

Coaxial Low Pass Filter

50Ω

*DC to 2250 MHz

VLF-2250+ VLF-2250



Generic photo used for illustration purposes only

CASE STYLE: FF704

Connectors	Model
SMA	VLF-2250(+)

+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

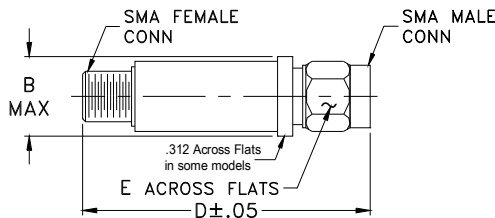
- harmonic rejection
- transmitters/receivers
- lab use

Electrical Specifications at 25°C

PASSBAND (MHz) (loss < 1.2 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-2200	2575	2900	3000-5000	7200	20	1.2	7

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

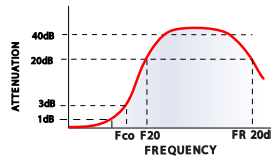
Outline Drawing



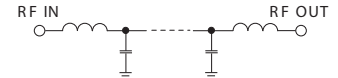
Outline Dimensions (inch/mm)

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

typical frequency response

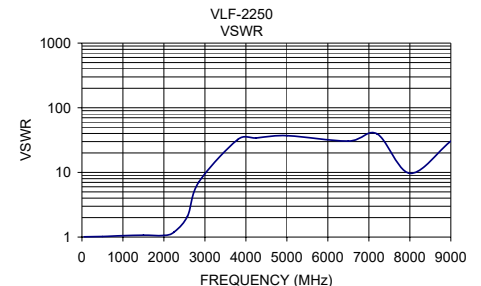
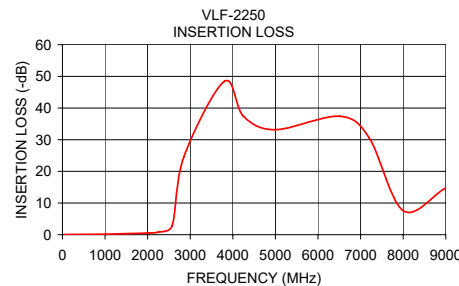


electrical schematic



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50.00	0.06	1.01
500.00	0.11	1.02
1000.00	0.15	1.05
1500.00	0.33	1.07
2000.00	0.51	1.06
2250.00	0.82	1.20
2575.00	2.84	2.10
2850.00	24.55	7.08
3800.00	48.40	32.18
4250.00	37.39	34.07
5000.00	33.16	36.97
6500.00	37.38	30.49
7200.00	30.64	39.49
8000.00	7.60	9.69
9000.00	14.79	30.49



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.
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Coaxial Low Pass Filter

VLF-2250

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	0.04	0.05	0.06	45.83	42.39	40.72	45.07	40.79	39.07
200	0.07	0.10	0.10	46.09	44.16	42.27	41.18	40.82	40.62
300	0.06	0.11	0.11	50.25	45.10	38.47	38.49	38.15	37.22
400	0.09	0.13	0.14	49.86	42.49	36.65	38.60	36.17	34.60
500	0.13	0.14	0.19	53.50	41.32	36.37	35.54	33.78	31.96
600	0.10	0.17	0.21	45.52	39.05	34.83	33.10	32.14	30.47
700	0.11	0.17	0.22	41.75	37.91	34.02	32.03	30.94	29.47
800	0.14	0.20	0.25	37.88	34.96	32.20	31.79	30.21	28.74
900	0.14	0.20	0.29	35.21	33.19	31.21	30.70	29.19	27.85
1000	0.16	0.23	0.28	34.45	32.38	30.85	29.93	28.33	27.18
1200	0.18	0.27	0.34	30.78	30.20	29.67	28.19	27.29	26.38
1400	0.24	0.33	0.41	29.65	29.46	29.30	27.91	27.10	26.07
1500	0.24	0.35	0.43	28.69	28.96	29.12	27.57	26.97	26.05
1800	0.30	0.43	0.53	28.18	29.11	29.47	27.20	26.95	26.18
2000	0.42	0.56	0.70	27.19	27.19	26.86	25.46	24.89	24.24
2200	0.58	0.77	0.95	22.29	21.89	21.69	20.98	20.47	20.14
2250	0.66	0.88	1.06	20.99	20.58	20.43	19.70	19.19	18.89
2400	0.99	1.30	1.57	16.73	16.37	16.39	15.50	14.94	14.53
2500	1.50	1.94	2.40	13.71	13.47	13.38	12.14	11.43	10.84
2575	2.36	3.09	3.87	10.63	10.39	10.11	8.81	8.09	7.45
2800	17.24	20.32	23.43	2.48	2.63	2.78	1.54	1.71	1.87
2850	24.56	28.31	32.18	1.96	2.16	2.33	1.27	1.46	1.67
3000	52.22	54.76	50.87	1.18	1.42	1.61	0.93	1.15	1.30
3200	34.39	33.79	33.48	0.80	1.02	1.22	0.69	0.87	1.03
3400	31.65	32.14	32.65	0.62	0.87	1.06	0.58	0.75	0.87
3500	32.56	33.34	34.12	0.56	0.78	0.98	0.53	0.68	0.79
3800	42.11	44.87	47.86	0.45	0.65	0.82	0.41	0.55	0.64
4000	50.56	46.65	44.23	0.44	0.62	0.78	0.36	0.49	0.58
4200	39.61	38.68	37.92	0.43	0.61	0.73	0.33	0.44	0.52
4250	38.41	37.62	37.08	0.38	0.57	0.71	0.31	0.44	0.53
4400	36.02	35.68	35.33	0.35	0.55	0.68	0.30	0.43	0.50
4500	35.05	34.85	34.61	0.34	0.53	0.66	0.26	0.38	0.49
4800	33.58	33.60	33.55	0.31	0.51	0.65	0.22	0.37	0.47
5000	33.29	33.36	33.39	0.29	0.50	0.64	0.21	0.35	0.47
5200	33.26	33.41	33.46	0.26	0.49	0.64	0.17	0.32	0.46
5400	33.42	33.64	33.74	0.24	0.46	0.64	0.18	0.34	0.48
5500	33.57	33.81	33.95	0.23	0.44	0.62	0.16	0.34	0.49
5800	34.32	34.69	34.94	0.20	0.43	0.64	0.16	0.32	0.50
6000	35.17	35.68	36.09	0.18	0.41	0.63	0.13	0.32	0.50
6200	36.56	37.29	37.88	0.19	0.42	0.65	0.13	0.32	0.53
6400	38.89	40.02	41.14	0.16	0.41	0.65	0.14	0.32	0.55
6500	40.83	42.46	44.11	0.17	0.42	0.66	0.12	0.33	0.54
6800	51.90	46.70	43.41	0.15	0.40	0.66	0.13	0.34	0.57
7000	37.35	35.24	33.64	0.17	0.42	0.71	0.15	0.36	0.59
7200	29.58	28.03	26.74	0.17	0.44	0.73	0.19	0.42	0.67
7400	23.13	21.65	20.27	0.21	0.50	0.84	0.29	0.56	0.87
7500	19.84	18.27	16.79	0.26	0.60	0.99	0.40	0.74	1.17
7800	7.93	6.54	6.28	2.01	3.45	4.23	3.99	8.73	13.70
8000	6.43	8.13	9.55	2.35	1.85	1.71	4.38	2.95	2.39
8200	10.61	11.68	12.58	0.69	0.84	0.99	1.05	1.09	1.17
8400	12.94	13.68	14.33	0.40	0.64	0.84	0.53	0.68	0.82
8500	13.64	14.30	14.92	0.35	0.58	0.78	0.47	0.64	0.78
8800	14.86	15.37	15.91	0.25	0.49	0.67	0.34	0.51	0.64
9000	15.23	15.69	16.20	0.21	0.47	0.64	0.35	0.54	0.66

REV. X2

VLF-2250

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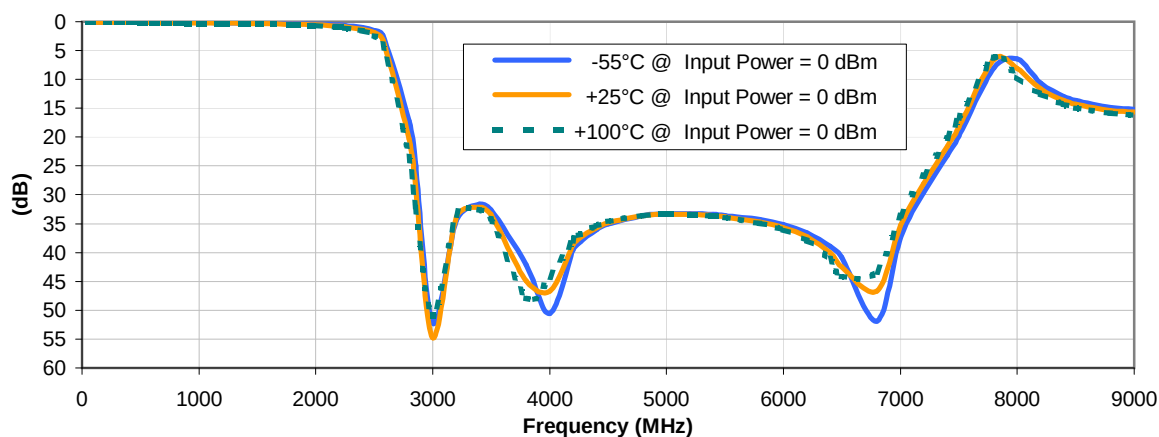


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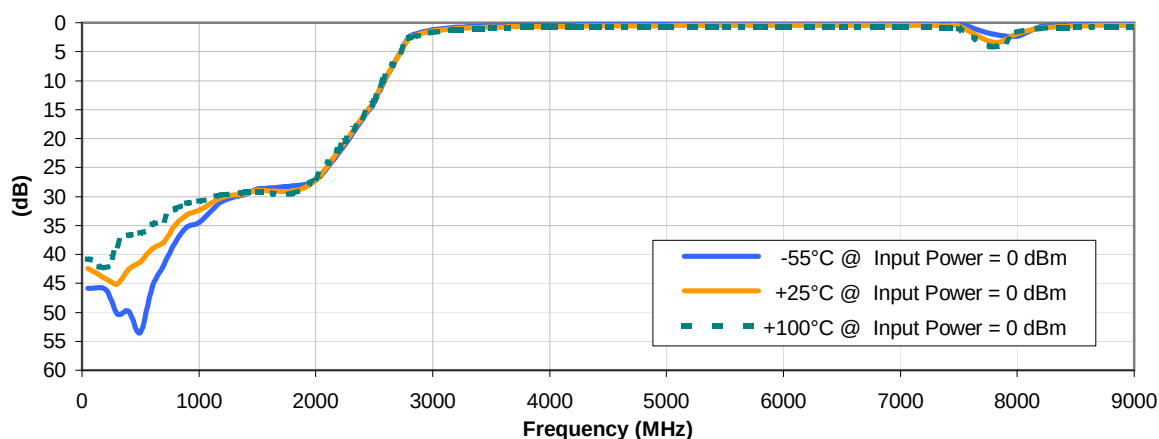
Typical Performance Curves

VLF-2250

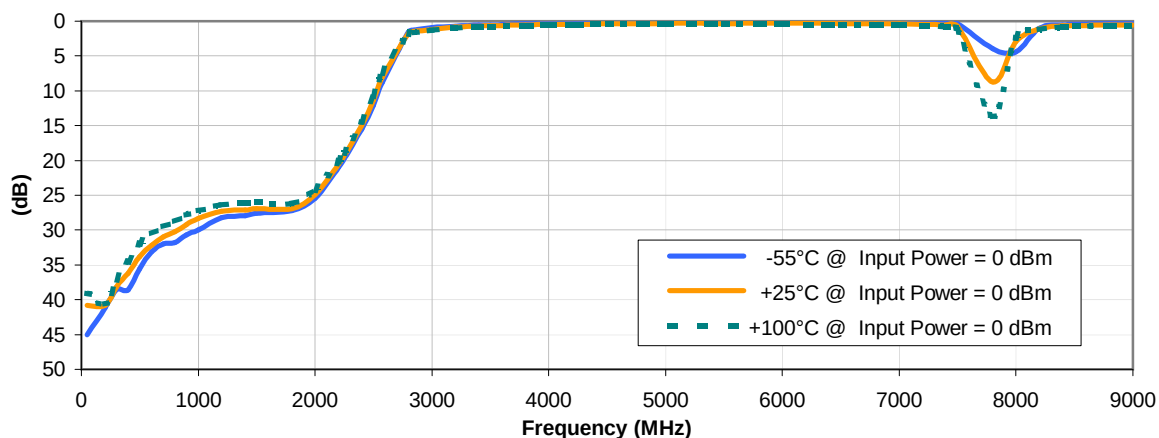
INSERTION LOSS vs. TEMPERATURE



INPUT RETURN LOSS vs. TEMPERATURE



OUTPUT RETURN LOSS vs. TEMPERATURE



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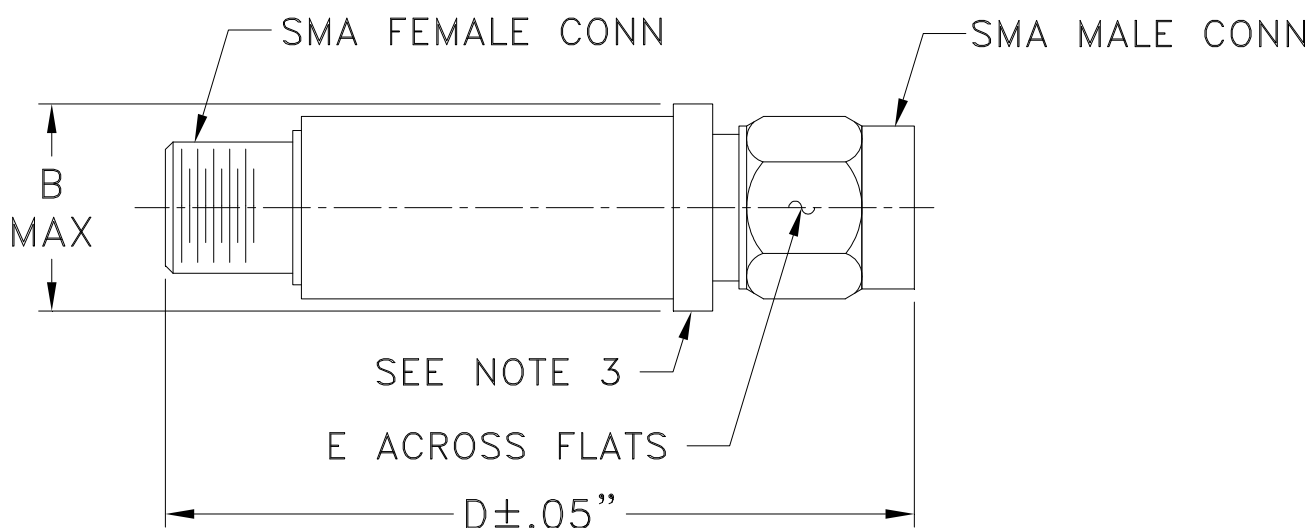
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Outline Dimensions



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