

Ultra-Reliable

High Pass Filter

NON-CATALOG

VHP-39

50Ω

4600 to 5500 MHz



CASE STYLE: FF704

Connectors
SMAModel
VHP-39

Maximum Ratings

Operating Temperature -55°C to 100°C

Storage Temperature -55°C to 100°C

RF Power Input* 10W at 25°C

* Passband rating, derate linearly to 0.4x P_{max} at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

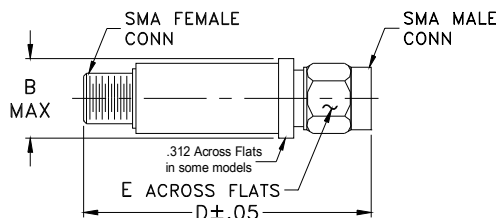
Features

- rugged unibody construction, small size
- pass band insertion loss 1.0 dB typ.
- excellent power handling, 10W
- low cost

Applications

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

Outline Drawing



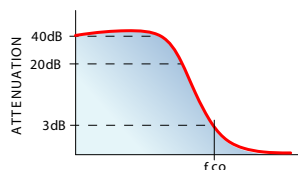
Outline Dimensions (inch/mm)

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

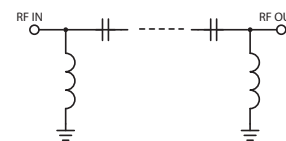
Electrical Specifications (T_{AMB}=25°C)

STOP BAND (MHz)	f _{co} , MHz Nom. (loss 3 dB)	PASSBAND (MHz)	VSWR (:1)	
			Stopband	Passband
(loss > 40 dB)	(loss > 20 dB)	Typ.	Typ.	Typ.
DC-2000	3050	3900	18	1.3

typical frequency response

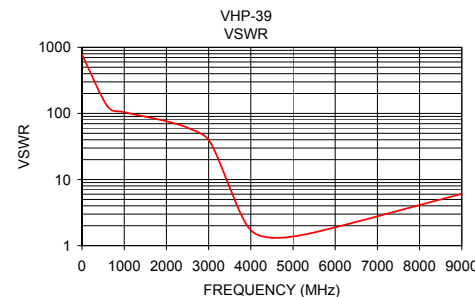


electrical schematic



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
1.00	112.38	775.98
600.00	64.77	128.90
1000.00	64.70	104.50
2000.00	48.15	76.04
2570.00	35.11	58.12
3050.00	23.91	35.47
3900.00	3.01	2.06
4500.00	1.13	1.32
5500.00	1.03	1.58
9000.00	4.06	6.07



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.
- 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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REV. D
M151777
VHP-39
ED10545B/12
WZ/AD/CP/AM
160512

Coaxial High Pass Filter (Ultra Reliable)

VHP-39

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	118.00	112.38	120.00	0.01	0.02	0.03	0.00	0.02	0.09
50	84.18	78.54	90.20	0.06	0.08	0.09	0.05	0.08	0.08
100	78.58	76.45	76.71	0.10	0.11	0.12	0.07	0.10	0.11
245	68.67	68.88	69.70	0.14	0.16	0.17	0.09	0.13	0.14
785	62.44	62.51	62.45	0.16	0.22	0.26	0.13	0.20	0.23
1000	62.85	62.82	62.72	0.17	0.23	0.27	0.14	0.20	0.24
1250	66.38	66.86	66.78	0.16	0.23	0.28	0.15	0.22	0.26
1340	70.57	70.57	71.09	0.16	0.23	0.28	0.16	0.23	0.28
1380	72.95	74.30	74.78	0.17	0.24	0.29	0.14	0.22	0.27
1455	92.36	89.75	86.58	0.17	0.24	0.30	0.15	0.22	0.28
1500	77.58	76.43	75.02	0.16	0.23	0.29	0.16	0.24	0.29
1525	73.46	72.40	71.43	0.17	0.24	0.30	0.15	0.23	0.29
1600	66.07	65.47	64.99	0.16	0.24	0.30	0.15	0.23	0.30
1650	62.91	62.47	61.97	0.16	0.24	0.31	0.14	0.23	0.30
1750	58.12	57.72	57.44	0.16	0.24	0.31	0.15	0.24	0.31
1915	52.39	52.11	51.81	0.15	0.25	0.32	0.15	0.24	0.32
1985	50.34	50.14	49.83	0.15	0.25	0.33	0.15	0.24	0.33
2000	49.99	49.74	49.43	0.15	0.24	0.33	0.15	0.25	0.33
2185	45.26	45.02	44.77	0.15	0.26	0.35	0.14	0.25	0.34
2405	40.28	40.03	39.74	0.15	0.27	0.38	0.15	0.28	0.39
2635	35.30	35.01	34.73	0.17	0.31	0.44	0.18	0.31	0.44
2865	30.22	29.88	29.56	0.21	0.36	0.49	0.22	0.37	0.51
3050	25.92	25.50	25.13	0.26	0.42	0.57	0.28	0.45	0.62
3060	25.68	25.26	24.88	0.25	0.42	0.57	0.28	0.46	0.62
3275	20.25	19.74	19.28	0.38	0.56	0.74	0.43	0.65	0.87
3455	15.24	14.69	14.16	0.60	0.82	1.04	0.74	1.02	1.30
3625	10.26	9.70	9.15	1.14	1.48	1.84	1.45	1.91	2.38
3825	4.91	4.57	4.28	3.21	3.94	4.70	4.08	5.12	6.26
3900	3.45	3.29	3.16	4.78	5.66	6.57	6.08	7.42	8.92
3945	2.80	2.74	2.71	5.93	6.84	7.75	7.59	9.04	10.67
4500	0.89	1.11	1.30	16.13	16.63	16.83	17.35	18.20	18.92
4600	0.81	1.02	1.21	17.97	18.73	19.14	19.36	20.65	21.78
4660	0.77	0.98	1.17	19.23	20.14	20.78	20.95	22.54	24.07
5000	0.63	0.86	1.05	23.04	23.11	22.99	24.30	23.05	22.30
5500	0.70	0.93	1.14	14.83	14.67	14.86	14.26	13.94	13.94
6000	1.21	1.55	1.86	8.40	8.01	7.84	8.12	7.76	7.57
6500	2.25	2.63	3.02	4.84	4.76	4.68	4.69	4.66	4.68
7000	3.38	3.69	4.06	3.18	3.28	3.32	3.06	3.22	3.35
7500	4.22	4.45	4.76	2.44	2.60	2.70	2.33	2.55	2.75
8000	4.62	4.79	5.00	2.16	2.36	2.49	2.07	2.34	2.60
9000	4.44	4.56	4.70	2.16	2.46	2.69	2.17	2.47	2.70

REV. X1

VHP-39

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Page 1 of 1



IF/RF MICROWAVE COMPONENTS • ISO 9001 ISO 14001 AS9100 CERTIFIED RoHS compliant

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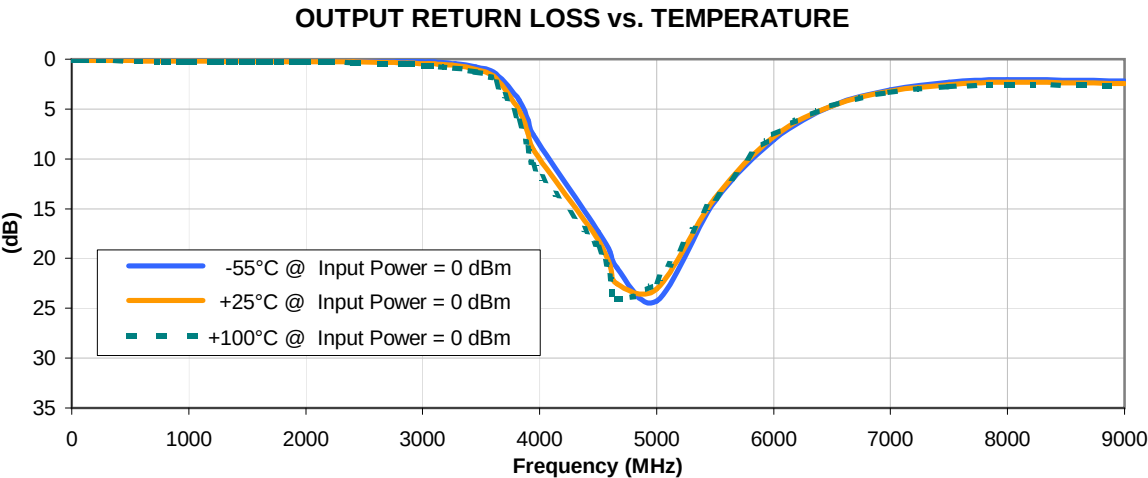
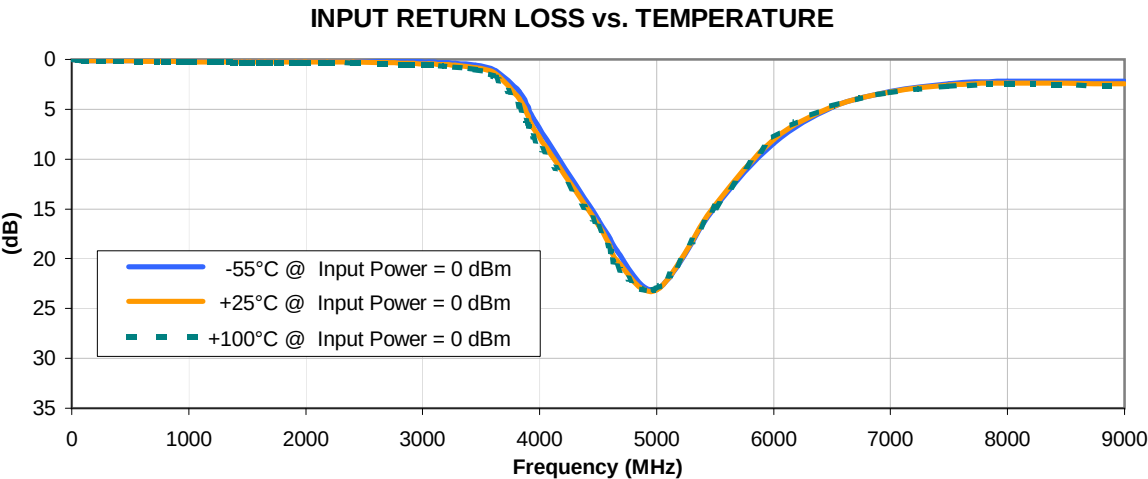
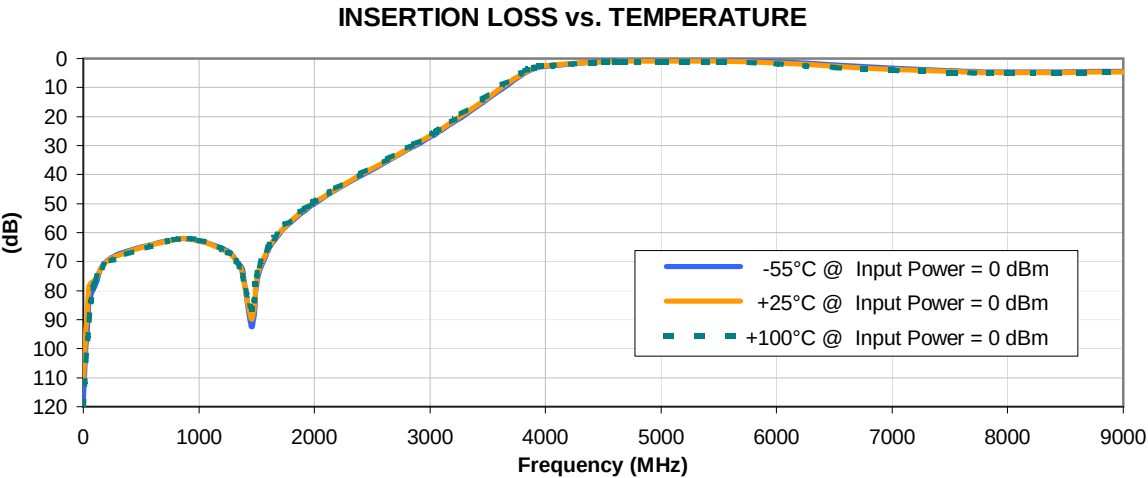
The Design Engineers Search Engine finds the model you need, Instantly • For detailed performance specs & shopping online see



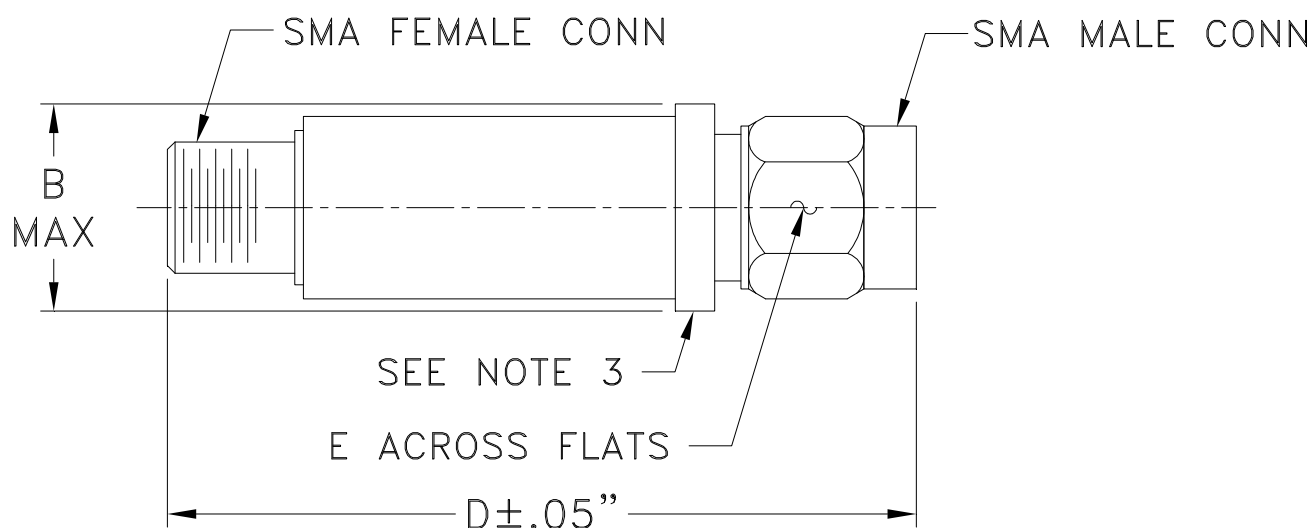
Coaxial High Pass Filter (Ultra Reliable)

VHP-39

Typical Performance Curves



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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RF/IF MICROWAVE COMPONENTS



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