

Coaxial

Low Pass Filter

ZLFW-K5500+

50Ω

DC to 5.5 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, 39 dB typical

Product Overview

ZLFW-K5500+ is a 50Ω low pass filter built in broadband connectorized package. Covering DC-5.5 GHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZLFW-K5500 + 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



www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

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Features

- Good rejection 39dB typ.
- Temperature stable

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CASE STYLE: UK3042
Connectors Model
2.92mm-F ZLFW-K5500+

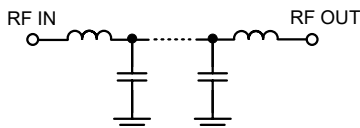
+RoHS Compliant

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

Applications

- Military radios
- 5G Sub 6 GHz
- Point-Point communication

Functional Schematic



Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC - 5500	—	1.6	2.4	dB
	Freq. Cut-Off	F2*	6320	—	3.0	—	dB
	Return Loss	DC-F1	DC - 5500	—	11	—	dB
Stop Band	Rejection Loss	F3-F4	7600 - 8100	20	35	—	dB
		F4-F5	8100 - 11500	28	39	—	dB
		F5-F6	11500 - 17000	24	36	—	dB
		F6-F7	17000 - 26500	—	18	—	dB

In Applications where DC voltage is present at either input or output ports, DC blocks are required.

* Typically, a $\pm 5\%$ frequency deviation from the stated value may occur on a unit-to-unit basis.

Maximum Ratings

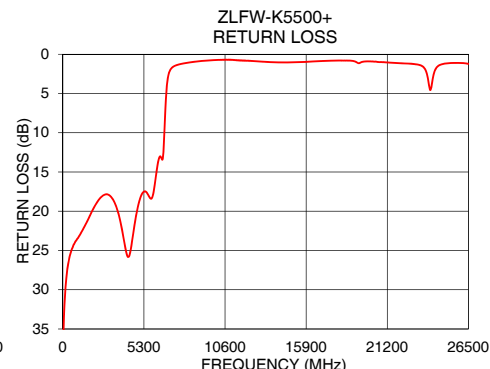
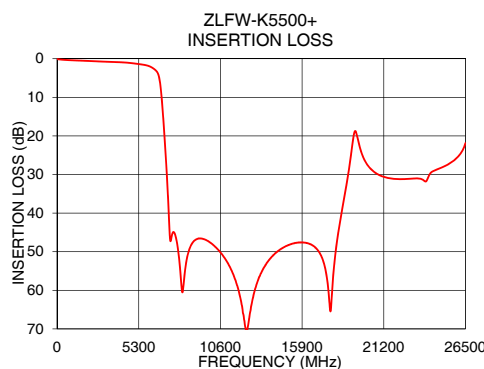
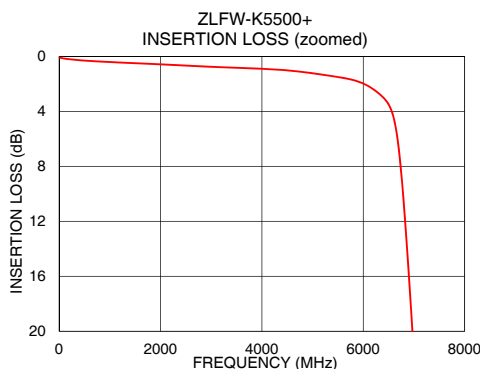
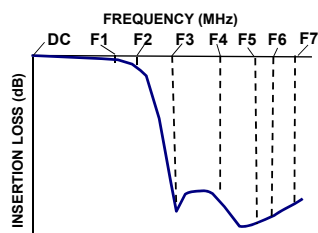
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input*	2.5W max. @25°C

*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	0.08	39.51
100	0.15	32.39
500	0.30	25.43
1000	0.41	23.39
2000	0.58	19.66
3000	0.75	17.91
5000	1.23	18.71
5500	1.50	17.66
6320	2.74	13.10
6980	20.69	2.16
7140	31.30	1.70
7600	45.03	1.29
8100	59.92	1.10
8600	49.19	0.96
9500	46.72	0.79
11500	56.58	0.80
14000	51.07	1.03
17000	50.06	0.86
20000	26.62	0.91
26500	21.88	1.22

Typical Frequency Response



Notes

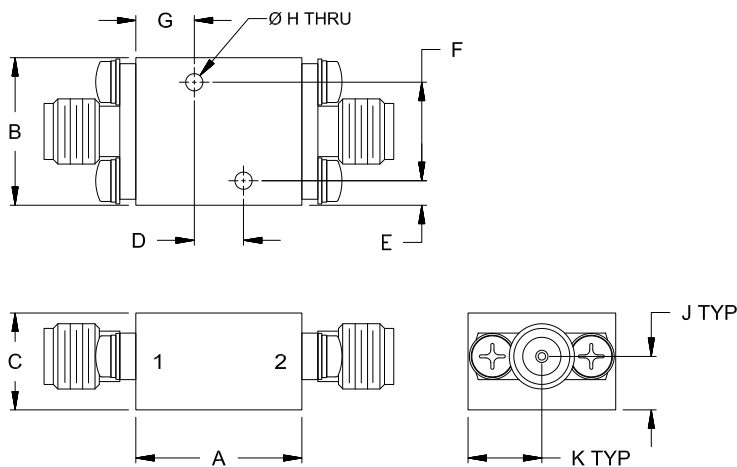
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Coaxial Connections

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

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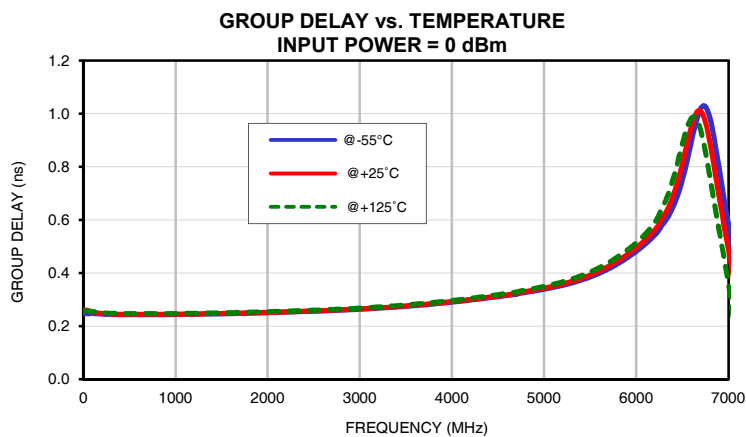
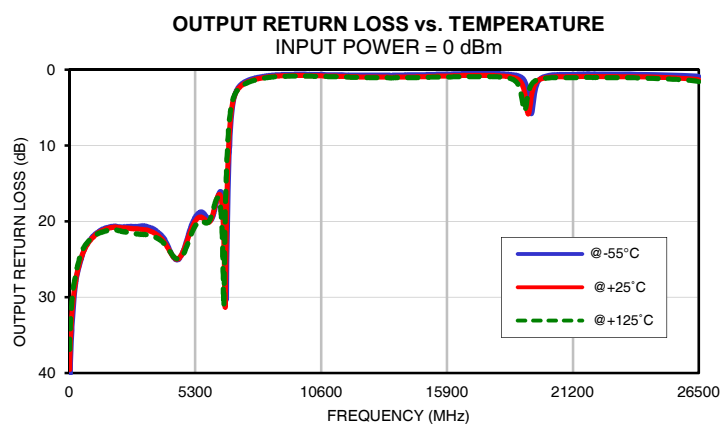
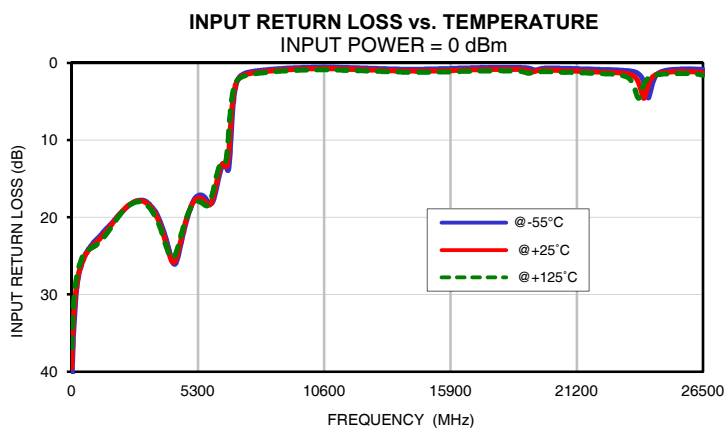
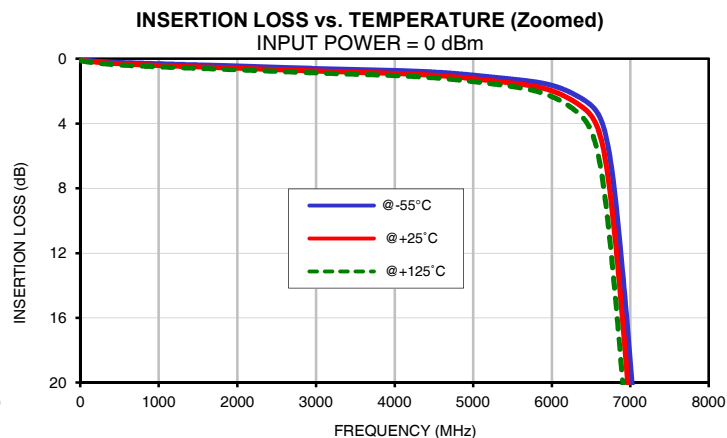
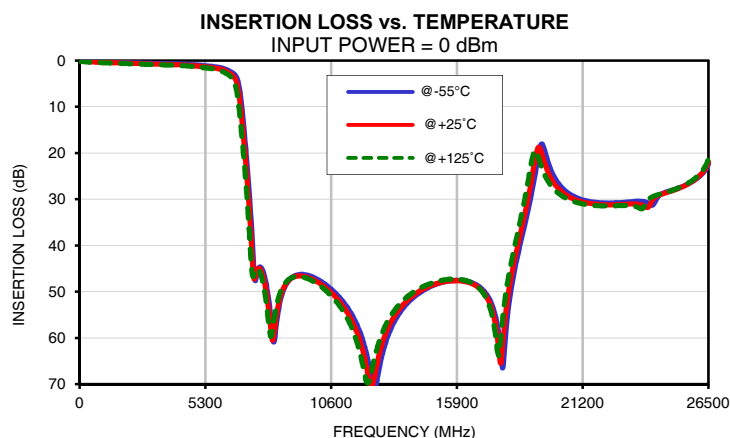
Typical Performance Data

FREQ.	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
(MHz)	(dB)			(dB)			(dB)		
	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C
10	0.06	0.08	0.11	41.28	39.51	36.94	41.61	39.53	36.88
100	0.11	0.15	0.20	34.40	32.39	30.70	34.65	32.46	30.77
200	0.15	0.20	0.26	29.87	29.15	28.04	30.03	29.15	28.10
250	0.16	0.22	0.28	28.52	28.19	27.28	28.61	28.14	27.29
300	0.18	0.24	0.30	27.53	27.36	26.58	27.47	27.19	26.47
350	0.19	0.26	0.32	26.85	26.73	26.03	26.71	26.49	25.82
400	0.20	0.27	0.34	26.41	26.25	25.62	26.13	25.84	25.21
450	0.21	0.29	0.36	25.87	25.75	25.16	25.49	25.26	24.63
500	0.22	0.30	0.37	25.50	25.43	24.92	24.99	24.82	24.22
550	0.23	0.32	0.39	25.04	25.08	24.64	24.41	24.35	23.79
600	0.24	0.33	0.40	24.68	24.81	24.47	23.96	23.98	23.49
650	0.25	0.34	0.42	24.42	24.58	24.34	23.57	23.65	23.23
700	0.26	0.35	0.43	24.15	24.30	24.18	23.24	23.32	22.98
800	0.28	0.37	0.45	23.76	23.94	24.00	22.75	22.82	22.62
900	0.29	0.39	0.47	23.37	23.67	23.87	22.30	22.42	22.33
1000	0.31	0.41	0.49	23.02	23.39	23.68	21.93	22.10	22.06
1200	0.34	0.44	0.53	22.40	22.73	23.13	21.40	21.53	21.62
1500	0.38	0.49	0.59	21.35	21.64	22.00	20.89	21.05	21.27
2000	0.44	0.58	0.68	19.64	19.66	19.80	20.66	20.77	21.15
2500	0.52	0.67	0.77	18.24	18.21	18.29	20.67	20.90	21.44
3000	0.60	0.75	0.87	17.78	17.91	18.07	20.62	21.04	21.71
3400	0.65	0.82	0.94	18.75	18.97	19.28	20.81	21.27	21.85
4000	0.72	0.90	1.04	23.14	23.73	24.00	22.30	22.77	22.96
5000	1.01	1.23	1.41	18.74	18.71	18.81	21.89	22.19	22.80
5200	1.11	1.33	1.52	17.45	17.71	18.06	20.06	20.57	21.21
5500	1.26	1.50	1.71	17.17	17.66	18.17	18.79	19.43	19.99
6320	2.28	2.74	3.27	13.39	13.10	12.89	16.20	16.45	17.28
6320	2.28	2.74	3.27	13.39	13.10	12.89	16.20	16.45	17.28
6790	7.78	10.28	13.65	5.28	4.24	3.49	7.55	6.32	5.35
6980	17.55	20.69	24.66	2.15	2.16	2.17	3.19	3.23	3.18
7140	27.68	31.30	36.01	1.55	1.70	1.81	2.22	2.41	2.47
7200	32.03	36.01	41.02	1.43	1.61	1.73	2.02	2.22	2.30
7300	40.59	44.71	46.68	1.30	1.49	1.63	1.76	1.97	2.06
7500	45.62	45.13	45.05	1.15	1.35	1.48	1.41	1.62	1.71
7590	44.66	44.98	45.67	1.09	1.30	1.43	1.30	1.51	1.59
7600	44.66	45.03	45.76	1.09	1.29	1.43	1.29	1.50	1.58
7700	45.21	46.13	47.47	1.04	1.24	1.38	1.19	1.39	1.47
7800	46.74	48.12	50.06	1.00	1.20	1.34	1.10	1.30	1.38
7900	49.22	51.10	53.66	0.96	1.17	1.30	1.03	1.22	1.30
8000	52.78	55.27	58.13	0.93	1.13	1.26	0.97	1.15	1.23
8100	57.65	59.92	59.39	0.90	1.10	1.23	0.91	1.08	1.16
8150	60.24	60.45	57.74	0.88	1.09	1.22	0.88	1.06	1.13
8200	60.79	58.95	55.98	0.86	1.07	1.20	0.85	1.03	1.10
8600	49.56	49.19	48.60	0.76	0.96	1.09	0.70	0.87	0.95
8700	48.48	48.28	47.90	0.74	0.94	1.06	0.68	0.85	0.92
8800	47.66	47.63	47.39	0.71	0.91	1.04	0.66	0.83	0.90
9000	46.76	46.88	46.83	0.67	0.87	1.00	0.63	0.80	0.87
9300	46.24	46.57	46.71	0.63	0.82	0.95	0.61	0.77	0.85
9800	46.81	47.25	47.64	0.57	0.76	0.90	0.60	0.77	0.84
10000	47.25	47.81	48.24	0.55	0.74	0.88	0.60	0.77	0.84
11500	55.17	56.58	58.23	0.61	0.80	0.95	0.68	0.88	0.94
13000	59.48	57.85	56.19	0.73	0.94	1.09	0.71	0.97	1.04
15000	48.44	48.31	47.88	0.78	1.03	1.17	0.64	0.90	1.00
15400	47.80	47.78	47.43	0.75	1.00	1.15	0.61	0.86	0.97
15700	47.60	47.62	47.29	0.73	0.99	1.14	0.58	0.83	0.95
16000	47.56	47.61	47.33	0.70	0.96	1.11	0.57	0.82	0.95
17000	49.64	50.06	50.26	0.60	0.86	1.03	0.50	0.76	0.90
18300	46.12	43.75	40.90	0.56	0.80	1.00	0.55	0.85	1.01
20000	25.21	26.62	27.89	0.65	0.91	1.11	0.89	1.09	1.13
26500	22.37	21.88	21.16	0.84	1.22	1.57	0.89	1.34	1.58

Typical Performance Data

FREQ.	GROUP DELAY		
(MHz)	(nsec)		
	@-55°C	@+25°C	@+125°C
10	0.25	0.26	0.26
50	0.25	0.26	0.26
100	0.25	0.25	0.26
200	0.25	0.25	0.25
300	0.24	0.25	0.25
400	0.24	0.24	0.25
500	0.24	0.24	0.25
600	0.24	0.24	0.25
700	0.24	0.24	0.25
800	0.24	0.24	0.25
900	0.24	0.24	0.25
1000	0.24	0.24	0.25
1100	0.24	0.25	0.25
1200	0.24	0.25	0.25
1300	0.25	0.25	0.25
1400	0.25	0.25	0.25
1500	0.25	0.25	0.25
1600	0.25	0.25	0.25
1700	0.25	0.25	0.25
1800	0.25	0.25	0.25
1900	0.25	0.25	0.25
2000	0.25	0.25	0.25
2100	0.25	0.25	0.26
2200	0.25	0.25	0.26
2300	0.25	0.25	0.26
2400	0.25	0.26	0.26
2500	0.26	0.26	0.26
2600	0.26	0.26	0.26
2700	0.26	0.26	0.26
2800	0.26	0.26	0.26
2900	0.26	0.26	0.27
3000	0.26	0.26	0.27
3100	0.27	0.27	0.27
3200	0.27	0.27	0.27
4000	0.29	0.29	0.30
4100	0.29	0.30	0.30
4200	0.30	0.30	0.30
4500	0.31	0.31	0.32
5000	0.34	0.34	0.35
5200	0.35	0.36	0.37
5500	0.39	0.39	0.40

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:

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



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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