

Coaxial High Pass Filter

ZHFG-K3000+

50Ω 3400 to 13000 MHz



Generic photo used for illustration purposes only
CASE STYLE: UK3042

The Big Deal

- Good power handling, 4W
- Temperature stable
- Broadband connectorized package
- Good rejection, 30 dB typical

Product Overview

ZHFG-K3000+ is a 50Ω high pass filter built in Broadband connectorized package. Covering 3400-13000 MHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZHFG-K3000+ offer low insertion loss, and good power handling capability. It handles up to 4W 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.
4W 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



High Pass Filter

50Ω 3400 to 13000 MHz

ZHFG-K3000+



Features

- Temperature stable
- Good power handling, 4W

Generic photo used for illustration purposes only

CASE STYLE: UK3042

Connectors Model

2.92mm-F ZHFG-K3000+

+RoHS Compliant

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

Applications

- Transmitters / Receivers
- Test and measurements
- Military applications
- Telecommunications and broadband wireless systems
- 5G Sub 6 GHz
- WiFi 6E and X-band Radar

Electrical Specifications at 25°C

Parameter	F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Stop Band	Rejection Loss	DC-F1	20	30	-	dB
	Freq. Cut-Off	F2*	-	3.0	-	dB
Pass Band	Insertion loss	F3-F4	-	1.7	2.8	dB
		F4-F5	-	1.4	2.1	dB
	F5-F6	11000-13000	-	1.8	-	dB
Pass Band	Return Loss	F3-F6	-	11	-	dB

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

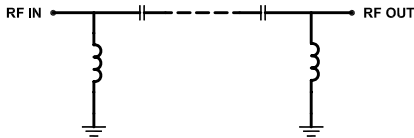
* Typically, a $\pm 5\%$ frequency deviation from the stated value may occur on a unit-to-unit basis.

Maximum Ratings

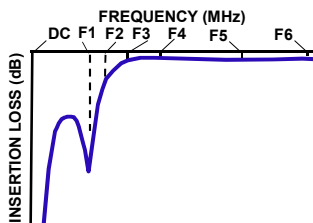
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input*	4W max. @25°C

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

Functional Schematic

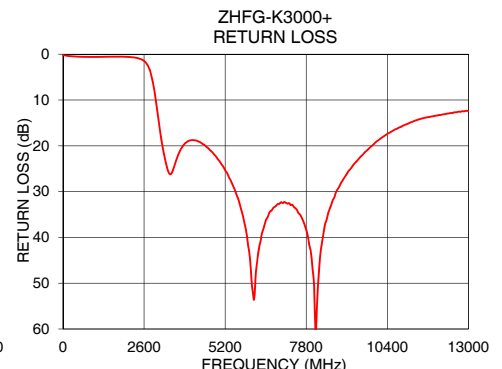
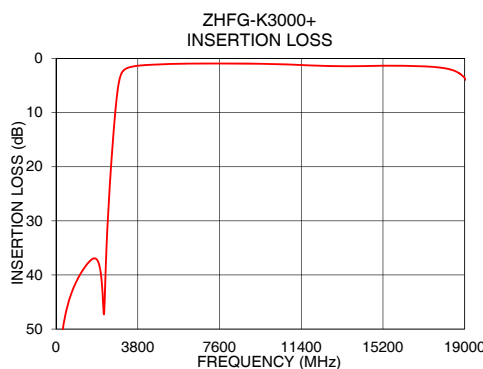
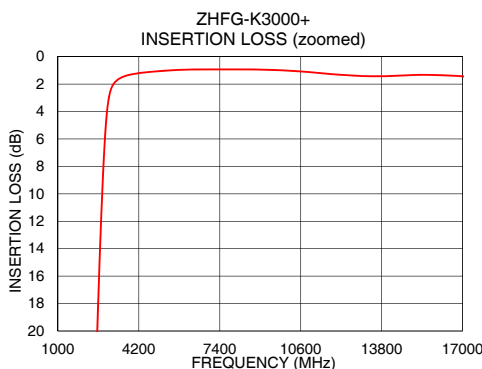


Typical Frequency Response



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	82.89	0.17
100	59.48	0.32
500	46.20	0.54
900	41.58	0.59
1100	40.04	0.58
2000	38.05	0.56
2350	34.51	0.79
2390	31.06	0.84
2540	20.93	1.20
2730	10.93	2.57
3000	3.16	11.19
3400	1.64	25.97
4000	1.26	19.03
5000	1.06	23.20
6000	0.95	44.86
7000	0.93	32.31
8200	0.93	48.08
11000	1.14	15.32
12000	1.30	13.38
13000	1.41	12.41



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-Circuits' 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

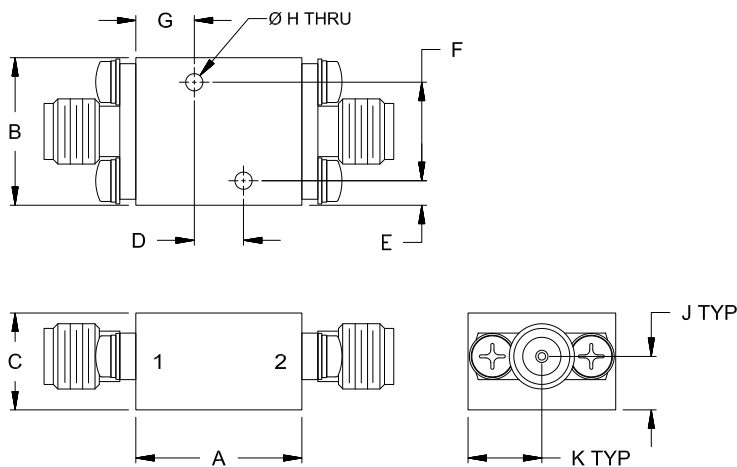


www.minicircuits.com P.O. Box 350166, Brooklyn, NY 11235-0003 (718) 934-4500 sales@minicircuits.com

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
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

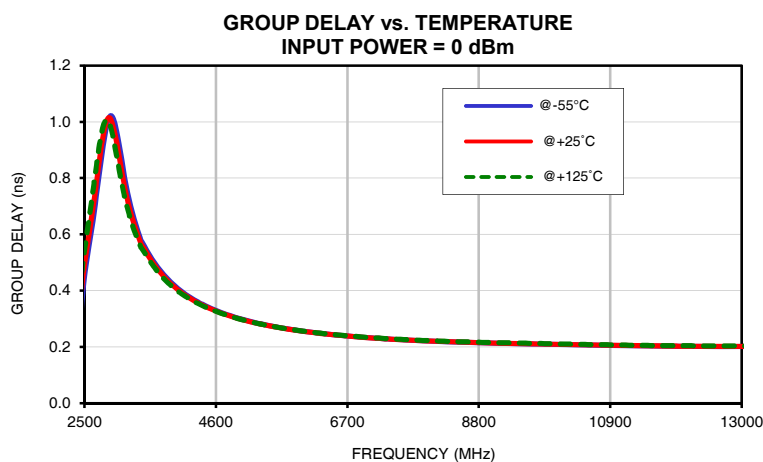
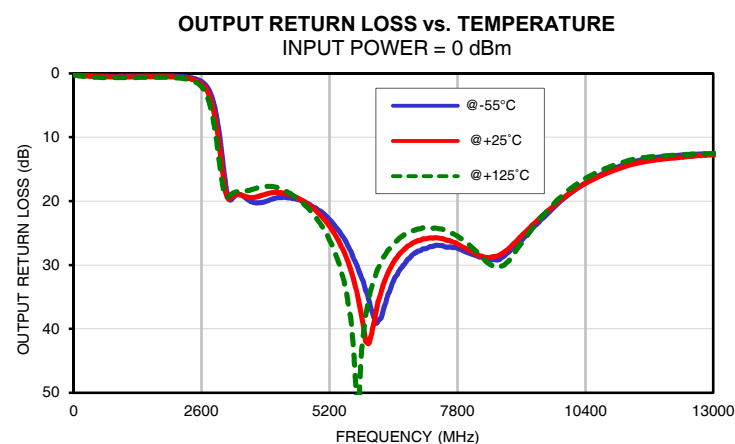
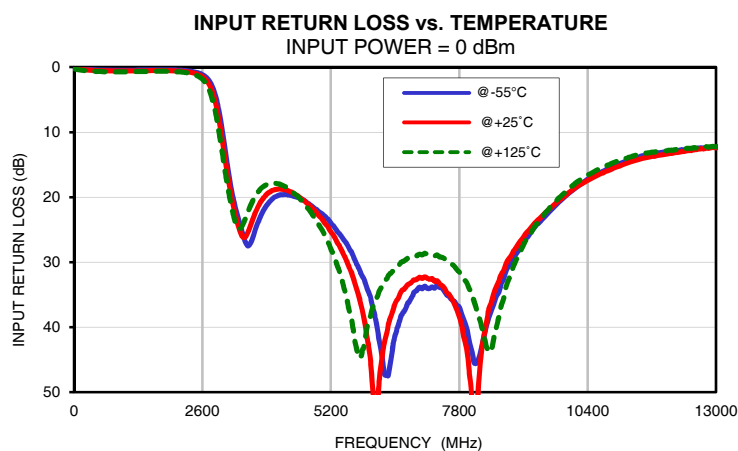
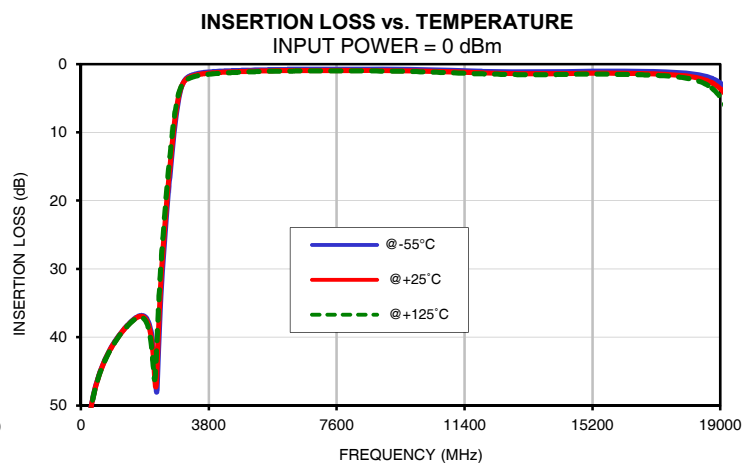
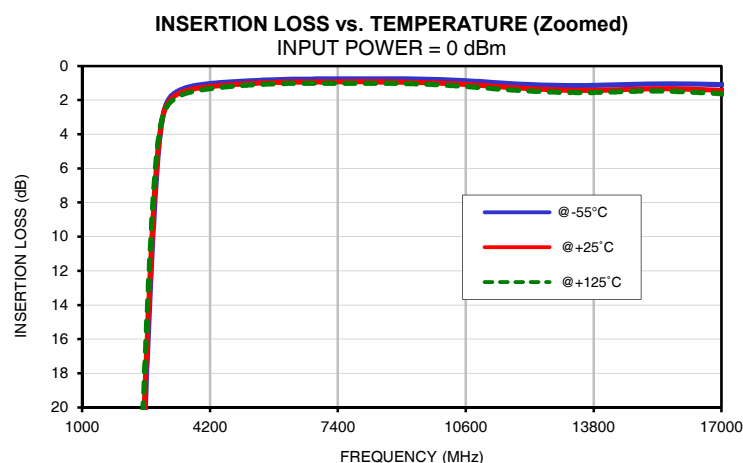
Typical Performance Data

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	91.15	82.89	77.26	0.12	0.17	0.23	0.12	0.17	0.22
20	72.23	72.70	73.23	0.14	0.20	0.27	0.15	0.21	0.26
80	61.24	61.47	61.25	0.22	0.30	0.39	0.22	0.30	0.37
100	59.43	59.48	59.42	0.24	0.32	0.41	0.24	0.32	0.39
140	56.73	56.59	56.63	0.28	0.35	0.45	0.28	0.36	0.43
180	54.55	54.60	54.57	0.31	0.39	0.49	0.31	0.39	0.47
220	52.83	52.95	52.91	0.33	0.41	0.52	0.33	0.41	0.50
260	51.51	51.57	51.59	0.35	0.44	0.55	0.34	0.43	0.52
300	50.31	50.38	50.42	0.37	0.46	0.58	0.36	0.45	0.55
340	49.30	49.33	49.38	0.38	0.48	0.60	0.38	0.46	0.57
400	47.96	47.99	48.08	0.40	0.50	0.63	0.40	0.48	0.60
440	47.17	47.23	47.31	0.42	0.52	0.65	0.41	0.50	0.62
460	46.81	46.85	46.93	0.42	0.52	0.66	0.41	0.50	0.62
500	46.12	46.20	46.28	0.43	0.54	0.67	0.41	0.51	0.63
540	45.51	45.59	45.66	0.44	0.55	0.68	0.42	0.52	0.65
600	44.68	44.74	44.84	0.45	0.56	0.70	0.43	0.54	0.66
640	44.17	44.24	44.32	0.45	0.57	0.71	0.44	0.55	0.67
700	43.46	43.55	43.62	0.46	0.58	0.72	0.44	0.56	0.68
740	43.05	43.10	43.19	0.47	0.59	0.72	0.45	0.57	0.68
800	42.42	42.50	42.57	0.47	0.59	0.73	0.45	0.58	0.68
900	41.51	41.58	41.66	0.47	0.59	0.72	0.45	0.58	0.68
1000	40.71	40.78	40.84	0.46	0.59	0.72	0.45	0.58	0.68
1200	39.32	39.37	39.44	0.45	0.58	0.70	0.44	0.56	0.66
1400	38.18	38.22	38.27	0.44	0.56	0.67	0.42	0.55	0.64
1600	37.28	37.33	37.39	0.42	0.54	0.65	0.41	0.54	0.62
1800	36.82	36.94	37.08	0.41	0.53	0.64	0.41	0.54	0.62
2000	37.68	38.05	38.55	0.43	0.56	0.67	0.43	0.57	0.66
2350	36.98	34.51	31.82	0.62	0.79	0.96	0.65	0.83	1.01
2400	32.25	30.27	28.00	0.68	0.86	1.06	0.72	0.92	1.12
2550	21.77	20.34	18.61	0.98	1.24	1.57	1.08	1.38	1.73
2750	11.04	10.03	8.84	2.25	2.86	3.77	2.58	3.30	4.38
2890	5.58	5.11	4.65	5.17	6.37	8.04	6.06	7.51	9.66
3000	3.22	3.16	3.11	9.66	11.19	13.13	11.63	13.59	16.02
3400	1.46	1.64	1.79	25.28	25.97	24.46	19.03	19.03	18.49
3600	1.27	1.45	1.60	26.64	23.82	20.86	20.08	19.48	18.27
3800	1.16	1.34	1.48	22.53	20.47	18.56	20.24	19.16	17.79
4000	1.08	1.26	1.39	20.39	19.03	17.86	19.79	18.73	17.69
4200	1.03	1.20	1.33	19.61	18.77	18.11	19.44	18.67	18.03
4400	0.99	1.16	1.27	19.72	19.22	19.03	19.49	18.99	18.78
4600	0.95	1.12	1.22	20.30	20.23	20.50	19.87	19.71	19.92
4800	0.92	1.09	1.18	21.26	21.49	22.36	20.56	20.67	21.39
5000	0.89	1.06	1.14	22.44	23.20	24.77	21.51	22.07	23.38
5200	0.87	1.03	1.11	23.97	25.33	27.96	22.90	23.94	26.09
5500	0.84	0.99	1.07	26.94	29.46	34.91	25.85	27.97	32.66
5700	0.82	0.97	1.05	29.89	33.58	42.61	29.13	32.63	44.42
6000	0.79	0.95	1.03	35.23	44.86	38.40	35.50	42.28	35.35
6200	0.78	0.94	1.02	42.80	46.70	34.19	38.68	35.50	30.37
6500	0.77	0.94	1.01	41.27	36.38	30.90	32.53	29.58	26.70
6800	0.76	0.93	1.01	35.88	33.26	29.30	29.06	27.01	24.93
7000	0.76	0.93	1.01	33.86	32.31	28.76	27.83	26.19	24.36
7200	0.76	0.93	1.01	34.04	32.63	28.85	27.31	25.85	24.20
7500	0.76	0.93	1.01	34.51	33.98	29.46	26.99	25.88	24.43
7700	0.75	0.93	1.01	36.04	36.39	30.63	27.27	26.39	25.09
8000	0.75	0.93	1.01	42.15	46.75	34.02	28.06	27.52	26.60
8500	0.74	0.93	1.01	36.45	34.78	41.62	29.21	28.78	30.06
9000	0.75	0.95	1.03	28.17	27.17	28.83	26.89	26.26	27.65
10000	0.80	1.01	1.11	19.48	19.39	18.81	19.32	19.22	18.66
11000	0.92	1.14	1.27	14.95	15.32	14.46	14.85	15.15	14.33
12000	1.07	1.30	1.44	13.05	13.38	12.87	13.04	13.40	12.92
13000	1.14	1.41	1.54	12.37	12.41	12.26	12.59	12.74	12.58

Typical Performance Data

FREQ.	GROUP DELAY		
(MHz)	(nsec)		
	@-55°C	@+25°C	@+125°C
3400	0.58	0.57	0.55
3600	0.51	0.50	0.49
3800	0.45	0.44	0.43
4000	0.41	0.40	0.40
4200	0.37	0.37	0.37
4400	0.35	0.35	0.34
4600	0.33	0.33	0.33
4800	0.31	0.31	0.31
5000	0.30	0.30	0.30
5200	0.29	0.29	0.29
5400	0.28	0.28	0.28
5600	0.27	0.27	0.27
5800	0.26	0.26	0.26
6000	0.26	0.26	0.26
6200	0.25	0.25	0.25
6400	0.24	0.24	0.25
6600	0.24	0.24	0.24
6800	0.24	0.24	0.24
7000	0.23	0.23	0.23
7200	0.23	0.23	0.23
7400	0.23	0.23	0.23
7600	0.22	0.22	0.23
7800	0.22	0.22	0.22
8000	0.22	0.22	0.22
8200	0.22	0.22	0.22
8400	0.22	0.22	0.22
8600	0.22	0.22	0.22
8800	0.21	0.21	0.22
9000	0.21	0.21	0.22
9200	0.21	0.21	0.21
9400	0.21	0.21	0.21
9600	0.21	0.21	0.21
9800	0.21	0.21	0.21
10000	0.21	0.21	0.21
10200	0.21	0.21	0.21
10400	0.21	0.21	0.21
10600	0.21	0.21	0.21
11000	0.20	0.21	0.21
11500	0.20	0.20	0.20
12000	0.20	0.20	0.20
13000	0.20	0.20	0.20

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.



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



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