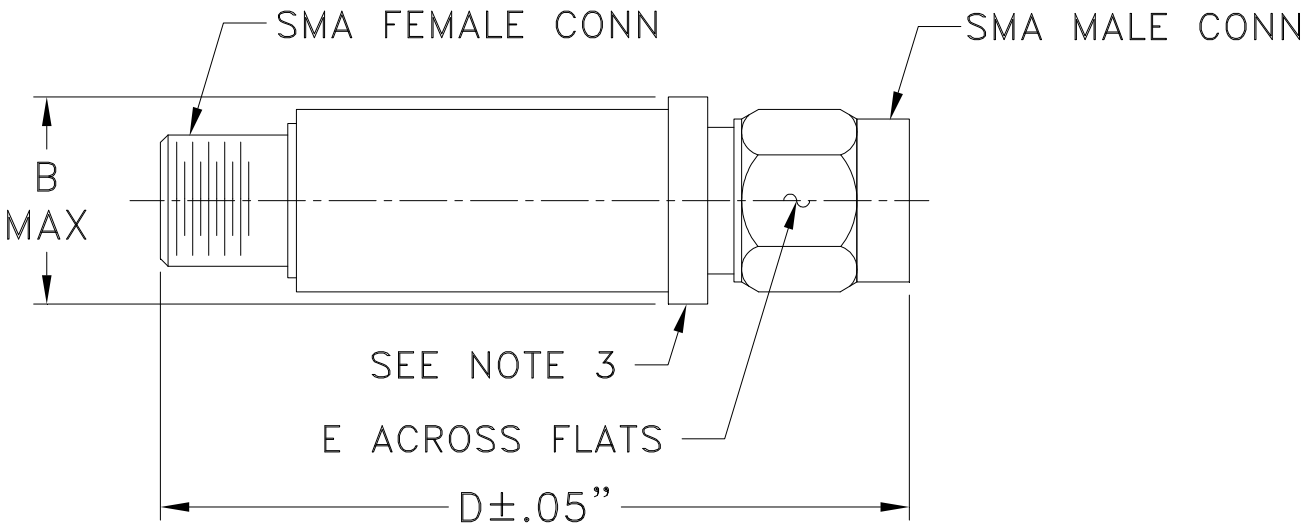
OUTPUT RETURN LOSS vs. TEMPERATURE



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