

Low Pass Filter

VLFX-1125+

50Ω DC to 1125 MHz (30 dB Typ. Isolation up to 20 GHz)



Generic photo used for illustration purposes only
CASE STYLE: FF1118

Connectors	Model
SMA	VLFX-1125+

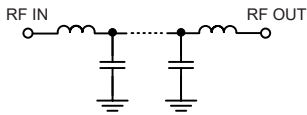
Features

- Very good isolation, 30 dB typ. up to 20 GHz
- Excellent power handling, 10W
- Temperature stable LTCC internal structure
- Re-entry frequency > 20 GHz
- Protected by US patent 6,943,646
- Rugged unibody construction

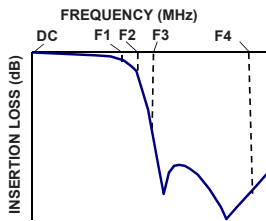
Applications

- Harmonic rejection
- Transmitters/receivers
- Lab use
- Test instrumentation

Functional Schematic



Typical Frequency Response



Electrical Specifications⁽¹⁾ at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC-1125	—	1.5	2.5 dB
	Freq. Cut-Off	F2	1850	—	3.0	dB
	VSWR	DC-F1	DC-1125	—	1.9	:1
Stop Band	Insertion Loss	F3-F4	2200-20000	20	30	dB
	VSWR	F3-F4	2200-20000	—	10	:1

⁽¹⁾ In Application where DC voltage is present at either input or output ports, coupling capacitors are required.

Maximum Ratings

Operating Temperature	-55°C to 100°C
Storage Temperature	-55°C to 100°C
RF Power Input*	10W max.

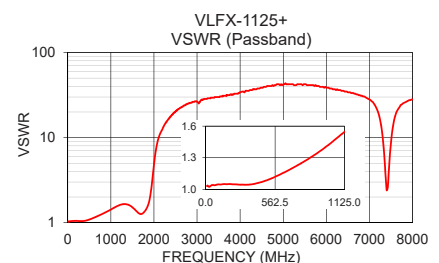
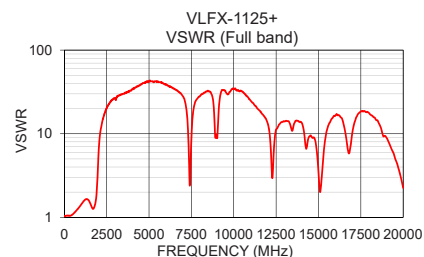
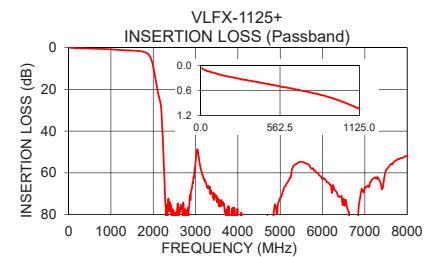
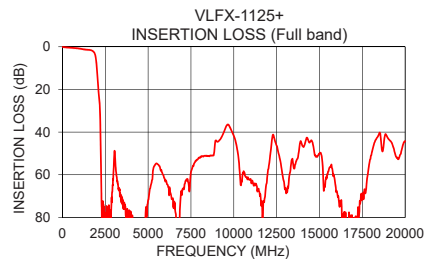
*Passband rating, derate linearly to 3.5W at 100°C ambient.
Permanent damage may occur if any of these limits are exceeded.

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	VSWR (:1)
10	0.07	1.03
500	0.47	1.09
1125	1.04	1.54
1850	2.66	1.54
1900	3.51	1.88
2000	9.27	4.80
2100	20.17	9.63
2190	29.62	12.35
2200	32.78	12.71
2500	84.94	20.22
3000	55.00	26.33
4000	87.03	34.07
5000	71.97	42.38
7500	58.79	8.81
10000	41.71	34.07
12500	46.35	11.24
15000	50.20	3.48
17500	69.97	18.50
19000	42.85	9.08
20000	44.32	2.25

+RoHS Compliant

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



Notes

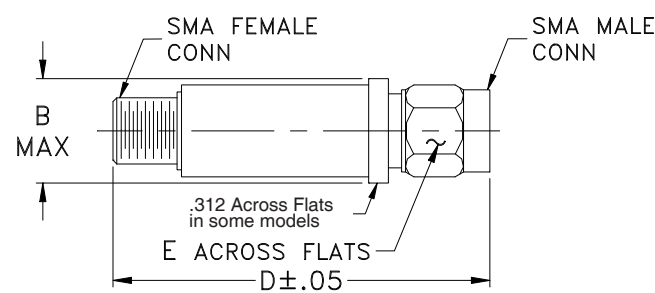
- A. Performance and quality attributes and conditions not expressly stated in this specification document are intended to be excluded and do not form a part of this specification document.
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Coaxial Connections

INPUT	SMA-Male
OUTPUT	SMA-Female

Outline Drawing



Outline Dimensions (^{inch}_{mm})

B	D	E	wt.
.410	2.67	.312	grams
10.41	67.82	7.92	17.0

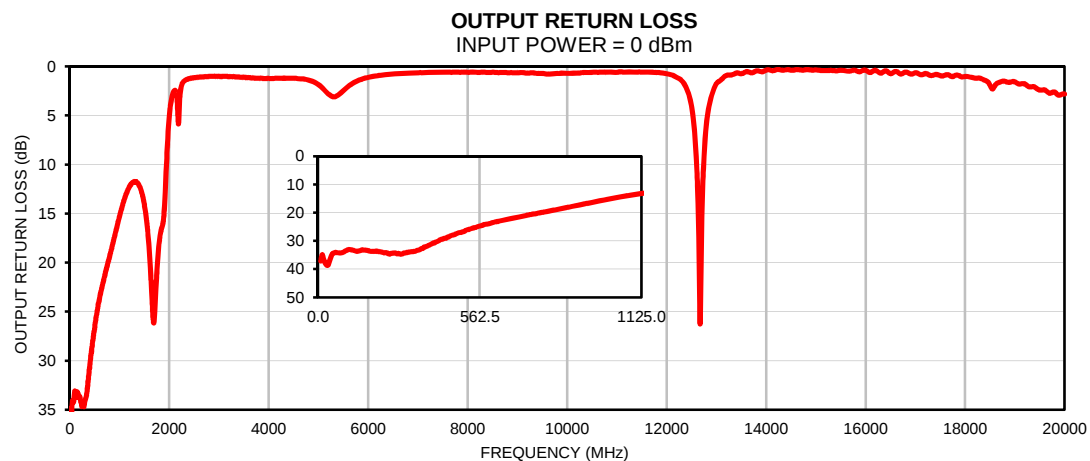
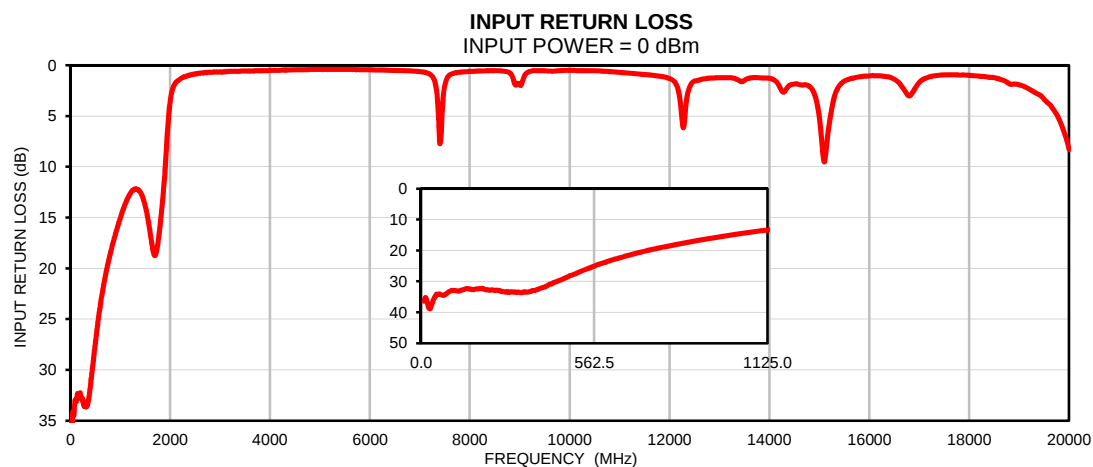
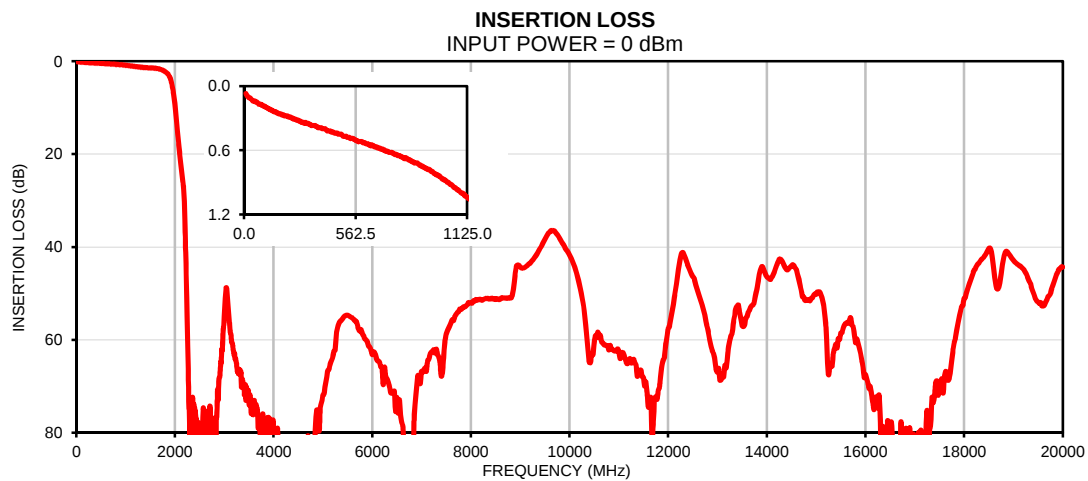
Note: Please refer to case style drawing for details

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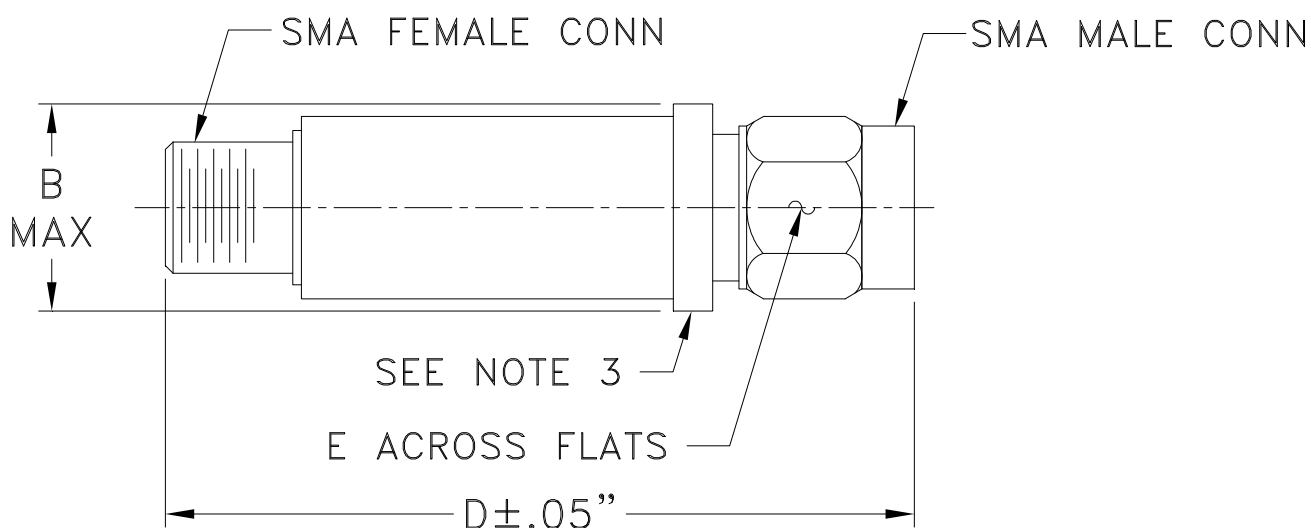
Typical Performance Data

FREQ.	INSERTION LOSS	INPUT RETURN LOSS	OUTPUT RETURN LOSS
(MHz)	(dB)	(dB)	(dB)
10	0.07	36.41	37.14
50	0.14	34.18	34.58
75	0.17	34.50	34.27
100	0.19	32.94	33.33
200	0.27	32.25	33.75
300	0.34	33.48	34.26
500	0.47	27.59	26.96
600	0.53	23.81	23.76
700	0.59	20.86	21.50
800	0.67	18.61	19.53
900	0.75	16.75	17.45
1000	0.87	15.10	15.41
1100	1.00	13.68	13.58
1125	1.04	13.39	13.22
1200	1.15	12.66	12.33
1500	1.43	13.80	13.93
1750	1.92	17.75	21.51
1850	2.66	13.42	16.53
1900	3.51	10.28	15.04
1950	5.44	6.46	9.93
2000	9.27	3.67	5.47
2100	20.17	1.81	2.51
2150	24.83	1.54	2.80
2190	29.62	1.41	5.86
2200	32.78	1.37	5.14
2250	55.78	1.22	1.98
2300	81.86	1.12	1.51
2350	77.46	1.04	1.35
2400	77.10	0.96	1.25
2450	79.81	0.90	1.20
2500	84.94	0.86	1.15
2550	91.09	0.81	1.12
2600	80.75	0.78	1.10
2650	75.40	0.76	1.07
2700	80.37	0.73	1.06
2750	77.48	0.71	1.04
3000	55.00	0.66	1.02
4000	87.03	0.51	1.22
5000	71.97	0.41	1.85
7500	58.79	1.98	0.60
8000	52.01	0.62	0.60
9000	44.32	1.95	0.66
10000	41.71	0.51	0.71
11000	62.37	0.70	0.61
11500	68.15	0.91	0.58
12000	57.62	1.30	0.74
12500	46.35	1.55	3.97
13000	66.94	1.24	1.76
13500	56.89	1.49	0.75
14000	46.41	1.28	0.38
14500	44.08	1.85	0.38
15000	50.20	5.13	0.35
15500	58.56	1.57	0.40
16000	67.50	1.05	0.39
16500	80.47	1.39	0.74
17000	82.44	1.69	0.64
18500	40.35	1.22	1.90
19000	42.85	1.92	1.57
19500	51.83	3.34	2.42
20000	44.32	8.29	2.82

Typical Performance Curves



Outline Dimensions



CASE #.	A	B	C	D	E	WT GRAMS
FF1118	--	.410 (10.41)	--	2.67 (67.82)	.312 (7.92)	17.0

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.



P.O. Box 350166, Brooklyn, New York 11235-0003 (718) 934-4500 Fax (718) 332-4661 For detailed performance specs & shopping online see Mini-Circuits web site



The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com

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