Coaxial

Low Pass Filter

ZLFV-K1452+

50Ω DC to 14500 MHz

Generic photo used for illustration purposes only

CASE STYLE: UK3042

The Big Deal

- Good power handling, 3.2W
- Temperature stable
- Broadband connectorized package
- Good rejection, 38 dB typical

Product Overview

ZLFV-K1452+ is a 50Ω low pass filter built in broadband connectorized package. Covering DC-14500 MHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZLFV-K1452+ offer low insertion loss, and excellent power handling capability. It handles up to 3.2W 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.
3.2W 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
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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	ZLFV-K1452+

+RoHS Compliant

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

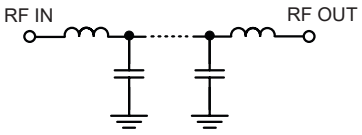
Features

- Good rejection 38dB typ.
- Good power handling, 3.2W
- Temperature stable

Applications

- Military radar applications
- Test and measurement
- Telecommunications & broadband wireless applications

Functional Schematic



Electrical Specifications at 25°C

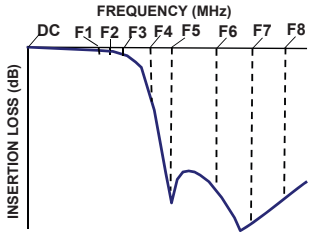
Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Pass Band	Insertion Loss	DC-F1	DC - 13800	—	1.4	2.1	dB
		F1-F2	13800 - 14500	—	2.0	—	dB
	Frequncy Cut-off	F3*	15600	—	3	—	dB
	Return Loss	DC-F1	DC - 13800	—	13	—	dB
		F1-F2	13800 - 14500	—	10	—	dB
Stop Band	Rejection Loss	F4-F5	20000 - 23000	20	33	—	dB
		F5-F6	23000 - 26500	25	34	—	dB
		F6-F7	26500 - 32000	—	38	—	dB
		F7-F8	32000 - 40000	—	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*	3.2W max.@25°C

*Passband rating, derate linearly to 1.6W at 125°C ambient
Permanent damage may occur if any of these limits are exceeded.

Typical Frequency Response

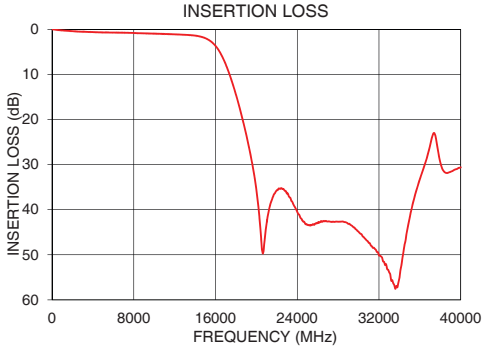


Typical Performance Data at 25°C

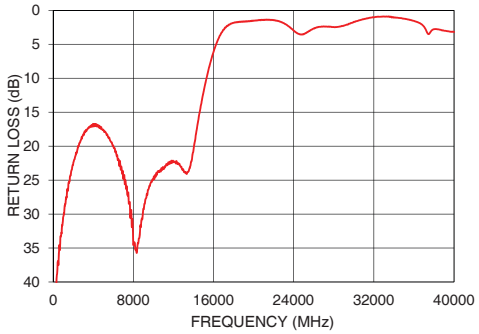
Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
25	0.03	45.81
200	0.03	42.83
1000	0.24	30.44
2000	0.41	22.63
3000	0.52	18.38
5000	0.70	17.56
10000	0.95	24.87
13800	1.35	22.24
14500	1.60	16.07
15600	2.78	8.22
17375	10.05	2.30
18650	20.00	1.67
19625	30.16	1.58
20000	35.60	1.53
23000	36.45	1.88
26500	42.65	2.44
30000	44.89	1.70
32000	50.16	1.04
35000	41.88	1.23
40000	30.60	3.19

ZLFV-K1452+
INSERTION LOSS (zoomed)

ZLFV-K1452+
INSERTION LOSS



ZLFV-K1452+
RETURN LOSS



Notes

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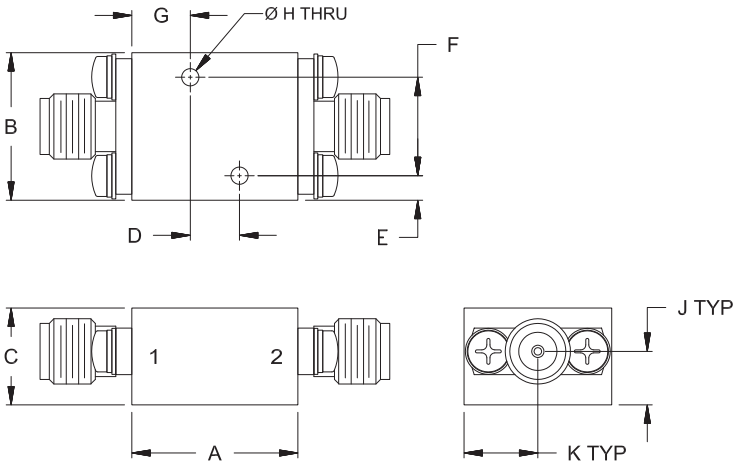
Coaxial Connections

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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Coaxial Low Pass Filter ZLFV-K1452+

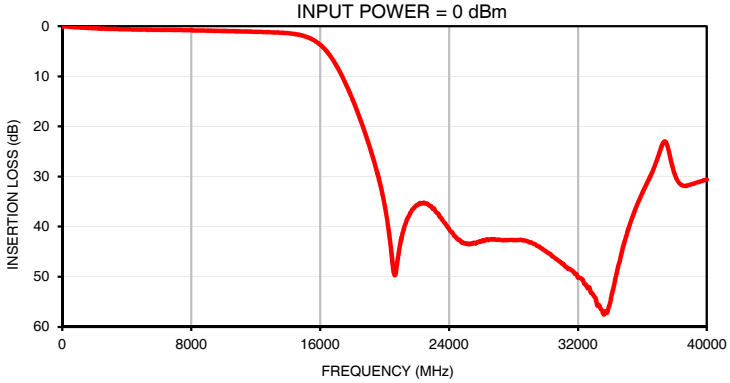
Typical Performance Data

FREQ. (MHz)	Insertion Loss (dB)	Input Return Loss (dB)	Output Return Loss (dB)
25	0.03	45.81	45.14
100	0.03	49.00	48.14
200	0.03	42.83	43.62
250	0.05	41.40	42.36
300	0.08	41.08	42.06
400	0.11	38.77	39.51
500	0.13	37.02	37.31
600	0.17	35.44	34.74
700	0.18	34.48	34.25
800	0.20	33.07	33.24
1000	0.24	30.44	30.07
2000	0.41	22.63	22.60
3000	0.52	18.38	18.05
4000	0.62	16.78	16.28
6000	0.72	19.93	21.15
7000	0.75	24.82	27.63
8000	0.80	34.55	27.36
10000	0.95	24.87	29.89
10500	0.99	23.82	29.48
11000	1.01	23.30	27.58
11200	1.04	22.99	26.39
11500	1.06	22.38	25.38
12000	1.12	22.25	24.44
12500	1.16	22.67	24.40
13000	1.22	23.50	24.77
13800	1.35	22.24	23.81
14500	1.60	16.07	17.89
15600	2.78	8.22	8.89
17375	10.05	2.30	2.33
18650	20.00	1.67	1.72
19625	30.16	1.58	1.74
20000	35.60	1.53	1.78
20250	40.53	1.50	1.82
20500	47.56	1.45	1.86
20750	48.01	1.41	1.97
21000	42.99	1.40	2.08
21250	39.83	1.39	2.26
21500	37.92	1.38	2.50
21750	36.51	1.43	2.79
22000	35.69	1.43	3.10
22250	35.34	1.51	3.37
22500	35.30	1.58	3.54
22750	35.73	1.72	3.53
23000	36.45	1.88	3.30
23250	37.26	2.09	3.03
23500	38.21	2.35	2.66
23750	39.33	2.68	2.37
24000	40.48	2.97	2.12
24250	41.42	3.27	1.96
24500	42.39	3.47	1.78
24750	42.99	3.56	1.75
25000	43.35	3.51	1.64
25500	43.28	3.08	1.66
26000	42.92	2.67	1.77
26500	42.65	2.44	1.94
28000	42.68	2.47	2.07
30000	44.89	1.70	1.27
32000	50.16	1.04	1.04
35000	41.88	1.23	3.27
40000	30.60	3.19	1.52

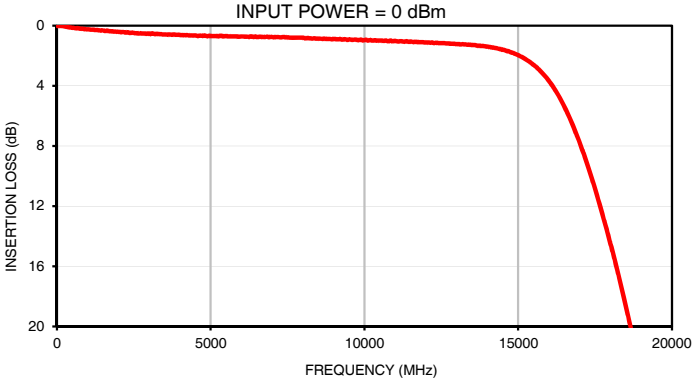
FREQ. (MHz)	Group Delay (ns)
25	0.22
50	0.22
100	0.22
150	0.21
200	0.21
400	0.20
600	0.20
800	0.20
1000	0.20
1200	0.20
1400	0.20
1600	0.20
1800	0.20
2000	0.20
2200	0.20
2400	0.20
2600	0.20
2800	0.20
3000	0.20
3200	0.20
3400	0.20
3600	0.20
3800	0.20
4000	0.20
4200	0.20
4400	0.20
4600	0.20
4800	0.20
5000	0.20
5200	0.20
5400	0.20
5600	0.20
5800	0.20
6000	0.20
6200	0.20
6400	0.20
6600	0.21
6800	0.21
7000	0.21
7200	0.21
7400	0.21
7600	0.21
7800	0.21
8000	0.20
8200	0.21
8400	0.21
8600	0.21
8800	0.21
9000	0.21
9500	0.21
10000	0.21
10500	0.22
11000	0.22
11500	0.22
12000	0.22
12500	0.23
13000	0.23
13500	0.24
14000	0.24
14500	0.26

Typical Performance Curves

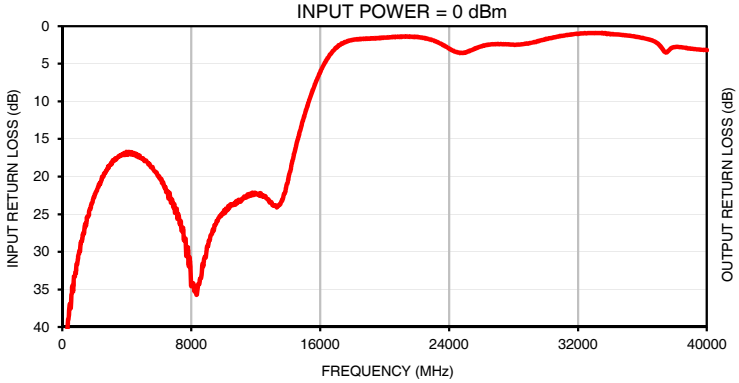
INSERTION LOSS
INPUT POWER = 0 dBm



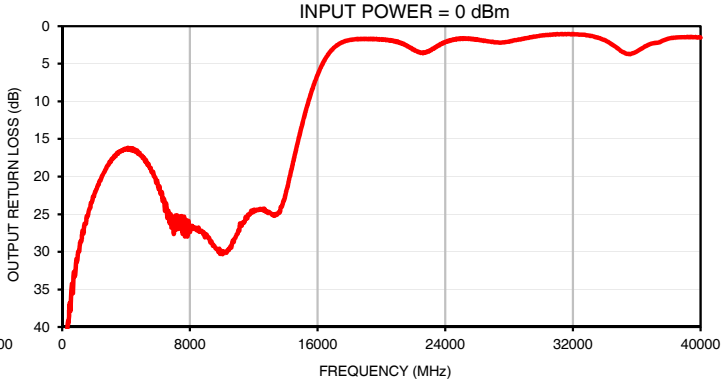
INSERTION LOSS (zoomed)
INPUT POWER = 0 dBm



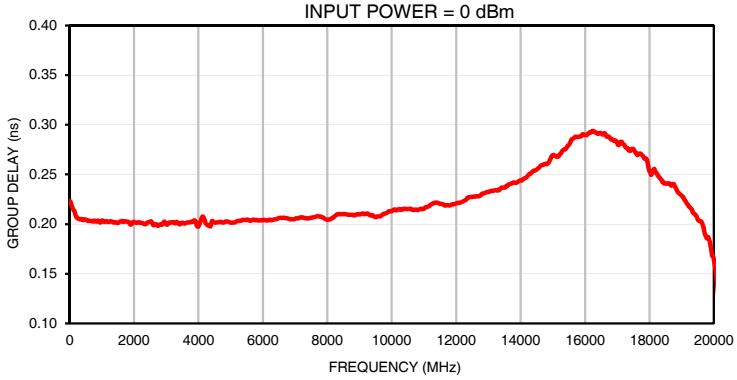
INPUT RETURN LOSS
INPUT POWER = 0 dBm



OUTPUT RETURN LOSS
INPUT POWER = 0 dBm



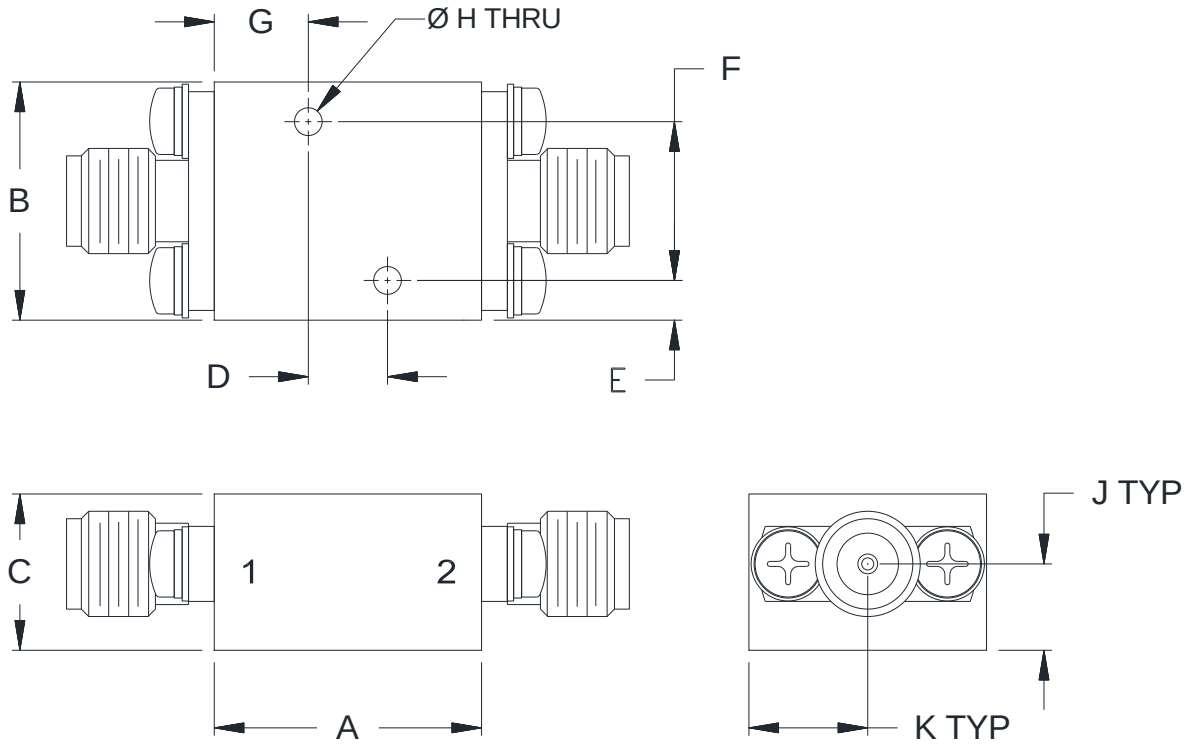
GROUP DELAY
INPUT POWER = 0 dBm



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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