

Coaxial Low Pass Filter

50Ω

*DC to 2500 MHz

VLF-2500+

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

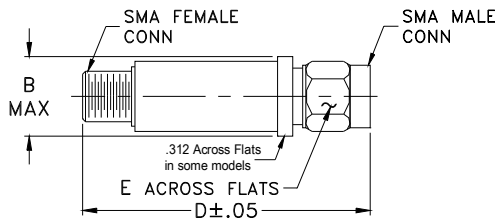
CASE STYLE: FF704

Connectors	Model
SMA	VLF-2500+

+RoHS Compliant

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

Outline Drawing



Outline Dimensions (inch/mm)

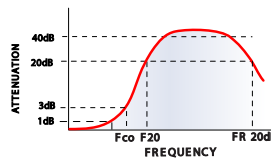
B	D	E	wt
.410	1.43	.312	grams
10.41	36.32	7.92	10.0

Electrical Specifications at 25°C

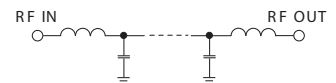
PASSBAND (MHz)	fco, MHz Nom. (loss 3 dB)	STOP BAND (MHz) (loss, dB)			VSWR (:1)		NO. OF SECTIONS
		f 20 Min.	30 Typ.	fr 20 Typ.	Stopband Typ.	Passband Typ.	
Max.	Typ.						
*DC-2400 (loss < 1 dB)	3075	3675	3800-6100	8000	20	1.2	7
*2400-2500 (loss < 1.2 dB)							

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

typical frequency response

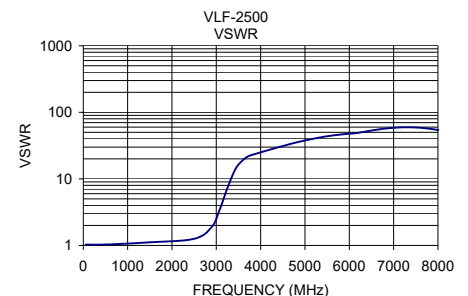
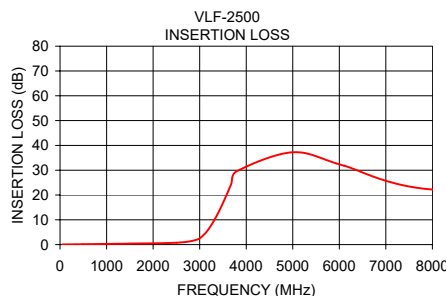


electrical schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	0.07	1.03
500	0.18	1.03
1500	0.38	1.11
2500	0.77	1.26
2900	1.77	1.91
3075	3.71	3.43
3250	7.85	7.25
3450	14.79	14.74
3675	24.24	20.95
3800	29.61	22.87
5000	37.24	37.77
6100	31.81	48.26
8000	22.21	54.29
15000	19.62	4.36
20000	15.64	13.29



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/VCLStore/terms.jsp



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Coaxial Low Pass Filter

VLF-2500+

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	0.05	0.07	0.08	40.11	37.54	36.29	40.04	37.48	36.14
100	0.06	0.09	0.09	40.07	37.79	36.57	40.22	37.45	36.04
500	0.12	0.18	0.21	34.82	36.30	38.49	34.68	35.52	36.28
1000	0.18	0.27	0.32	46.72	50.25	42.41	35.32	34.25	32.41
1500	0.26	0.38	0.45	25.55	25.33	25.82	25.38	24.76	24.58
2000	0.39	0.53	0.64	19.18	19.78	19.96	19.36	19.73	19.68
2500	0.58	0.77	0.93	18.72	18.87	18.89	17.80	17.92	18.09
2530	0.59	0.80	0.95	18.73	18.83	18.77	17.67	17.74	17.87
2550	0.61	0.82	0.98	18.65	18.70	18.59	17.50	17.53	17.63
2620	0.67	0.88	1.06	18.08	17.84	17.65	16.80	16.62	16.61
2700	0.76	1.01	1.21	16.93	16.43	16.14	15.57	15.17	15.03
2820	1.05	1.35	1.63	13.29	12.80	12.33	12.42	11.99	11.65
3040	2.58	3.17	3.71	6.33	6.03	5.80	6.15	5.88	5.66
3075	3.07	3.71	4.32	5.45	5.21	5.03	5.34	5.12	4.94
3150	4.45	5.22	5.96	3.80	3.71	3.64	3.79	3.71	3.62
3330	9.41	10.43	11.41	1.63	1.76	1.87	1.76	1.89	1.99
3470	14.46	15.60	16.70	0.99	1.18	1.32	1.16	1.35	1.49
3590	19.30	20.55	21.73	0.75	0.93	1.08	1.02	1.23	1.38
3675	22.93	24.24	25.44	0.64	0.83	0.96	0.96	1.18	1.36
3700	24.00	25.31	26.52	0.61	0.80	0.94	0.94	1.16	1.35
3800	28.31	29.61	30.73	0.57	0.76	0.90	0.94	1.17	1.38
4020	35.14	35.74	36.18	0.44	0.62	0.74	0.99	1.27	1.55
4080	35.74	36.07	36.26	0.45	0.63	0.75	1.04	1.33	1.62
4130	35.80	35.96	36.04	0.47	0.66	0.77	1.07	1.38	1.68
4250	34.92	34.90	34.83	0.39	0.59	0.70	1.09	1.41	1.71
4630	32.91	33.20	33.50	0.34	0.54	0.68	1.04	1.33	1.56
4860	34.40	34.96	35.53	0.30	0.52	0.67	0.83	1.07	1.25
5190	41.36	42.92	44.54	0.26	0.46	0.64	0.60	0.79	0.92
5440	54.01	50.11	47.28	0.21	0.43	0.63	0.46	0.64	0.78
5530	46.43	44.25	42.61	0.19	0.40	0.60	0.43	0.61	0.74
5710	38.90	38.03	37.26	0.15	0.36	0.58	0.37	0.56	0.70
6100	32.01	31.81	31.57	0.14	0.36	0.59	0.25	0.44	0.60
6380	29.40	29.33	29.21	0.16	0.39	0.62	0.22	0.43	0.62
6440	28.88	28.85	28.76	0.11	0.34	0.57	0.19	0.40	0.60
8000	22.16	22.21	22.31	0.10	0.32	0.51	0.11	0.38	0.68
8860	19.93	20.02	20.20	0.08	0.33	0.51	0.20	0.45	0.71
9440	18.90	18.90	19.00	0.06	0.33	0.51	0.21	0.45	0.67
13220	10.75	10.94	11.32	1.06	1.58	2.07	0.95	1.40	1.88
13700	10.30	11.17	12.11	1.66	2.17	2.71	1.20	1.59	2.01
15000	23.76	19.62	16.43	3.15	4.06	3.41	2.28	4.53	7.84

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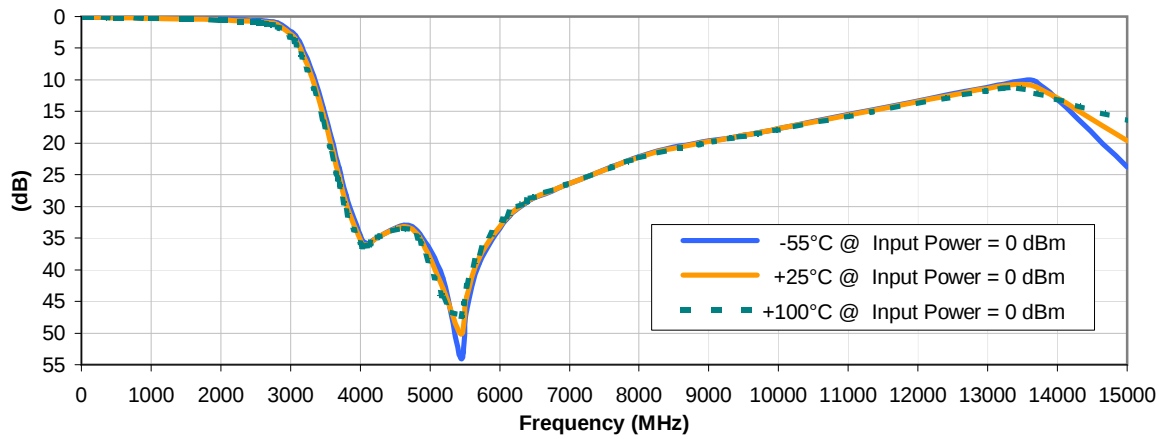


Coaxial Low Pass Filter

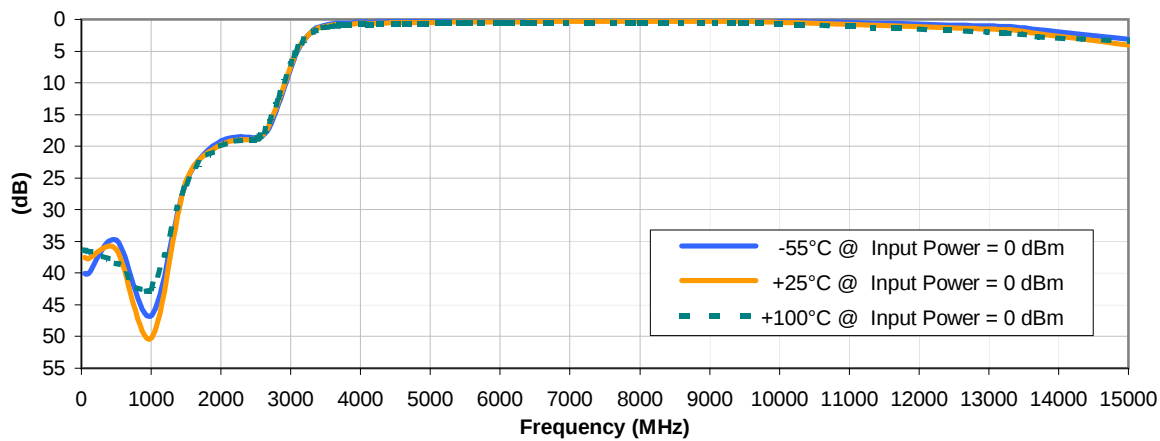
Typical Performance Curves

VLF-2500+

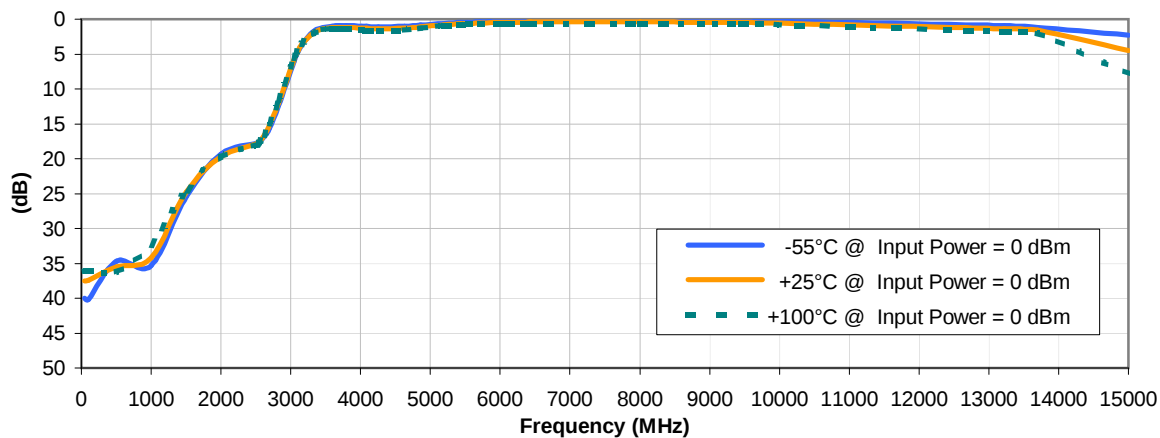
INSERTION LOSS vs. TEMPERATURE



INPUT RETURN LOSS vs. TEMPERATURE



OUTPUT RETURN LOSS vs. TEMPERATURE



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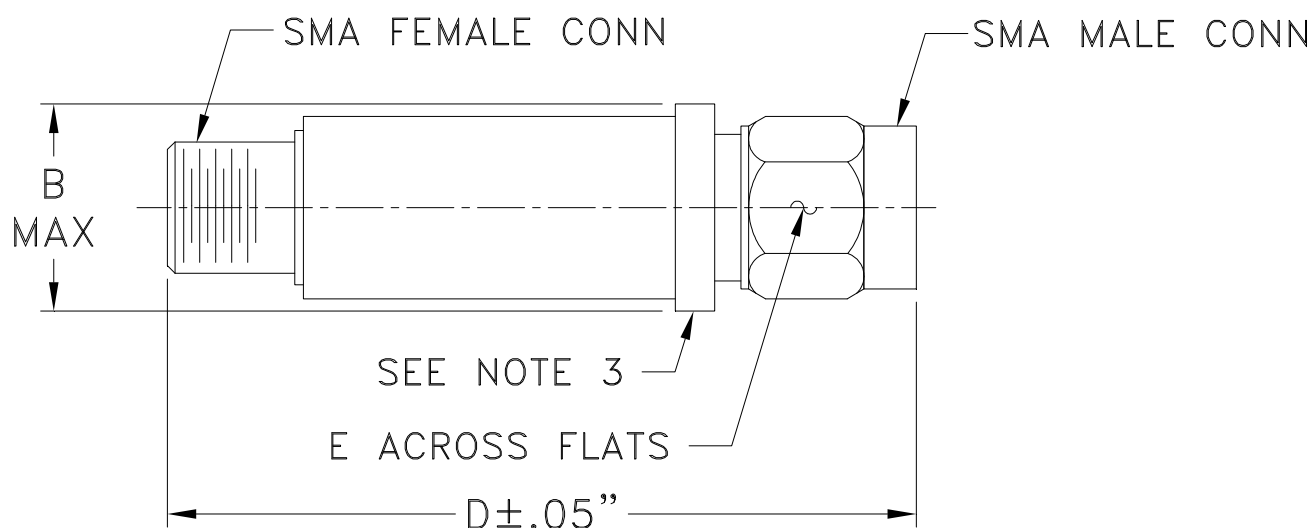
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Outline Dimensions



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