

Coaxial Low Pass Filter

50Ω

*DC to 1575 MHz

VLF-1575+



Generic photo used for illustration purposes only

CASE STYLE: FF704

Connectors	Model
SMA	VLF-1575+

+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

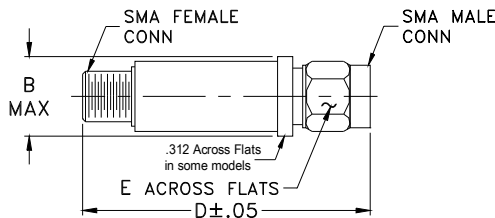
- harmonic rejection
- transmitters/receivers
- lab use

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.						
*DC-1575	1875	2175	2225-6800	7100	20	1.2	7

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

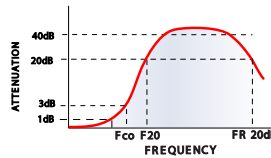
Outline Drawing



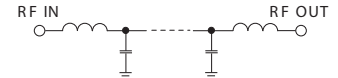
Outline Dimensions (inch/mm)

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

typical frequency response

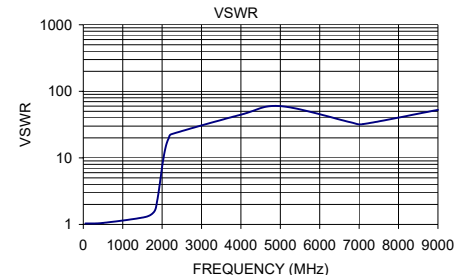


electrical schematic



Typical Performance Data

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
50	0.06	1.03
500	0.19	1.05
1575	0.73	1.29
1800	1.51	1.56
1875	2.71	2.29
1950	5.83	4.40
2020	11.60	8.81
2100	22.31	15.26
2175	38.03	20.22
2225	33.68	22.58
4000	41.86	44.55
5000	42.91	59.91
6800	33.43	34.07
7100	30.89	32.18
9000	19.27	52.65



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/VCLStore/terms.jsp



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Coaxial Low Pass Filter

VLF-1575+

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	0.04	0.06	0.07	37.70	35.52	34.32	38.03	35.75	34.43
100	0.07	0.09	0.10	36.67	34.73	33.60	36.94	34.85	33.43
1000	0.24	0.33	0.39	25.29	24.93	24.93	24.09	23.40	23.01
1500	0.51	0.64	0.75	17.62	17.88	18.05	17.65	17.80	17.80
1575	0.58	0.73	0.86	17.53	17.83	18.03	17.36	17.48	17.51
1690	0.76	0.94	1.11	17.09	17.41	17.65	16.22	16.26	16.33
1875	2.23	2.71	3.15	8.48	8.15	7.86	8.17	7.92	7.73
1885	2.46	2.98	3.46	7.82	7.50	7.23	7.59	7.35	7.17
1935	4.22	4.98	5.70	4.86	4.69	4.53	4.92	4.83	4.75
2005	8.95	10.11	11.19	2.23	2.28	2.31	2.51	2.63	2.72
2055	14.19	15.65	17.00	1.36	1.49	1.59	1.71	1.89	2.03
2090	18.93	20.65	22.25	1.04	1.20	1.32	1.41	1.61	1.76
2120	23.99	26.05	27.96	0.88	1.05	1.18	1.26	1.45	1.60
2145	29.40	31.82	33.82	0.78	0.95	1.09	1.16	1.35	1.50
2175	37.59	38.03	37.23	0.69	0.86	1.00	1.07	1.26	1.40
2200	37.70	36.00	34.91	0.64	0.82	0.95	1.02	1.20	1.34
2225	34.46	33.68	33.22	0.59	0.77	0.91	0.96	1.13	1.27
2280	32.12	32.28	32.50	0.52	0.69	0.83	0.86	1.03	1.15
2360	34.24	35.00	35.75	0.40	0.57	0.72	0.72	0.88	1.00
2430	40.25	41.71	43.11	0.40	0.58	0.71	0.66	0.81	0.93
2600	37.74	37.22	36.78	0.32	0.49	0.64	0.52	0.67	0.80
2900	31.15	31.28	31.43	0.33	0.49	0.63	0.39	0.54	0.68
3500	34.29	34.68	35.02	0.27	0.42	0.52	0.30	0.46	0.60
4000	41.26	41.86	42.42	0.23	0.39	0.48	0.26	0.40	0.52
4490	62.31	64.70	64.42	0.18	0.35	0.46	0.24	0.38	0.48
5000	43.22	42.91	42.64	0.11	0.29	0.44	0.21	0.34	0.43
5500	36.80	36.67	36.53	0.09	0.29	0.46	0.17	0.33	0.45
6000	33.00	33.04	33.11	0.14	0.34	0.55	0.13	0.29	0.43
6500	30.62	30.97	31.28	0.20	0.42	0.63	0.13	0.34	0.54
6800	32.16	33.43	34.43	0.31	0.51	0.71	0.21	0.41	0.63
7000	41.27	42.92	40.97	0.31	0.52	0.74	0.29	0.53	0.80
7100	33.72	30.89	28.37	0.31	0.54	0.79	0.32	0.62	1.01
7320	11.73	12.01	13.39	1.46	1.52	1.39	6.48	5.45	3.53
8000	20.31	20.42	20.57	0.13	0.37	0.58	0.16	0.38	0.62
9000	19.83	19.27	18.63	0.10	0.33	0.49	1.08	1.77	1.65
10000	16.42	16.35	16.36	0.13	0.45	0.67	0.30	0.52	0.71
12000	11.29	11.55	11.71	0.71	1.12	1.50	0.68	0.98	1.28
13000	11.95	11.78	11.93	1.06	1.53	1.97	0.97	1.33	1.71
14200	9.26	10.07	10.84	2.03	2.64	3.30	1.35	1.66	1.95
16000	39.14	38.00	36.95	0.45	1.06	1.84	0.55	0.95	1.36

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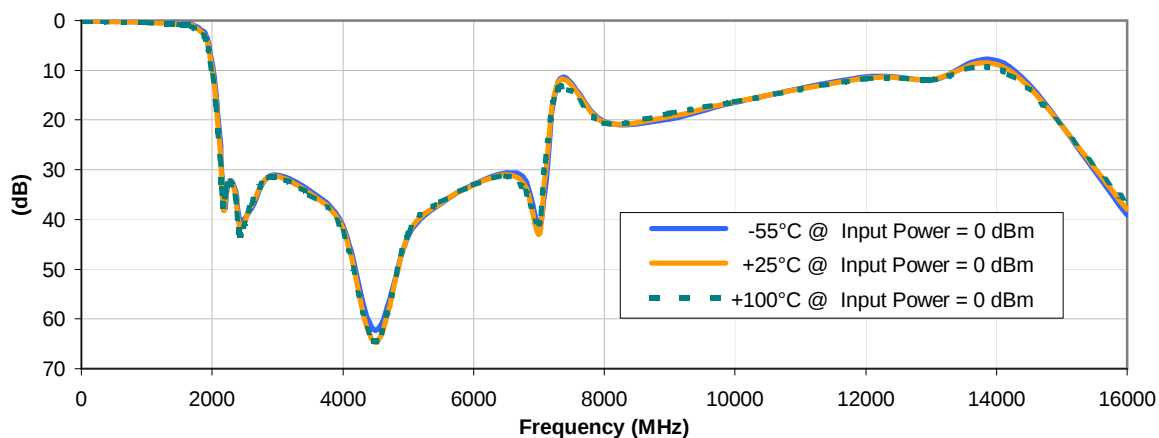


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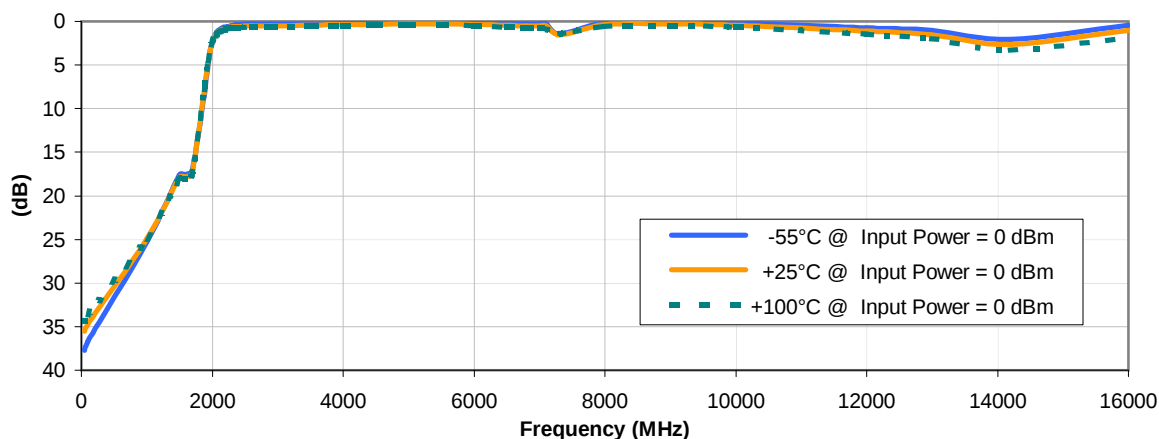
Typical Performance Curves

VLF-1575+

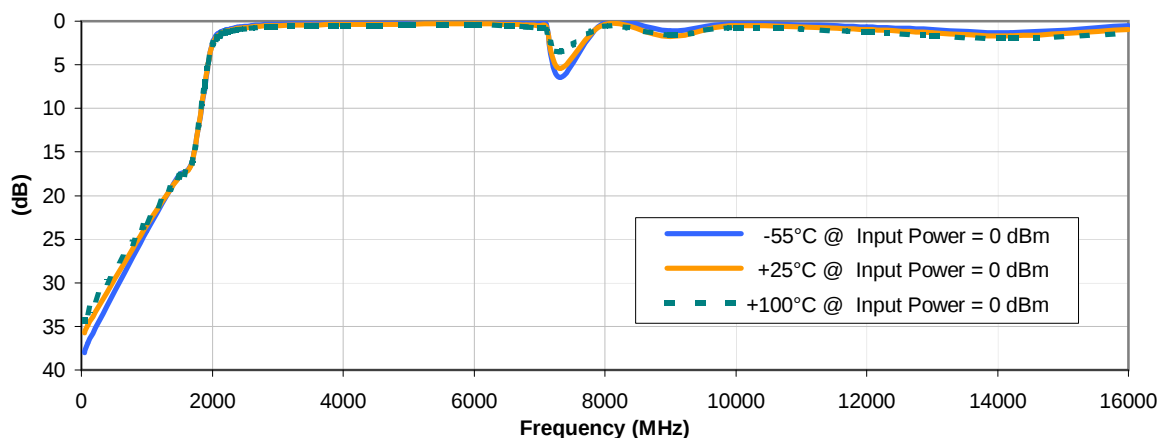
INSERTION LOSS vs. TEMPERATURE



INPUT RETURN LOSS vs. TEMPERATURE



OUTPUT RETURN LOSS vs. TEMPERATURE



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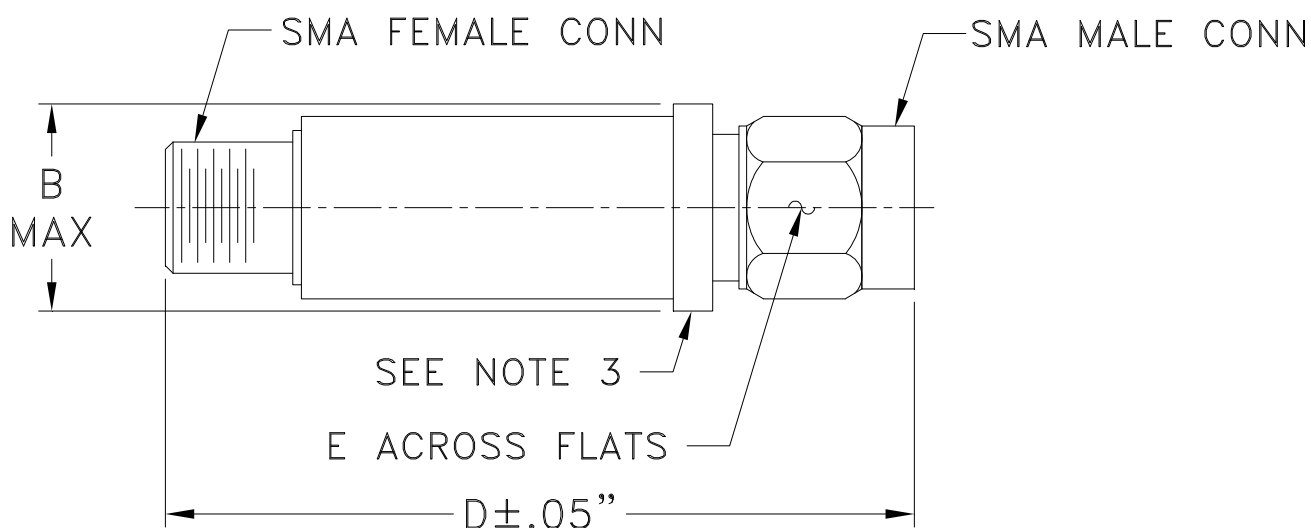
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Outline Dimensions



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