

Coaxial Low Pass Filter

ZLFW-K123+

50Ω DC to 12 GHz



Generic photo used for illustration purposes only
CASE STYLE: UK3042

The Big Deal

- Good power handling, 2.5W
- Temperature stable
- Broadband connectorized package
- Good rejection, 38 dB typical

Product Overview

ZLFW-K123+ is a 50Ω low pass filter built in broadband connectorized package. Covering DC-12 GHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZLFW-K123+ offer low insertion loss, and excellent power handling capability. It handles up to 2.5W RF input power and provides a wide operating temperature range from -55°C to 125°C.

Key Features

Feature	Advantages
Low passband insertion loss	Suitable for high performance application.
2.5W Power handling	Supports a range of system power requirements.
Connectorized package	The connectorized package is easy to interface with other devices and well suited for test setups.

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/MCLStore/terms.jsp



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Features

- Good rejection, 38dB typ.
- Temperature stable

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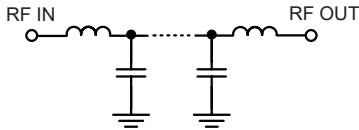
CASE STYLE: UK3042
Connectors Model
2.92mm-F ZLFW-K123+

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

Applications

- Test and measurements
- Telecommunications and broadband wireless system
- Military applications
- Satcom modems

Functional Schematic



Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit	
Pass Band	Insertion Loss	DC-F1	DC - 12000	—	1.8	2.9	dB
	Freq. Cut-Off	F2*	13800	—	3.0	—	dB
	Return Loss	DC-F1	DC - 12000	—	11	—	dB
Stop Band	Rejection Loss	F3-F4	16300 - 18500	20	38	—	dB
		F4-F5	18500 - 22000	25	36	—	dB
		F5-F6	22000 - 25000	23	34	—	dB
		F6-F7	25000 - 26500	—	20	—	dB

In Applications where DC voltage is present at either input or output ports, DC blocks are required.
* Typically, a ±5% frequency deviation from the stated value may occur on a unit-to-unit basis.

Maximum Ratings

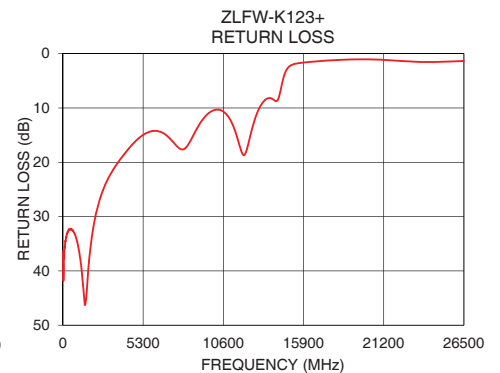
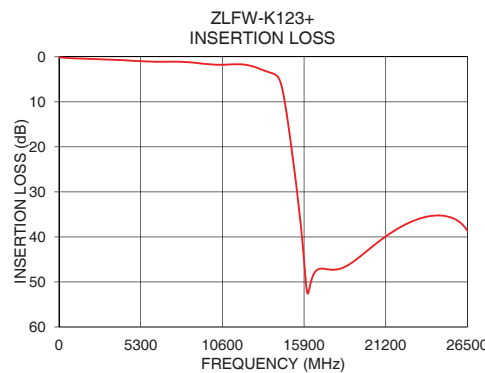
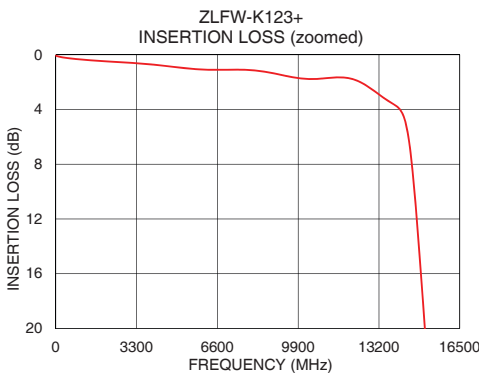
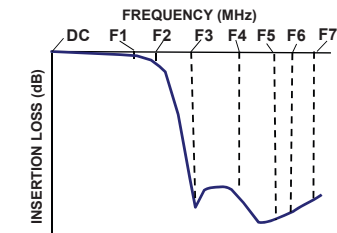
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input*	2.5W max. @25°C

*Passband rating, derate linearly to 0.7W at 125°C ambient
Permanent damage may occur if any of these limits are exceeded.

Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	0.06	36.27
100	0.12	35.86
500	0.25	32.24
1000	0.34	35.31
2000	0.47	32.15
4000	0.72	18.69
7000	1.09	15.43
10000	1.72	10.40
12000	1.72	18.65
13800	3.62	8.27
14650	10.00	3.78
15100	20.68	2.11
15450	30.06	1.82
16300	50.64	1.54
18500	46.70	1.13
19000	45.73	1.08
20000	43.07	1.05
22000	38.12	1.28
25000	35.32	1.51
26500	38.64	1.36

Typical Frequency Response



Notes

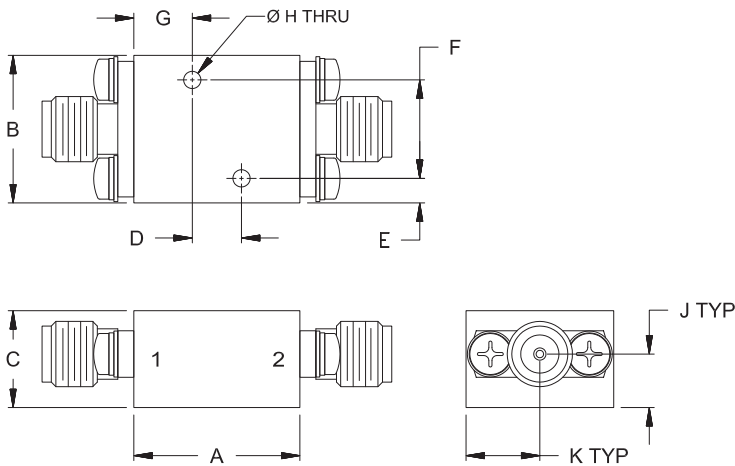
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Coaxial Connections

PORT - 1	2.92mm-Female
PORT - 2	2.92mm-Female

Outline Drawing



Outline Dimensions (inch / mm)

A	B	C	D	E	F
.68	.60	.39	.200	.10	.400
17.1	15.2	10.0	5.08	2.5	10.16
G	H	J	K		Wt.
.24	.070	.22	.30		grams
6.0	1.78	5.5	7.6		24

Note: Please refer to case style drawing for details

Notes

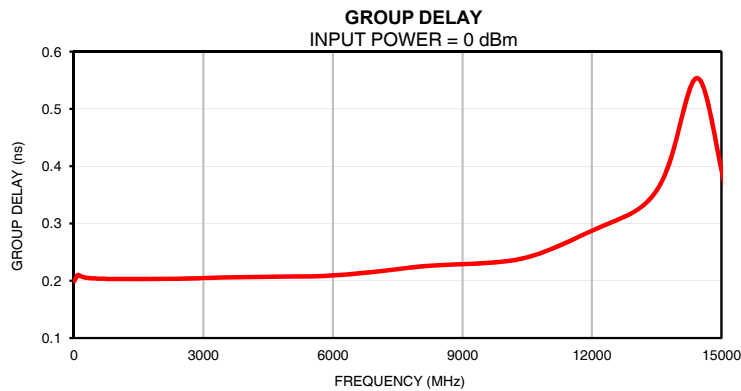
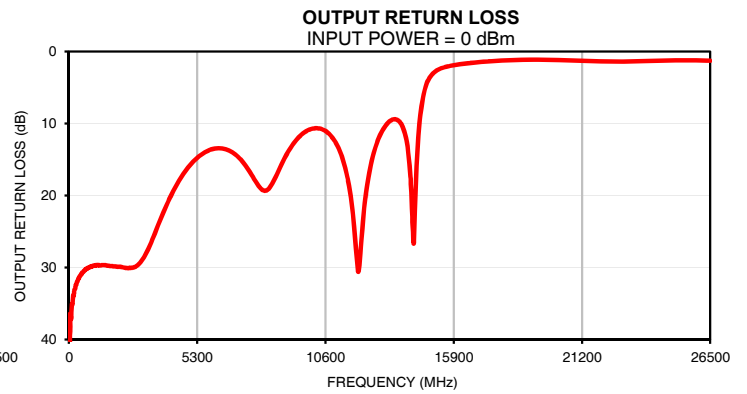
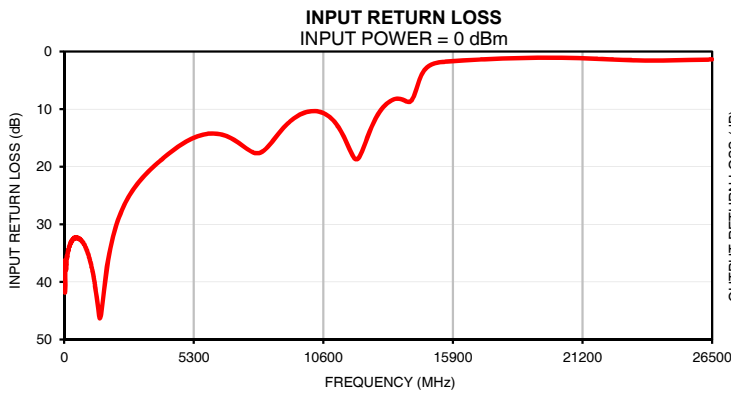
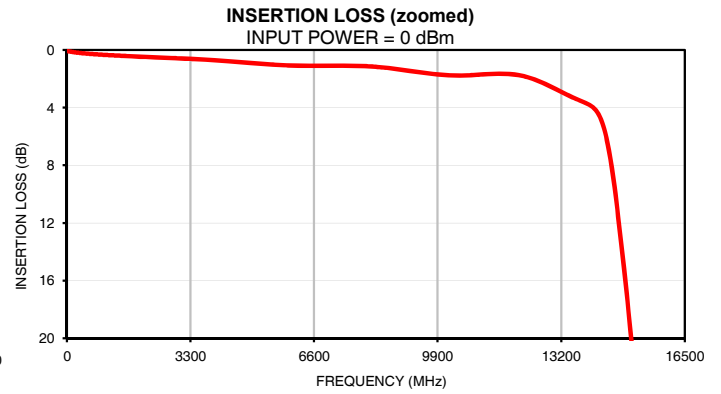
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Typical Performance Data

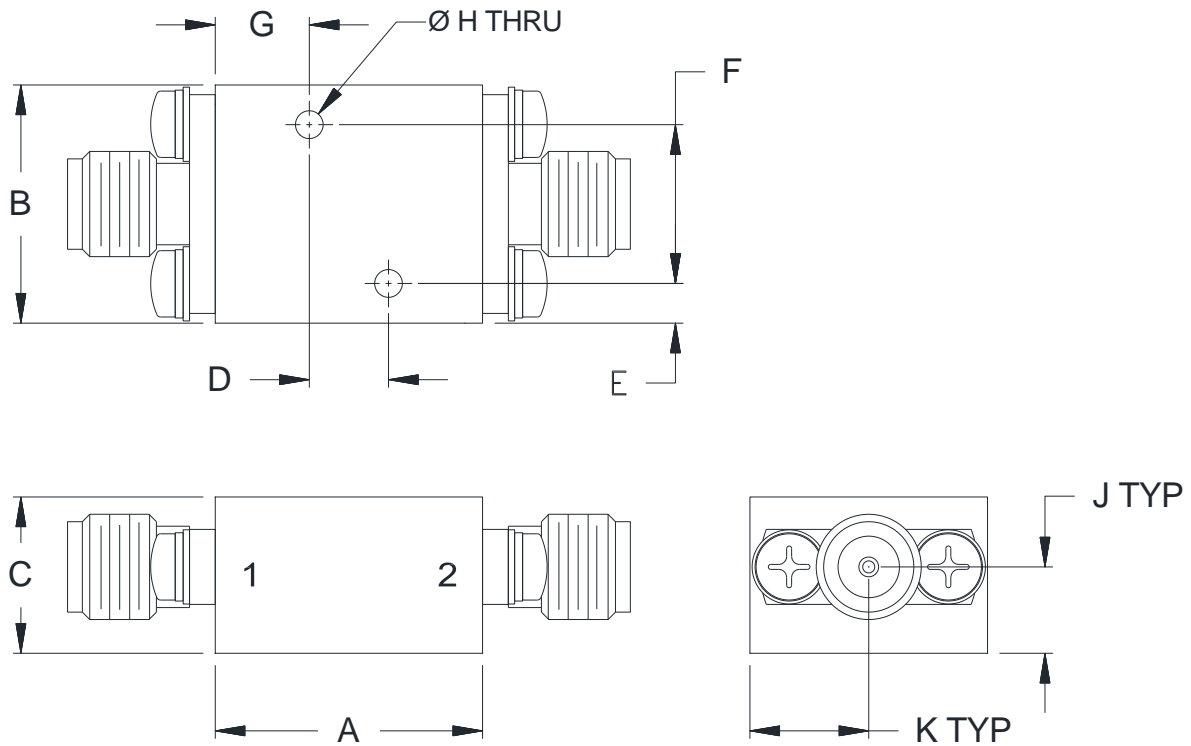
FREQ.	Insertion Loss	Input Return Loss	Output Return Loss	FREQ.	Group Delay
(MHz)	(dB)	(dB)	(dB)	(MHz)	(ns)
10	0.06	36.27	36.50	10	0.20
100	0.12	35.86	36.46	20	0.20
200	0.16	33.85	33.84	50	0.21
250	0.18	33.26	32.97	100	0.21
300	0.20	32.83	32.36	200	0.21
400	0.22	32.32	31.46	400	0.20
500	0.25	32.24	30.91	600	0.20
600	0.27	32.38	30.54	800	0.20
700	0.29	32.74	30.25	1000	0.20
800	0.31	33.32	30.04	1200	0.20
1000	0.34	35.31	29.74	1400	0.20
2000	0.47	32.15	29.89	1600	0.20
3000	0.58	22.92	29.07	1800	0.20
4000	0.72	18.69	21.58	2000	0.20
6000	1.08	14.23	13.49	2200	0.20
7000	1.09	15.43	14.65	2400	0.20
8000	1.12	17.59	19.23	2600	0.20
10000	1.72	10.40	10.75	2800	0.20
11000	1.72	11.92	12.47	3000	0.20
12000	1.72	18.65	29.86	3200	0.20
13800	3.62	8.27	10.51	3400	0.21
14650	10.00	3.78	6.06	3600	0.21
15100	20.68	2.11	2.85	3800	0.21
15450	30.06	1.82	2.25	4000	0.21
15700	37.73	1.71	2.02	4200	0.21
16000	49.36	1.62	1.84	4400	0.21
16300	50.64	1.54	1.69	4600	0.21
16500	48.42	1.49	1.61	4800	0.21
16700	47.45	1.44	1.54	5000	0.21
16900	47.09	1.40	1.47	5200	0.21
17100	47.03	1.35	1.42	5400	0.21
17300	47.13	1.31	1.37	5600	0.21
17500	47.22	1.28	1.32	5800	0.21
17700	47.30	1.24	1.28	6000	0.21
18000	47.24	1.19	1.22	6200	0.21
18200	47.10	1.17	1.20	6400	0.21
18400	46.88	1.14	1.17	6600	0.21
18500	46.70	1.13	1.16	6800	0.21
18700	46.35	1.10	1.14	7000	0.22
18900	45.95	1.09	1.13	7200	0.22
19000	45.73	1.08	1.12	7400	0.22
19200	45.24	1.07	1.12	7600	0.22
19400	44.73	1.06	1.12	7800	0.22
19600	44.20	1.05	1.12	8000	0.22
19800	43.63	1.05	1.14	8200	0.23
20000	43.07	1.05	1.15	8400	0.23
20200	42.51	1.06	1.17	8600	0.23
20400	41.96	1.07	1.19	8800	0.23
20600	41.43	1.09	1.21	9000	0.23
20800	40.88	1.11	1.23	9200	0.23
21000	40.38	1.12	1.25	9400	0.23
21200	39.89	1.15	1.27	9600	0.23
21400	39.42	1.18	1.29	9800	0.23
21600	38.96	1.21	1.31	10000	0.23
21800	38.53	1.25	1.33	10200	0.24
22000	38.12	1.28	1.34	10500	0.24
22500	37.20	1.38	1.37	10800	0.25
23500	35.82	1.52	1.34	11000	0.25
25000	35.32	1.51	1.22	11500	0.27
26500	38.64	1.36	1.27	12000	0.29

Typical Performance Curves



Outline Dimensions

UK3042



CASE#	A	B	C	D	E	F
UK3042	.68 (17.1)	.60 (15.2)	.39 (10.0)	.200 (5.08)	.10 (2.5)	.400 (10.16)

CASE#	G	H	J	K	WT.GRAMS
UK3042	.24 (6.0)	.070 (1.78)	.22 (5.5)	.30 (7.6)	24

Dimensions are in inches (mm). Tolerances: 2 Pl. $\pm .050$; 3 Pl. $\pm .015$

Notes:

1. Case material: Brass alloy.
2. Case Finish:
 - a. Case & Cover of the units –Gold plating.
3. Refer to the individual model data sheet for the type of connectors available.



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



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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 125° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 125° C Ambient Environment	Individual Model Data Sheet