

# Coaxial High Pass Filter

## VHF-1320+

50Ω 1700 to 5000 MHz



Generic photo used for illustration purposes only

### 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

- rugged unibody construction, small size
- 7 sections
- temperature stable
- excellent power handling, 7W
- low cost

### Applications

- sub-harmonic rejection
- transmitters/receivers
- lab use

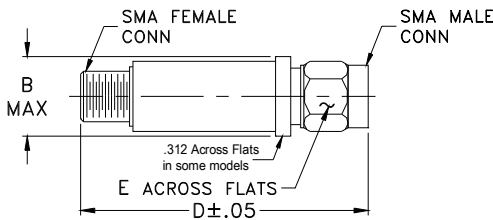
CASE STYLE: FF704

Connectors	Model
SMA	VHF-1320+

**+RoHS Compliant**

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

### Outline Drawing



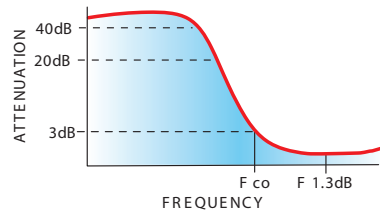
### Outline Dimensions (inch/mm)

B	D	E	wt
.410	1.43	.312	grams
10.41	36.32	7.92	10.0

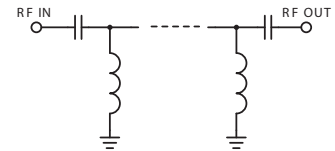
### Electrical Specifications (T<sub>AMB</sub>=25°C)

STOP BAND (MHz)		f <sub>co</sub> , MHz	PASSBAND (MHz)		VSWR (:1)	NO. OF SECTIONS
Min.	Typ.	Nom.	(loss < 1.3 dB)	(loss < 2 dB)	Typ.	
(loss > 40 dB)	(loss > 20 dB)	Typ.	Max.	Typ.	Stopband	7
880	1060	1320	1700-3800	1400-5000	1700-3700	

### typical frequency response

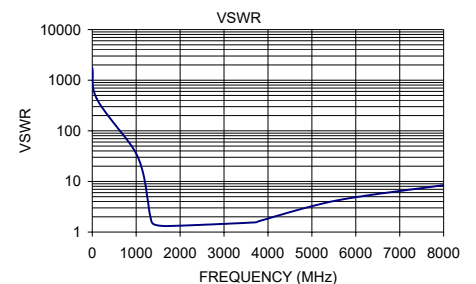


### electrical schematic



### Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1	94.16	1737.18
100	69.22	434.30
880	51.00	52.65
1060	26.59	27.16
1180	13.65	12.01
1260	6.27	4.50
1320	2.92	2.07
1400	1.55	1.43
1700	0.76	1.31
3700	0.52	1.55
3800	0.62	1.65
5000	1.78	3.25
6000	3.03	4.89
8000	5.29	8.43



### 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.
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# Coaxial High Pass Filter

# VHF-1320+

## 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
1	103.75	94.16	97.05	0.00	0.01	0.00	0.03	0.01	0.00
50	63.23	53.54	56.42	0.00	0.03	0.00	0.02	0.00	0.00
100	64.04	69.22	63.54	0.02	0.04	0.02	0.01	0.01	0.01
500	68.55	70.84	72.63	0.07	0.09	0.16	0.06	0.10	0.13
845	60.11	58.31	56.93	0.19	0.28	0.33	0.22	0.29	0.35
880	52.10	51.00	50.14	0.29	0.33	0.41	0.25	0.30	0.38
890	50.49	49.50	48.21	0.27	0.34	0.41	0.24	0.30	0.38
910	47.21	46.09	45.13	0.26	0.40	0.43	0.24	0.35	0.41
955	40.32	39.53	38.63	0.27	0.38	0.45	0.33	0.39	0.49
1000	34.44	33.68	32.92	0.36	0.50	0.57	0.35	0.45	0.55
1030	30.85	30.14	29.41	0.46	0.61	0.71	0.39	0.51	0.62
1060	27.28	26.59	25.89	0.48	0.64	0.74	0.41	0.54	0.64
1075	25.59	24.94	24.26	0.54	0.71	0.85	0.45	0.59	0.70
1120	20.62	19.98	19.29	0.68	0.89	1.05	0.59	0.75	0.90
1165	15.78	15.15	14.49	0.97	1.22	1.48	0.84	1.04	1.25
1210	11.20	10.63	10.02	1.57	2.01	2.45	1.28	1.61	1.94
1275	5.53	5.21	4.91	3.95	4.84	5.90	3.18	3.86	4.54
1320	2.98	2.92	2.87	7.65	9.15	10.78	6.09	7.00	7.85
1350	2.08	2.15	2.20	10.88	12.61	14.25	8.50	9.36	10.11
1400	1.37	1.55	1.65	14.45	15.11	15.43	11.45	11.85	12.16
1595	0.78	0.94	1.03	14.71	14.92	15.26	14.66	15.06	15.71
1700	0.62	0.76	0.87	17.15	17.40	17.71	17.94	18.49	19.39
1765	0.55	0.67	0.76	18.53	18.71	18.87	19.49	20.08	20.81
1800	0.50	0.67	0.76	18.96	19.11	19.10	20.27	20.81	21.27
2000	0.42	0.56	0.64	19.38	19.18	18.96	20.29	20.23	20.06
2400	0.31	0.45	0.56	19.93	19.79	20.12	19.90	19.64	19.81
3250	0.25	0.38	0.49	20.29	20.16	19.96	19.49	19.42	19.33
3700	0.37	0.52	0.68	13.41	13.29	13.17	13.30	13.09	13.00
3750	0.38	0.57	0.69	12.79	12.67	12.54	12.73	12.62	12.44
3800	0.45	0.62	0.76	12.30	12.23	12.13	12.10	11.98	11.89
4500	1.05	1.21	1.34	7.30	7.44	7.59	7.31	7.36	7.41
5000	1.61	1.78	1.95	5.38	5.53	5.69	5.42	5.50	5.56
5500	2.12	2.36	2.59	4.37	4.44	4.56	4.33	4.42	4.45
6000	2.72	3.03	3.33	3.55	3.60	3.69	3.53	3.55	3.62
6500	3.36	3.70	4.00	2.87	2.95	3.07	2.90	3.00	3.08
7000	4.01	4.29	4.55	2.36	2.54	2.69	2.41	2.58	2.77
7500	4.58	4.74	4.98	2.01	2.24	2.40	2.07	2.25	2.52
8000	5.08	5.29	5.58	1.81	2.07	2.17	1.73	1.96	2.13
8500	6.40	7.43	7.77	2.54	4.39	6.96	1.44	1.56	1.79
9000	5.55	5.92	6.33	1.70	1.86	1.92	1.75	1.92	2.03
9500	7.71	8.80	10.15	1.14	1.37	1.56	1.95	2.48	3.35
10000	3.67	3.71	3.87	3.26	3.50	3.71	7.01	5.77	5.19

REV. X1  
VHF-1320+  
080723  
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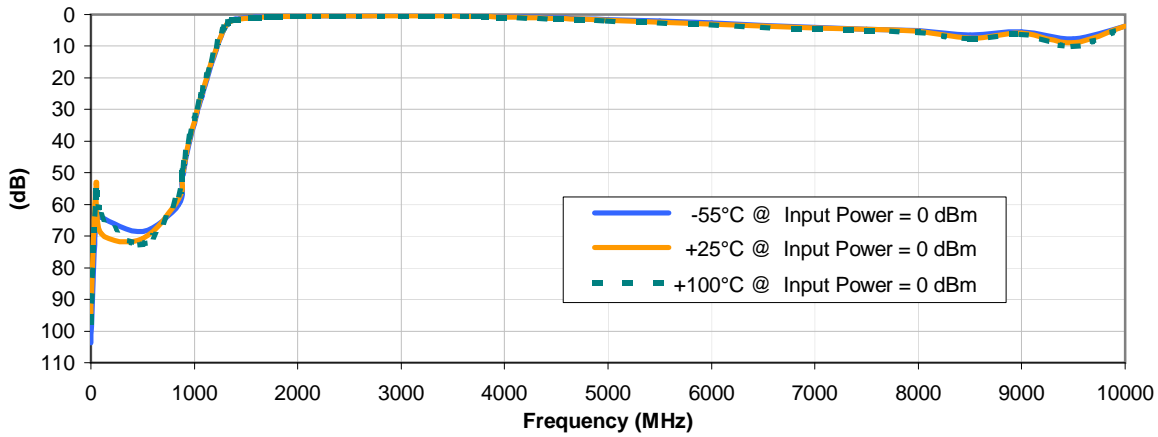


# Coaxial High Pass Filter

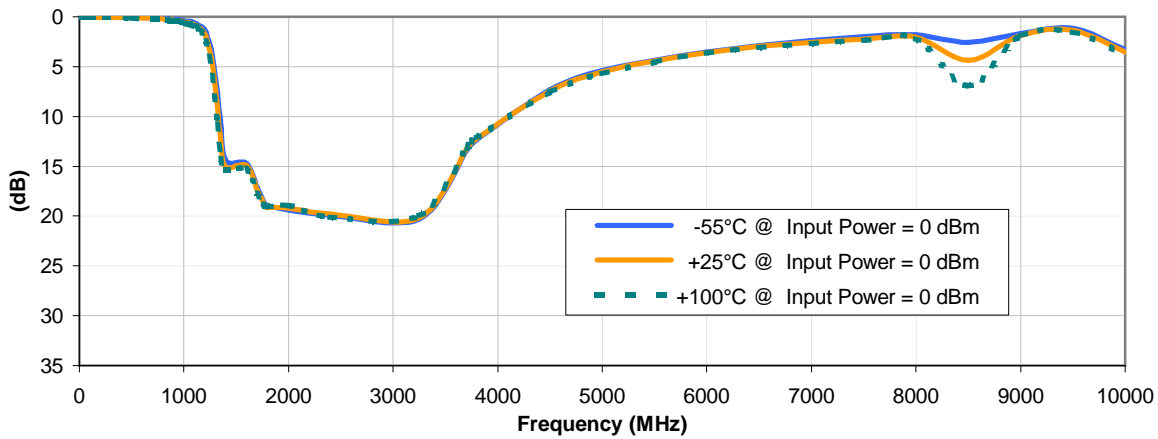
## Typical Performance Curves

# VHF-1320+

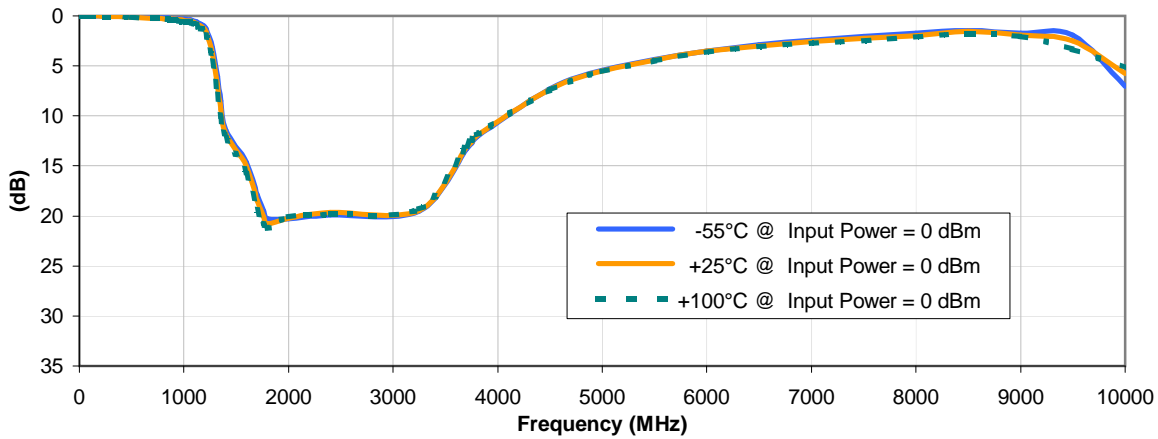
### INSERTION LOSS vs. TEMPERATURE



### INPUT RETURN LOSS vs. TEMPERATURE



### OUTPUT RETURN LOSS vs. TEMPERATURE



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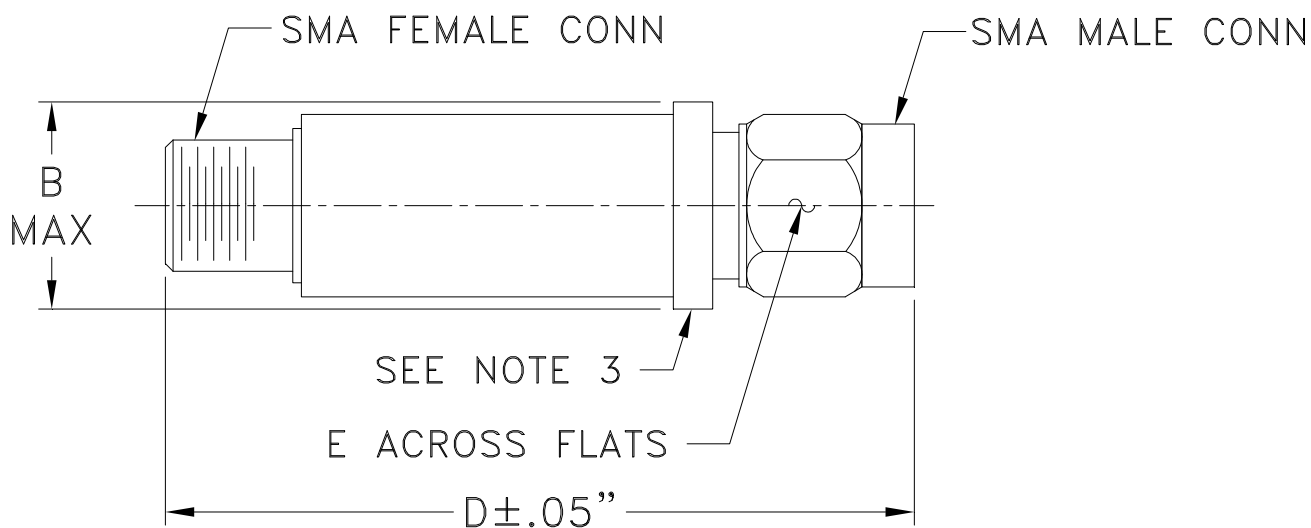


# Case Style

# 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.

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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.

<b>Specification</b>	<b>Test/Inspection Condition</b>	<b>Reference/Spec</b>
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