

Low Pass Filter

50Ω *DC to 3900 MHz

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	8W at 25°C
DC Current Input to Output	0.5A max. at 25°C

*Passband rating, derate linearly to 3 W 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, 8W
- Temperature stable
- Low cost
- Protected by US patent 6,943,646

Applications

- Harmonic rejection
- Transmitters/receivers
- Lab use

VLF-3800+



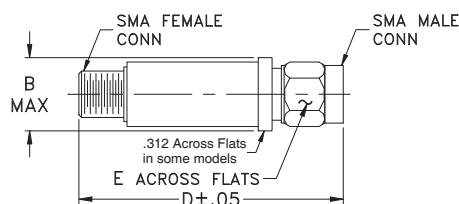
CASE STYLE: FF704

Connectors	Model
SMA	VLF-3800+

+RoHS Compliant

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

Outline Drawing



Outline Dimensions (inch/mm)

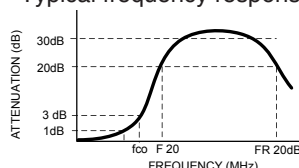
B	D	E	wt.
.410	1.43	.312	grams
10.41	36.32	7.92	10

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

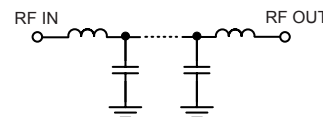
PASSBAND (MHz) (loss < 1 dB) Max.	fco, MHz Nom. (loss 3 dB) Typ.	STOP BAND (MHz) (loss, dB)			VSWR (:1)		NO. OF SECTIONS
		F 20 Min.	30 Typ.	FR 20 Typ.	Stopband Typ.	Passband Typ.	
*DC-3900	4850	6000	5700-8300	13000	17	1.3	7

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

Typical frequency response



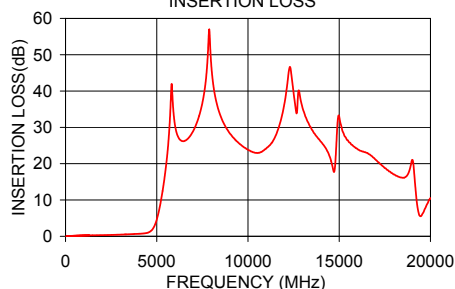
Electrical schematic



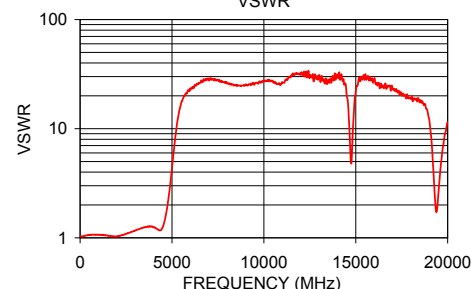
Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
40	0.01	1.03
1550	0.28	1.04
3060	0.47	1.18
3900	0.65	1.27
4510	1.00	1.27
4760	1.87	2.01
4850	2.60	2.60
4930	3.55	3.39
5120	7.00	6.76
5380	14.48	14.03
5700	30.38	20.22
6000	30.58	22.87
8300	36.33	25.56
13000	35.19	31.03
20000	10.55	11.46

VLF - 3800+
INSERTION LOSS



VLF - 3800+
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 Low Pass Filter

VLF-3800+

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	0.01	0.01	0.01	41.00	36.61	34.00	41.00	36.61	34.10
50	0.02	0.03	0.03	38.50	34.08	31.56	38.13	33.73	31.29
250	0.04	0.08	0.06	30.22	35.54	38.40	29.85	36.26	44.94
500	0.04	0.09	0.10	31.98	33.73	35.54	32.85	34.45	43.17
1000	0.07	0.13	0.16	31.52	31.93	32.63	33.82	34.11	36.03
1500	0.10	0.17	0.22	31.60	31.77	32.17	34.89	35.46	34.01
2000	0.11	0.20	0.25	32.92	32.99	32.91	33.31	37.19	38.31
2500	0.14	0.24	0.31	29.50	29.85	28.92	30.90	33.33	34.24
3000	0.18	0.31	0.38	29.19	27.43	25.77	30.80	29.39	28.05
3900	0.33	0.48	0.59	24.04	23.56	23.45	24.19	24.17	24.22
3800	0.31	0.46	0.57	23.10	22.74	22.74	23.47	23.53	23.70
4430	0.59	0.80	0.96	18.78	18.56	18.64	18.86	18.84	18.90
4700	1.52	1.88	2.16	8.46	8.18	8.05	8.77	8.63	8.55
4780	2.16	2.61	2.98	6.42	6.17	6.02	6.73	6.58	6.49
4850	2.92	3.46	3.90	4.94	4.72	4.61	5.21	5.10	5.04
4920	3.88	4.53	5.08	3.78	3.62	3.54	4.01	3.95	3.93
5140	8.54	9.50	10.34	1.49	1.55	1.61	1.69	1.82	1.91
5300	13.45	14.56	15.57	0.81	0.96	1.08	0.99	1.18	1.31
5430	18.42	19.73	20.94	0.55	0.74	0.88	0.75	0.94	1.06
5530	23.39	24.99	26.53	0.46	0.65	0.79	0.66	0.84	0.95
5610	28.81	30.96	33.14	0.39	0.59	0.74	0.61	0.79	0.89
5660	33.74	36.52	39.02	0.41	0.61	0.74	0.56	0.74	0.85
5700	39.01	40.96	40.65	0.38	0.56	0.71	0.56	0.74	0.84
5820	34.35	33.03	32.06	0.37	0.55	0.68	0.47	0.68	0.77
6000	27.91	27.76	27.58	0.32	0.51	0.64	0.46	0.63	0.72
6020	27.53	27.44	27.28	0.30	0.48	0.61	0.49	0.65	0.72
6360	25.74	26.13	26.30	0.28	0.45	0.57	0.39	0.57	0.65
6870	28.40	29.17	29.69	0.22	0.39	0.48	0.24	0.48	0.62
7270	32.88	34.02	34.92	0.18	0.36	0.49	0.16	0.42	0.61
7580	39.57	41.15	42.68	0.12	0.34	0.50	0.14	0.39	0.60
8290	37.32	37.02	36.93	0.08	0.34	0.58	0.19	0.44	0.67
8300	37.17	36.86	36.78	0.09	0.35	0.58	0.19	0.45	0.68
8800	31.36	31.40	30.88	0.09	0.35	0.60	0.26	0.53	0.79
9080	29.40	29.65	28.63	0.07	0.38	0.64	0.31	0.56	0.84
10000	25.03	25.62	24.75	0.09	0.41	0.49	0.65	0.91	1.09
11000	23.17	23.73	24.35	0.15	0.31	0.41	1.74	2.29	2.61
12000	31.03	31.59	30.96	0.14	0.28	0.45	1.31	1.59	1.63
13000	32.65	32.63	35.42	0.05	0.15	0.31	0.31	0.63	0.72
14000	24.61	24.12	22.78	0.01	0.25	0.67	0.08	0.35	0.57
15000	25.91	25.30	24.71	0.08	0.36	0.54	0.16	0.40	0.52
16000	21.00	20.33	20.46	0.01	0.35	0.67	0.17	0.46	0.61
17000	18.14	17.61	18.27	0.10	0.36	0.83	0.21	0.71	0.98
18000	14.94	15.54	16.20	0.49	0.63	0.59	0.80	1.55	2.18
19000	21.27	16.69	13.65	1.33	3.59	5.15	3.81	3.66	3.82
20000	10.26	9.91	9.59	0.96	1.45	1.92	0.97	1.72	2.27

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VLF-3800+
080723
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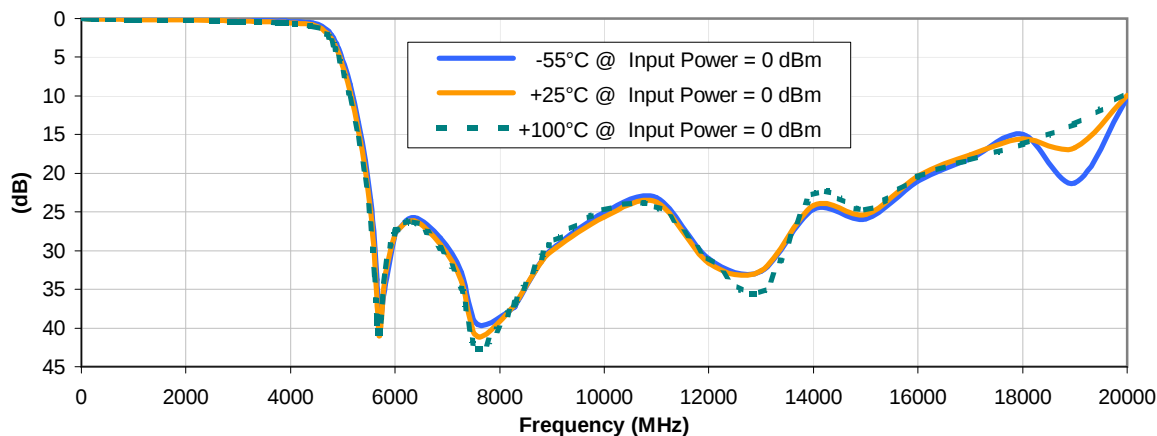


Coaxial Low Pass Filter

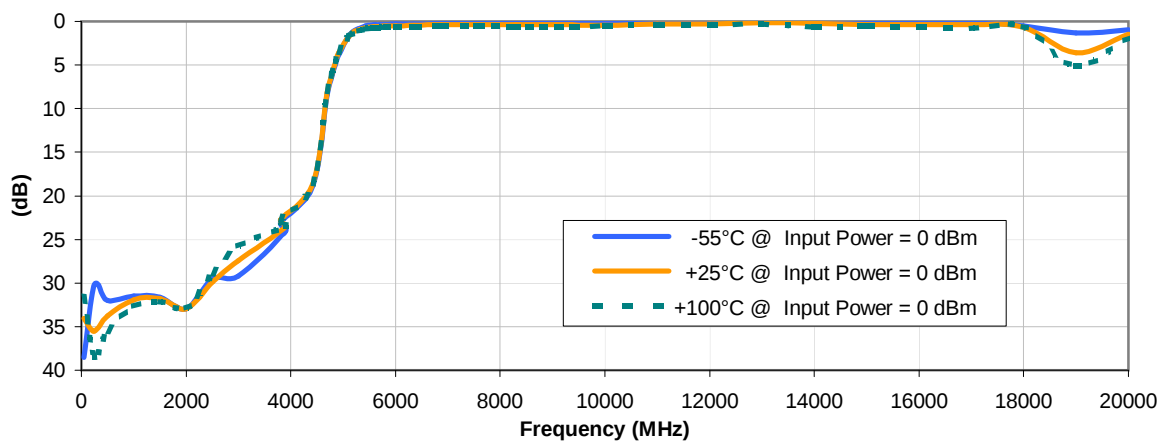
Typical Performance Curves

VLF-3800+

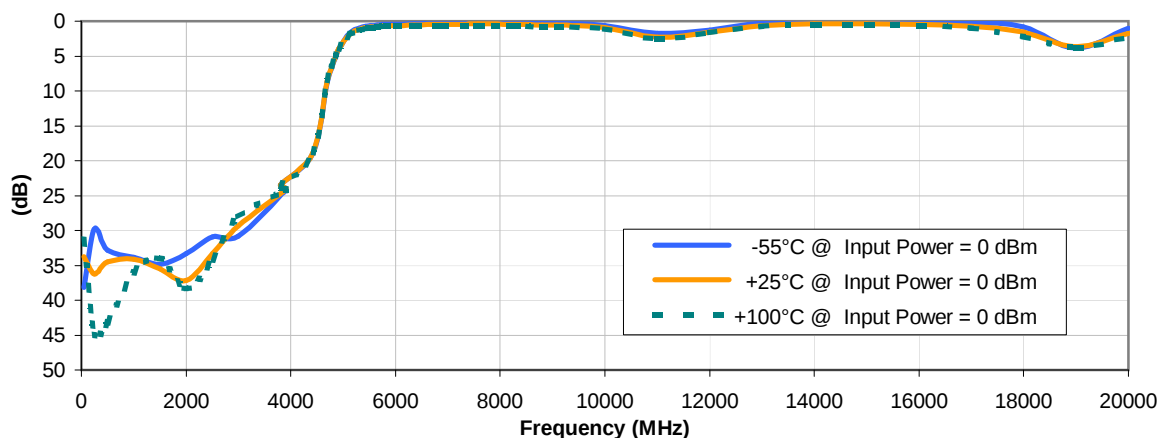
INSERTION LOSS vs. TEMPERATURE



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