

Coaxial Low Pass Filter

50Ω

*DC to 800 MHz

VLF-800+

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	10W max. at 25°C
DC Current Input to Output	0.5A max. at 25°C

* Passband rating, derate linearly to 3.5W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

Features

- rugged uni-body construction, small size
- 7 sections
- excellent power handling, 10W
- temperature stable
- low cost
- protected by U.S. Patent 6,943,646

Applications

- harmonic rejection
- transmitters/receivers
- lab use



Generic photo used for illustration purposes only

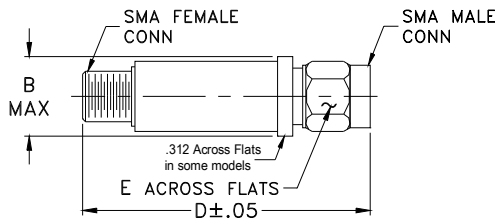
CASE STYLE: FF704

Connectors	Model
SMA	VLF-800+

+RoHS Compliant

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

Outline Drawing



Outline Dimensions (inch/mm)

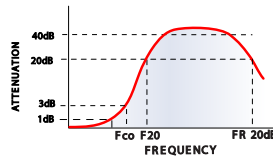
B	D	E	wt
.410	1.43	.312	grams
10.41	36.32	7.92	10.0

Electrical Specifications at 25°C

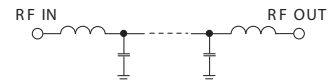
PASSBAND (MHz)	fco, MHz Nom.	STOP BAND (MHz) (loss, dB)			VSWR (:1)		NO. OF SECTIONS
(loss < 1 dB)	(loss 3 dB)	f 20	30	fr 20	Stopband	Passband	
Max.	Typ.	Min.	Typ.	Typ.	Typ.	Typ.	
*DC-800	1075	1275	1350-4850	5100	20	1.2	7

* Not for use with DC voltage at input and output ports

typical frequency response

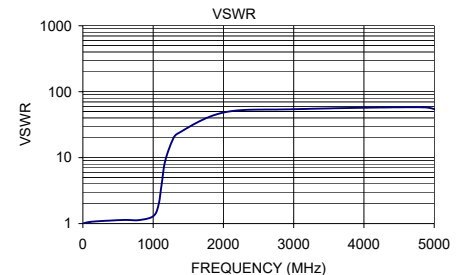


electrical schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	0.06	1.01
100	0.14	1.06
300	0.26	1.10
600	0.46	1.14
800	0.71	1.13
1000	1.66	1.29
1075	3.38	1.88
1120	7.07	3.86
1170	14.92	8.72
1275	29.63	18.30
1350	32.29	23.18
2000	38.01	48.26
3000	48.80	54.29
4850	47.41	57.91
5100	31.24	49.64



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



Coaxial Low Pass Filter

VLF-800+

Typical Performance Data

FREQ. (MHz)	INSERTION LOSS (dB)			INPUT RETURN LOSS (dB)			OUTPUT RETURN LOSS (dB)		
	@ -55° C	@ +25° C	@ +100° C	@ -55° C	@ +25° C	@ +100° C	@ -55° C	@ +25° C	@ +100° C
50	0.07	0.10	0.10	40.44	37.97	36.40	41.12	38.00	36.50
100	0.09	0.13	0.13	40.23	38.47	37.41	37.08	35.21	33.88
104	0.12	0.16	0.19	40.38	38.82	37.59	36.83	34.90	33.70
106	0.13	0.17	0.18	40.18	38.62	37.67	37.13	35.25	34.02
108	0.11	0.14	0.17	40.38	38.92	37.83	36.65	34.88	33.70
110	0.11	0.14	0.17	40.14	38.61	37.58	35.89	34.26	33.21
114	0.12	0.14	0.15	40.83	39.53	38.60	36.06	34.30	33.31
116	0.12	0.15	0.18	41.06	39.42	38.69	35.68	34.16	33.02
120	0.10	0.14	0.17	40.68	39.44	38.69	35.67	34.08	33.01
124	0.12	0.15	0.16	42.24	40.72	39.83	35.76	34.26	33.19
126	0.12	0.15	0.16	41.23	39.88	39.20	35.94	34.35	33.39
130	0.13	0.17	0.18	40.29	39.19	38.58	35.13	33.80	32.82
134	0.12	0.16	0.18	40.59	39.49	39.09	35.26	33.92	32.96
136	0.12	0.15	0.18	41.00	40.03	39.57	35.05	33.72	32.93
140	0.12	0.17	0.19	40.74	39.63	39.47	34.74	33.37	32.54
144	0.13	0.16	0.19	40.77	39.98	39.62	34.65	33.40	32.57
146	0.15	0.18	0.20	40.58	39.54	39.48	34.38	33.20	32.44
150	0.14	0.16	0.18	40.91	40.12	40.04	34.29	33.11	32.30
154	0.13	0.17	0.21	41.07	40.26	40.30	34.00	32.89	32.16
156	0.13	0.17	0.18	40.17	39.64	39.72	33.64	32.63	31.99
160	0.14	0.17	0.20	41.01	40.71	40.60	33.87	32.88	32.19
170	0.15	0.18	0.21	41.61	41.23	41.11	33.29	32.38	31.81
180	0.14	0.19	0.21	42.29	42.51	42.34	32.49	31.81	31.18
190	0.16	0.18	0.21	42.75	43.30	42.83	31.93	31.40	30.86
200	0.14	0.18	0.20	43.05	44.50	43.21	32.14	31.65	31.11
300	0.18	0.25	0.29	40.96	54.63	41.40	28.34	28.02	27.69
400	0.24	0.31	0.38	37.52	39.01	37.53	26.82	26.03	25.45
500	0.30	0.36	0.44	33.33	33.71	33.28	26.54	25.79	25.19
600	0.34	0.44	0.52	34.81	36.91	37.85	27.46	27.23	27.00
700	0.44	0.55	0.65	38.09	38.55	36.25	31.55	32.06	31.93
800	0.58	0.74	0.87	25.64	24.97	24.22	25.57	25.09	24.42
900	0.87	1.07	1.28	19.17	18.89	18.62	19.18	18.99	18.85
1000	1.39	1.75	2.09	17.77	17.30	16.84	20.76	21.59	22.78
1100	4.19	5.45	6.76	7.21	6.29	5.56	10.19	9.46	8.83
1120	6.07	7.70	9.33	4.78	4.25	3.83	7.26	6.95	6.70
1150	10.30	12.35	14.33	2.60	2.49	2.41	4.73	4.84	4.95
1170	13.80	16.00	18.05	1.86	1.88	1.90	3.83	4.08	4.28
1200	19.47	21.66	23.64	1.28	1.42	1.50	3.02	3.33	3.57
1275	30.33	31.40	32.22	0.78	0.93	1.04	1.91	2.18	2.36
1350	34.09	34.65	35.17	0.61	0.76	0.87	1.23	1.42	1.58
1500	44.60	46.37	48.27	0.43	0.58	0.67	0.64	0.76	0.86
2000	36.66	36.79	36.94	0.25	0.39	0.48	0.19	0.28	0.32
2500	40.75	41.09	41.33	0.22	0.35	0.43	0.13	0.21	0.25
3000	45.67	45.85	46.04	0.22	0.37	0.44	0.12	0.20	0.26
3500	45.27	45.23	45.28	0.21	0.35	0.43	0.11	0.18	0.26
4000	42.44	42.45	42.63	0.16	0.33	0.42	0.06	0.18	0.27
4500	43.28	43.87	44.45	0.13	0.33	0.45	0.09	0.21	0.33
4850	49.63	45.89	43.09	0.12	0.32	0.47	0.14	0.27	0.41
5000	36.32	34.39	32.55	0.15	0.34	0.49	0.16	0.35	0.53
5100	30.21	28.41	26.65	0.17	0.38	0.55	0.26	0.49	0.72
5500	11.30	13.12	14.52	0.86	0.81	0.83	3.05	2.01	1.61
6000	19.43	19.84	20.15	0.20	0.42	0.55	0.26	0.45	0.61
6500	22.24	21.82	21.30	0.18	0.40	0.54	3.79	3.43	2.04
7000	20.34	20.50	20.59	0.17	0.39	0.53	0.23	0.41	0.55

REV. X2

VLF-800+

101128

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

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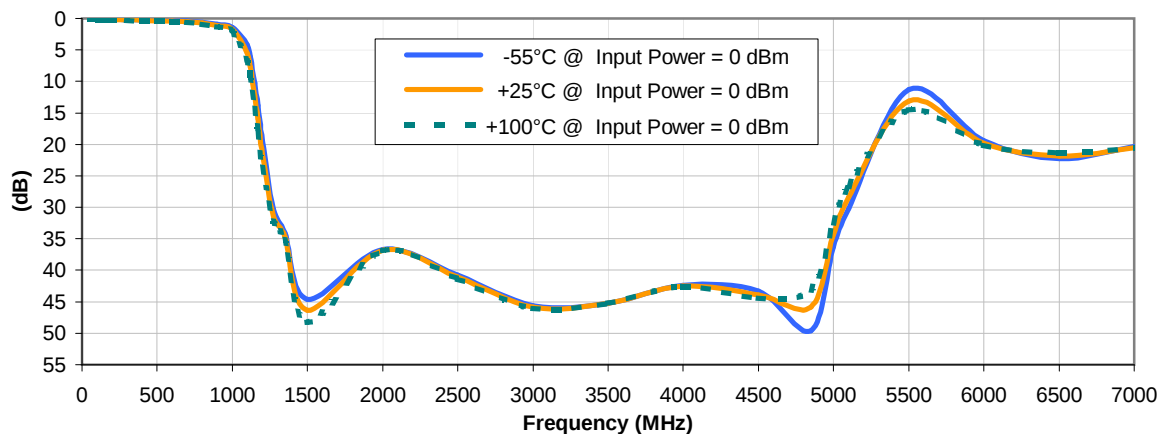


Coaxial Low Pass Filter

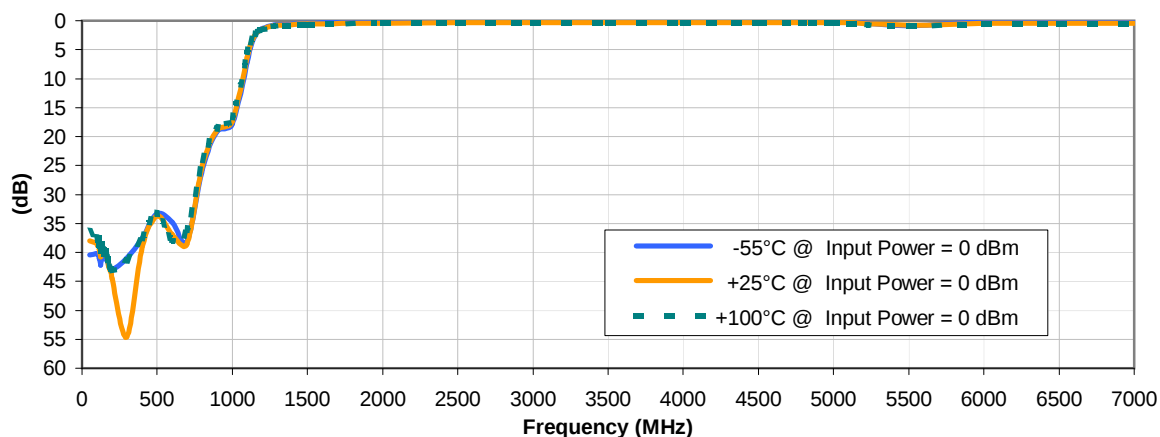
Typical Performance Curves

VLF-800+

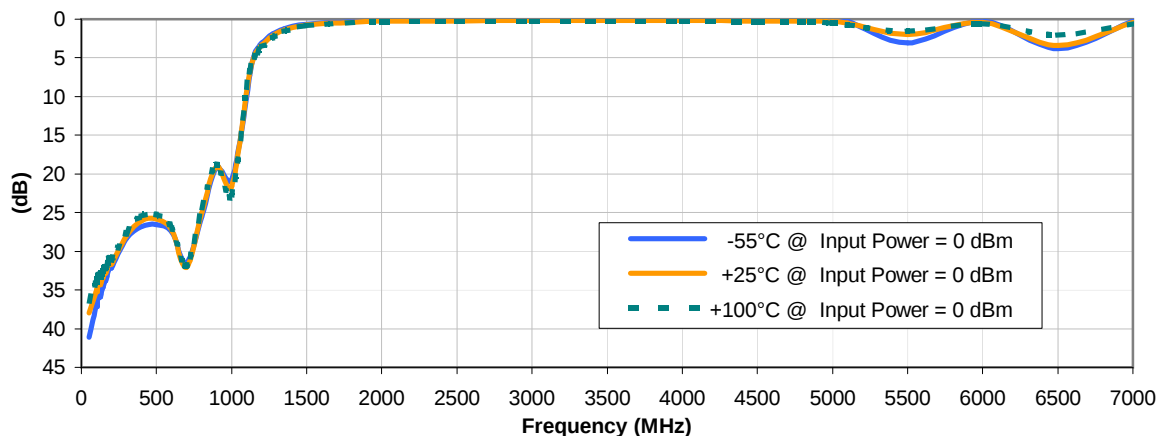
INSERTION LOSS vs. TEMPERATURE



INPUT RETURN LOSS vs. TEMPERATURE



OUTPUT RETURN LOSS vs. TEMPERATURE



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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