Coaxial

Low Pass Filter

ZLFW-K7500+

50Ω DC to 7.5 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, 37 dB typical

Product Overview

ZLFW-K7500+ is a 50Ω low pass filter built in broadband connectorized package. Covering DC-7.5 GHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZLFW-K7500 + offer low insertion loss, and good 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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Connectors	Model
2.92mm-F	ZLFW-K7500+

+RoHS Compliant

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

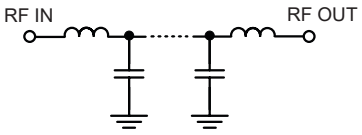
Features

- Good rejection 37dB typ.
- Temperature stable

Applications

- Military radios
- Point-Point communication
- 5G Sub 6 GHz
- WiFi
- ISM band

Functional Schematic



Electrical Specifications at 25°C

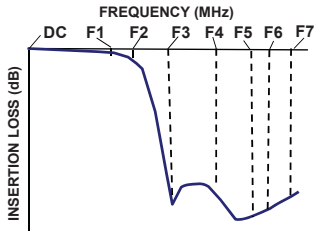
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC - 7500	—	1.8	3.1	dB
	Freq. Cut-Off	F2*	8400	—	3.0	—	dB
	Return Loss	DC-F1	DC - 7500	—	12	—	dB
Stop Band	Rejection Loss	F3-F4	9900 - 10600	20	37	—	dB
		F4-F5	10600 - 15000	26	36	—	dB
		F5-F6	15000 - 20000	20	31	—	dB
		F6-F7	20000 - 26500	—	23	—	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 Frequency Response



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	0.07	39.99
100	0.13	33.68
500	0.28	26.81
1000	0.38	24.69
2000	0.53	20.56
4000	0.92	15.03
6000	1.26	16.35
7500	1.75	25.22
8400	3.98	15.05
8740	10.16	5.27
9040	20.63	2.86
9240	29.66	2.26
9900	39.61	1.45
10600	44.92	1.10
12000	48.24	0.92
15000	36.55	1.08
17000	34.14	0.98
20000	32.17	0.98
22000	28.70	1.11
26500	26.56	1.11

ZLFW-K7500+
INSERTION LOSS (zoomed)

ZLFW-K7500+
INSERTION LOSS

ZLFW-K7500+
RETURN LOSS

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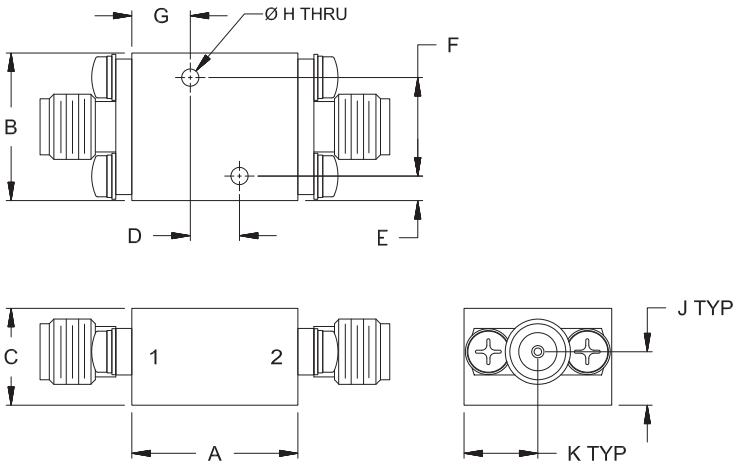
Coaxial Connections

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

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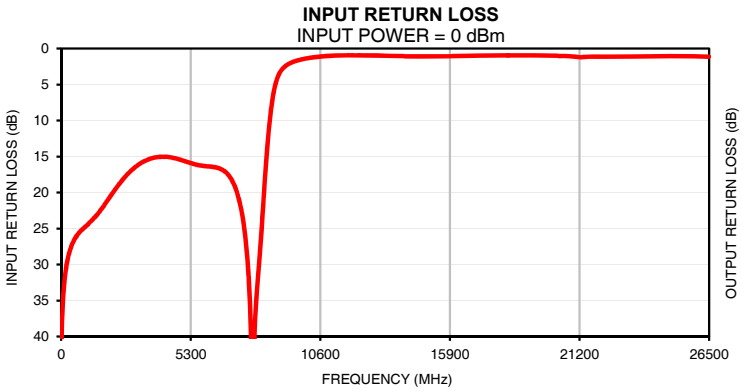
Coaxial Low Pass Filter ZLFW-K7500+

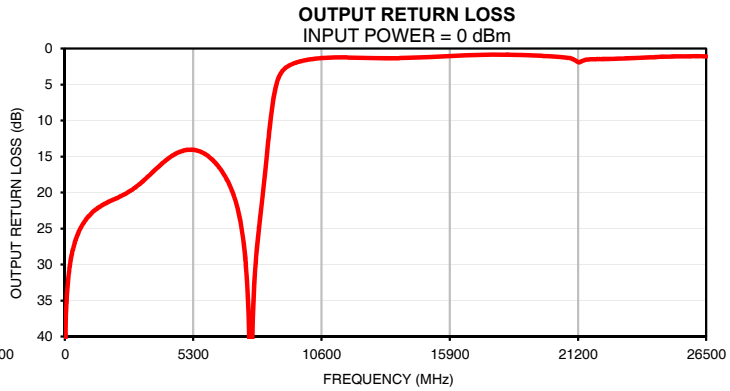
Typical Performance Data

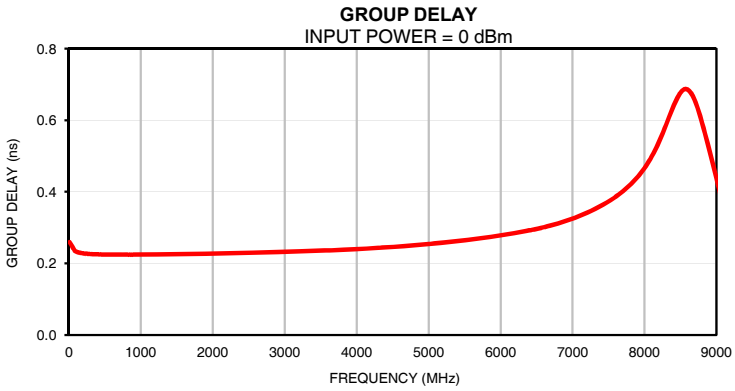
FREQ.	Insertion Loss	Input Return Loss	Output Return Loss
(MHz)	(dB)	(dB)	(dB)
10	0.07	39.99	40.56
100	0.13	33.68	33.33
200	0.18	30.49	30.14
300	0.22	28.75	28.26
400	0.25	27.61	27.00
500	0.28	26.81	26.04
600	0.30	26.17	25.24
700	0.32	25.72	24.60
800	0.34	25.31	24.05
900	0.36	25.00	23.60
1000	0.38	24.69	23.23
1200	0.41	24.04	22.54
1400	0.44	23.34	22.04
1600	0.47	22.49	21.65
1800	0.50	21.54	21.26
2000	0.53	20.56	20.96
2500	0.61	18.27	20.16
3000	0.71	16.54	19.03
3500	0.81	15.48	17.56
4000	0.92	15.03	15.99
4500	1.00	15.12	14.75
5000	1.08	15.56	14.09
5500	1.16	16.09	14.19
6000	1.26	16.35	15.16
6500	1.38	16.68	17.10
7500	1.75	25.22	31.07
8400	3.98	15.05	12.85
8740	10.16	5.27	4.95
9040	20.63	2.86	2.92
9240	29.66	2.26	2.40
9900	39.61	1.45	1.63
10600	44.92	1.10	1.32
11000	48.97	1.00	1.24
11250	50.54	0.96	1.23
11500	50.74	0.94	1.22
11750	49.79	0.92	1.24
12000	48.24	0.92	1.25
12200	46.88	0.92	1.28
12400	45.56	0.93	1.29
12600	44.32	0.94	1.31
12800	43.20	0.95	1.32
13000	42.20	0.97	1.33
13200	41.30	0.99	1.33
13400	40.48	1.00	1.34
13600	39.77	1.02	1.34
13800	39.14	1.04	1.32
14000	38.57	1.05	1.30
14200	38.07	1.06	1.28
14400	37.63	1.07	1.26
14600	37.23	1.08	1.24
14800	36.86	1.08	1.21
15000	36.55	1.08	1.18
15500	35.84	1.08	1.09
16000	35.24	1.05	1.01
16500	34.68	1.02	0.94
17000	34.14	0.98	0.88
17500	33.61	0.95	0.85
18000	33.11	0.94	0.84
20000	32.17	0.98	1.06
26500	26.56	1.11	1.06

FREQ.	Group Delay
(MHz)	(ns)
10	0.26
50	0.25
100	0.23
150	0.23
200	0.23
250	0.23
300	0.23
350	0.23
400	0.23
450	0.23
500	0.22
550	0.22
600	0.23
650	0.22
700	0.22
750	0.22
800	0.22
850	0.22
900	0.22
1000	0.22
1100	0.22
1200	0.22
1300	0.23
1400	0.23
1500	0.23
1600	0.23
1700	0.23
1800	0.23
1900	0.23
2000	0.23
2100	0.23
2200	0.23
2300	0.23
2400	0.23
2500	0.23
2600	0.23
2700	0.23
2800	0.23
2900	0.23
3000	0.23
3100	0.23
3200	0.23
3300	0.23
3400	0.23
3500	0.24
3600	0.24
3700	0.24
3800	0.24
3900	0.24
4000	0.24
4100	0.24
4200	0.24
4300	0.24
4500	0.25
5000	0.25
5500	0.26
6000	0.28
6500	0.30
7000	0.33
7500	0.37

Typical Performance Curves



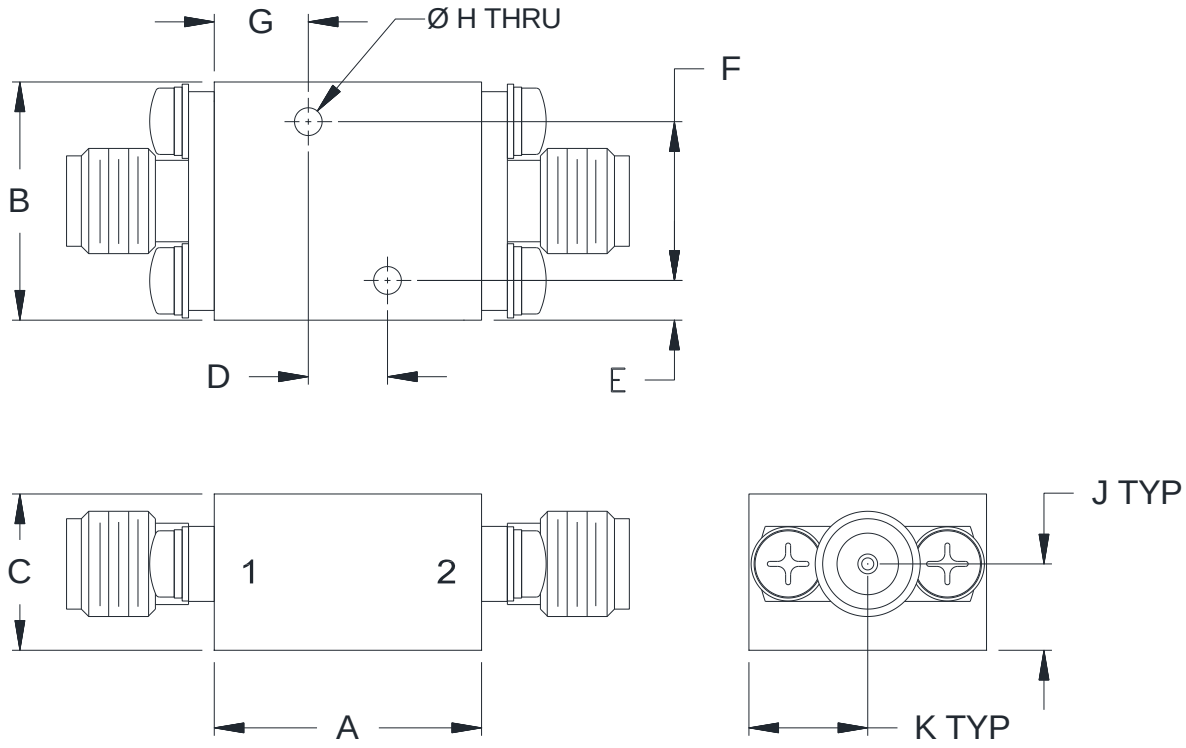




Case Style UK

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. ± .050; 3 Pl. ± .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.

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Environmental Specifications **ENV124**

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

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