

Coaxial Low Pass Filter

50Ω

*DC to 1200 MHz

VLF-1200+



Generic photo used for illustration purposes only

CASE STYLE: FF704

Connectors	Model
SMA	VLF-1200+

+RoHS Compliant

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

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

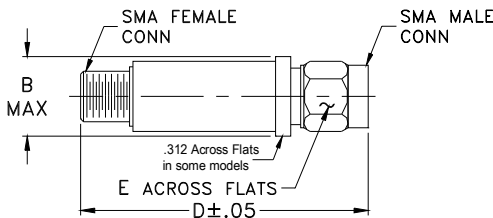
- harmonic rejection
- transmitters/receivers
- lab use

Electrical Specifications at 25°C

PASSBAND (MHz) (loss < 1 dB)	fco, MHz Nom. (loss 3 dB)	STOP BAND (MHz) (loss, dB)			VSWR (:1)		NO. OF SECTIONS
		f 20 Min.	30 Typ.	fr 20 Typ.	Stopband Typ.	Passband Typ.	
Max.	Typ.	Min.	Typ.	Typ.	Typ.	Typ.	
*DC-1200	1530	1865	2000-5000	6200	20	1.2	7

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

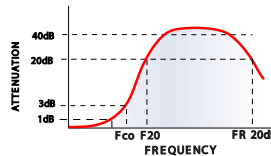
Outline Drawing



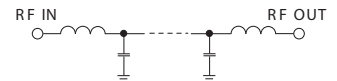
Outline Dimensions (inch/mm)

B	D	E	gra
.410	1.43	.312	1
10.41	36.32	7.92	

typical frequency response

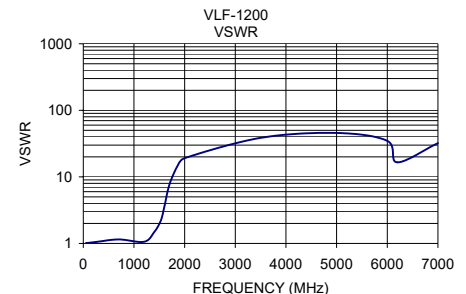
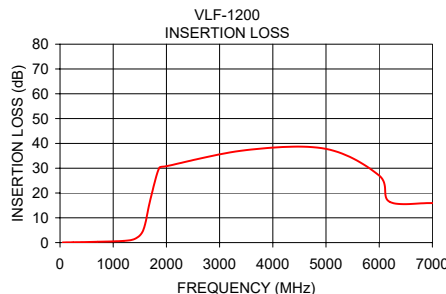


electrical schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	0.07	1.01
250	0.14	1.05
700	0.32	1.15
1200	0.69	1.06
1400	1.45	1.48
1530	3.63	2.20
1600	7.44	3.56
1700	17.61	7.70
1865	30.16	14.87
2000	30.80	19.11
3500	37.28	38.61
5000	37.80	45.72
6000	27.00	34.75
6200	16.43	16.56
7000	15.93	32.18



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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Coaxial Low Pass Filter

VLF-1200+

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
50	0.06	0.07	0.08	47.31	44.57	42.43	44.97	41.64	39.81
100	0.07	0.10	0.11	40.05	41.64	41.71	39.18	38.58	38.13
200	0.07	0.11	0.14	36.86	34.62	33.30	33.56	32.13	31.40
500	0.19	0.24	0.29	27.20	25.90	24.91	24.92	23.83	22.84
1000	0.38	0.49	0.58	25.64	25.80	25.93	24.78	24.55	24.25
1200	0.53	0.69	0.82	33.17	30.61	28.65	29.57	27.65	25.91
1250	0.61	0.81	0.94	25.62	24.11	22.91	24.42	22.92	21.65
1300	0.72	0.93	1.11	21.05	19.98	19.20	19.89	18.80	17.86
1315	0.77	0.99	1.17	19.80	18.87	18.16	18.71	17.75	16.86
1350	0.89	1.14	1.36	17.39	16.74	16.18	16.45	15.63	14.86
1400	1.14	1.45	1.72	14.57	14.21	13.88	13.46	12.84	12.18
1450	1.56	1.95	2.32	12.22	12.10	11.93	10.82	10.29	9.73
1500	2.27	2.81	3.35	9.98	9.96	9.90	8.27	7.79	7.30
1505	2.33	2.92	3.48	9.73	9.72	9.66	8.03	7.56	7.08
1530	2.92	3.63	4.35	8.52	8.52	8.44	6.74	6.29	5.87
1560	3.96	4.92	5.83	7.02	6.98	6.90	5.24	4.86	4.54
1600	6.11	7.44	8.69	5.03	5.02	4.96	3.51	3.33	3.18
1630	8.43	10.04	11.51	3.79	3.85	3.88	2.56	2.52	2.51
1675	12.91	14.77	16.41	2.54	2.69	2.78	1.73	1.86	1.97
1700	15.70	17.61	19.28	2.09	2.27	2.40	1.49	1.68	1.82
1720	18.01	19.91	21.57	1.83	2.02	2.14	1.38	1.57	1.74
1780	24.40	26.01	27.27	1.33	1.52	1.66	1.16	1.38	1.57
1800	26.12	27.51	28.57	1.24	1.43	1.56	1.11	1.35	1.54
1830	28.11	29.16	29.88	1.09	1.28	1.42	1.08	1.31	1.49
1865	30.99	31.12	31.23	0.93	1.09	1.27	0.93	1.11	1.31
2000	30.51	30.80	31.08	0.74	0.91	1.03	0.88	1.07	1.24
2350	40.32	41.76	43.25	0.46	0.66	0.81	0.53	0.68	0.77
2495	57.72	54.94	52.03	0.42	0.62	0.77	0.43	0.55	0.62
3000	37.13	37.20	37.16	0.37	0.55	0.66	0.25	0.36	0.43
3500	37.08	37.28	37.38	0.28	0.45	0.55	0.18	0.29	0.36
4000	37.70	37.86	38.01	0.21	0.38	0.47	0.14	0.26	0.34
4500	37.47	37.66	37.77	0.19	0.35	0.47	0.12	0.26	0.38
5000	37.60	37.80	38.09	0.18	0.38	0.50	0.13	0.28	0.42
5610	48.45	51.65	51.68	0.14	0.35	0.54	0.10	0.28	0.46
5780	43.02	39.65	37.25	0.15	0.39	0.59	0.10	0.31	0.49
5940	32.05	30.02	28.34	0.18	0.43	0.66	0.13	0.35	0.55
6120	22.86	20.87	19.08	0.34	0.69	1.03	0.27	0.56	0.90
6200	18.63	16.43	14.44	0.54	1.05	1.72	0.43	0.87	1.46
6330	10.59	8.53	8.05	2.19	4.46	5.63	1.88	3.78	4.82
6490	7.91	9.97	11.56	2.83	1.88	1.60	2.51	1.70	1.45
7000	15.60	15.93	16.18	0.27	0.54	0.76	0.27	0.48	0.69

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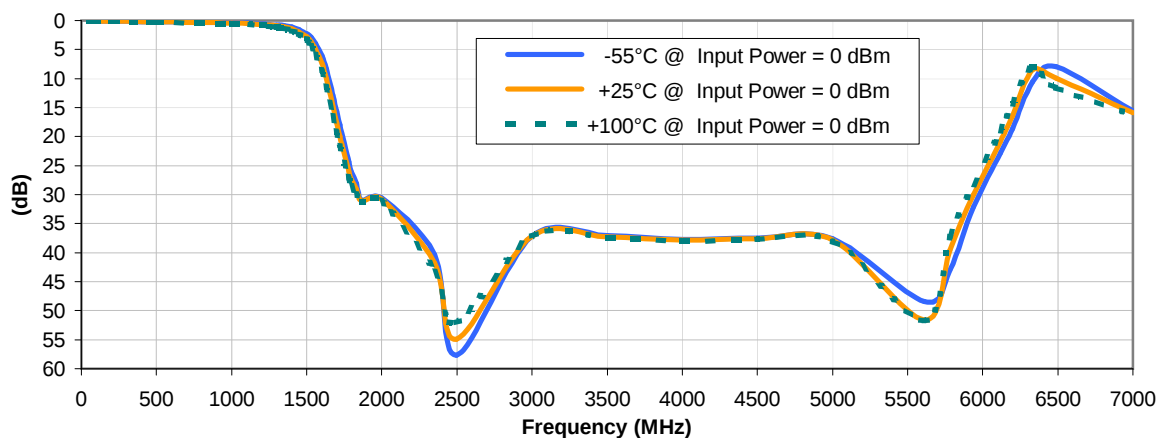


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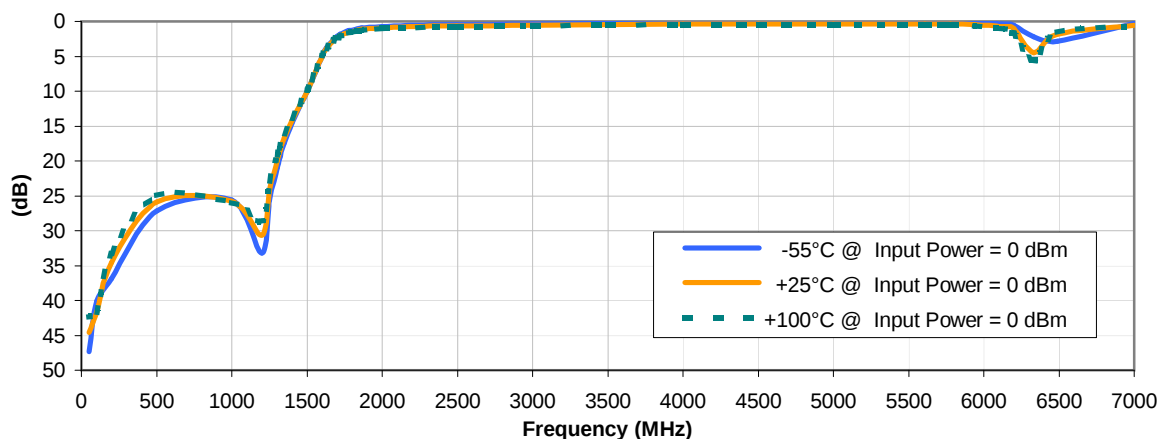
Typical Performance Curves

VLF-1200+

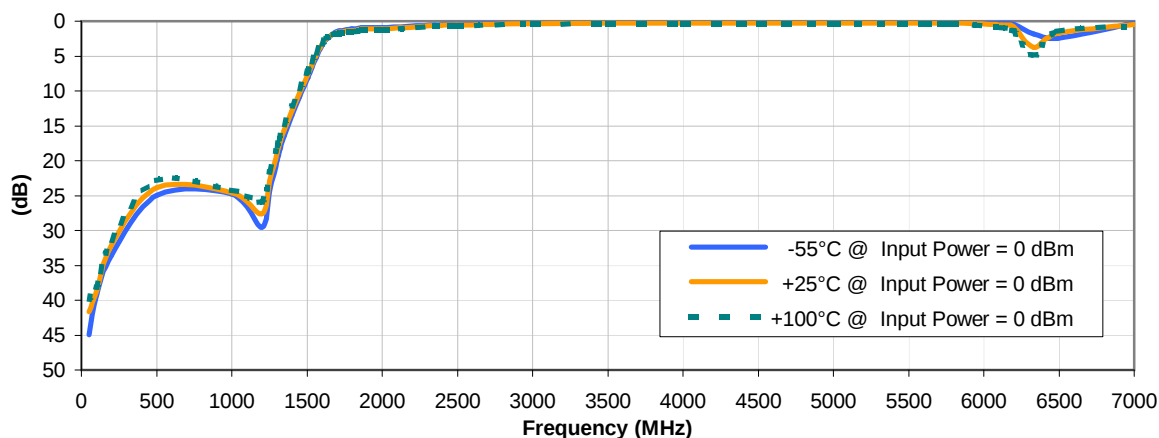
INSERTION LOSS vs. TEMPERATURE



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