THIN FILM COAXIAL

Bandpass Filter

ZABF-K11R5G+

50Ω 9600 to 13200 MHz 2.92mm Female

KEY FEATURES

- Low Passband Insertion Loss 2.5 dB Typ.
- High Rejection 45 dB Typ.
- Small Size

Generic photo used for illustration purposes only

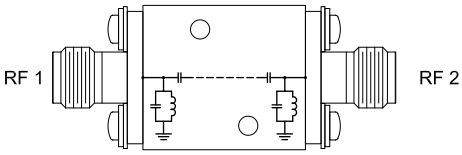
APPLICATIONS

- Ku Band
- Vsat

PRODUCT OVERVIEW

Mini-Circuits' Connectorized Thin-Film filters offer low insertion loss and high rejection realized via Thin-Film on Alumina substrate, using a sputtering process that can guarantee an enhanced Q and repeatable performance. Low pass, high pass, and bandpass connectorized thin-film designs can be realized with this technology up to 40 GHz in a small form factor helping customers achieve their SWaP objectives. Using our high quality thin-film manufacturing process we can guarantee repeatability on large batches of filters.

FUNCTIONAL DIAGRAM



ELECTRICAL SPECIFICATIONS[1] AT +25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Units
Passband	Center Frequency[2]	—	—	—	11500	—	MHz
	Insertion Loss	F1-F2	9600 - 13200	—	2.5	3	dB
	Return Loss	F1-F2	9600 - 13200	—	10	—	dB
Stopband, Lower	Rejection	DC-F3	DC - 5000	40	45	—	dB
		F3-F4	5000 - 7250	20	38	—	
Stopband, Upper	Rejection	F5-F6	15600 - 17000	20	38	—	dB
		F6-F7	17000 - 25000	—	30	—	

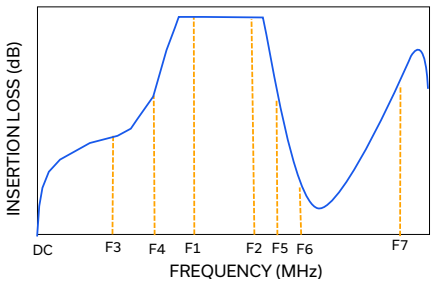
1. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.
2. Typical variation ± 3%

ABSOLUTE MAXIMUM RATINGS[3]

Parameter	Ratings
Operating Temperature	-55°C to +125°C
Storage Temperature	-55°C to +125°C
Input Power[4]	10 W at 25 °C

3. Permanent damage may occur if any of these limits are exceeded.
4. Power rating applies only to signals with in the passband.

TYPICAL FREQUENCY RESPONSE AT+25°C



REV. OR
ECO-029836
ZABF-K11R5G+
EDU5148
MCINU
260602

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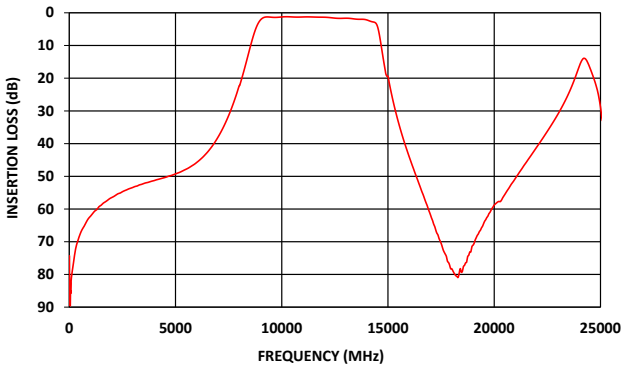
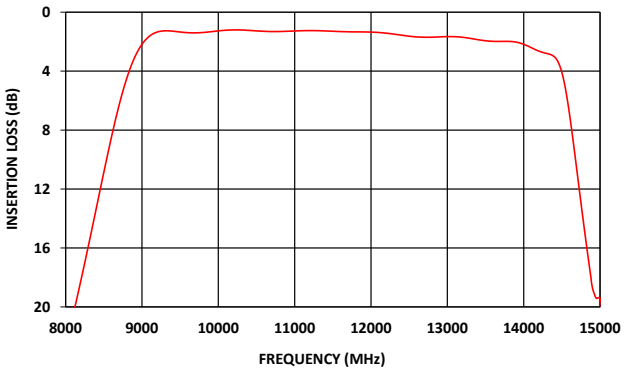
TYPICAL PERFORMANCE GRAPHS AT+25°C

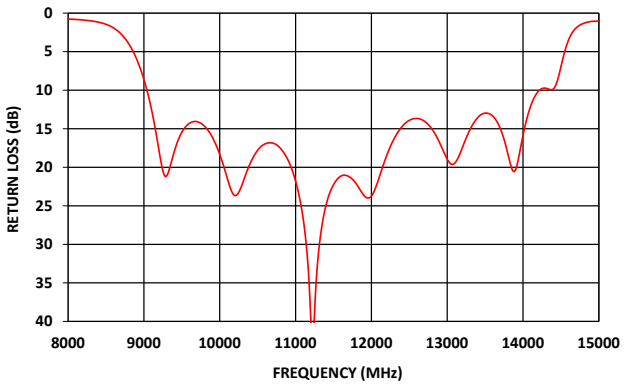
ZABF-K11R5G+
INSERTION LOSS



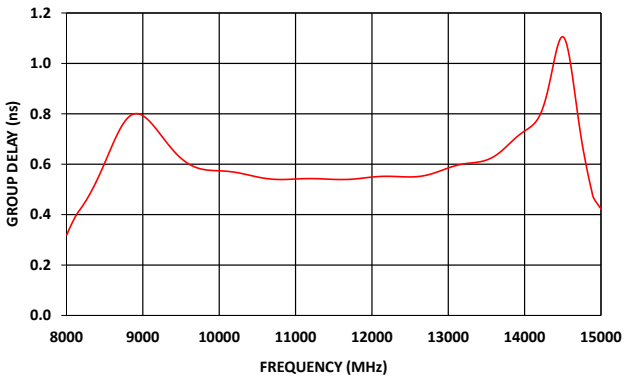
ZABF-K11R5G+
INSERTION LOSS (Zoomed)



ZABF-K11R5G+
RETURN LOSS



ZABF-K11R5G+
GROUP DELAY



Bandpass Filter

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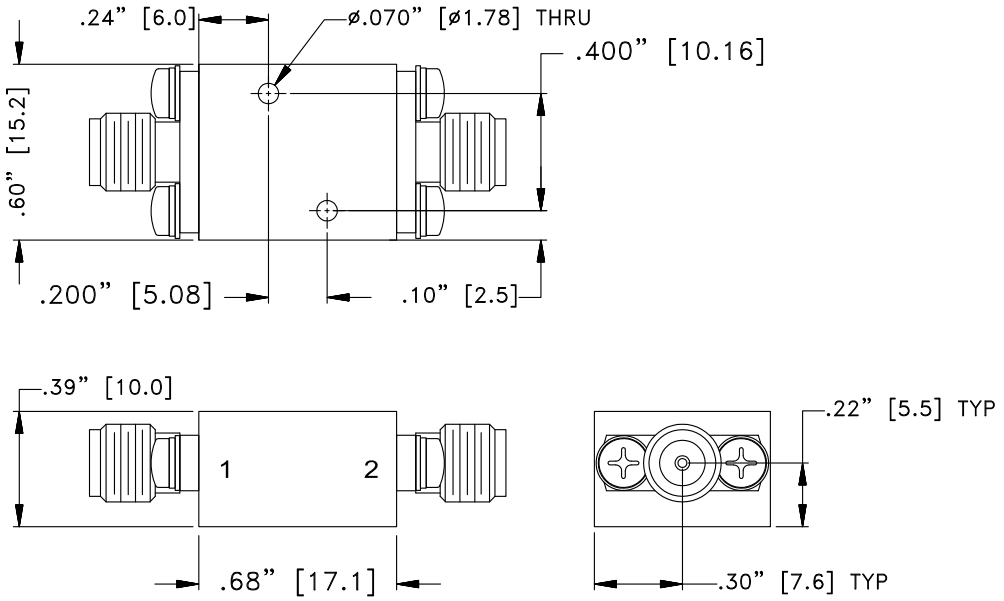
50Ω 9600 to 13200 MHz 2.92mm Female

CONNECTOR DESCRIPTION

Function	Connector
RF1[5]	2.92mm Female
RF2[5]	2.92mm Female

5. This filter is bi-directional RF1 and RF2 ports may be interchanged, see S-Parameters for actual performance.

CASE STYLE DRAWING



Unit weight: 24grams
Dimensions are in inches (mm). Tolerances: 2 Pl.±.050"; 3 Pl.±.015"

PRODUCT MARKING*: ZABF-K11R5G+

*Marking may contain other features or characters for internal lot control.

Bandpass Filter

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50Ω 9600 to 13200 MHz 2.92mm Female

ADDITIONAL INFORMATION IS AVAILABLE ON OUR DASHBOARD CLICK HERE

Performance Data & Graphs	Data Graphs S-Parameter (S2P Files) Data Set (.zip file)
Case Style	UK3042
RoHS Status	Compliant
Environmental Ratings	ENV144

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/terms/viewterm.html

Coaxial Thin-Film Bandpass Filter ZABF-K11R5G+

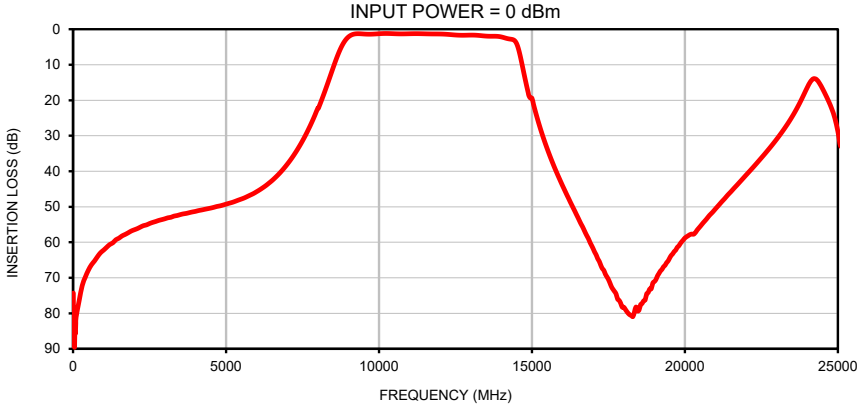
Typical Performance Data

FREQ. (MHz)	Insertion Loss (dB)	Input Return Loss (dB)	Output Return Loss (dB)
10	74.29	0.09	0.22
100	81.08	0.20	0.34
200	76.43	0.27	0.41
300	72.19	0.31	0.47
500	67.87	0.37	0.54
700	65.28	0.41	0.59
1000	62.20	0.45	0.60
1500	58.84	0.47	0.55
2000	56.48	0.47	0.47
2500	54.72	0.44	0.38
3000	53.38	0.39	0.32
3500	52.22	0.34	0.32
4000	51.30	0.29	0.37
4500	50.37	0.26	0.45
5000	49.27	0.25	0.55
6000	45.75	0.32	0.71
7000	38.03	0.49	0.79
7250	35.01	0.54	0.80
8000	22.25	0.78	0.94
8240	17.27	0.93	1.10
9000	2.18	8.62	8.86
9600	1.39	14.30	14.02
9700	1.40	14.08	13.75
9800	1.38	14.68	14.25
9900	1.33	16.05	15.47
10000	1.27	18.34	17.52
10100	1.22	21.44	20.35
10500	1.27	17.79	18.39
11000	1.27	21.79	21.54
11500	1.29	22.28	23.94
12000	1.35	23.73	31.17
12500	1.63	13.91	13.85
13000	1.66	18.95	15.63
13200	1.70	17.44	15.78
14000	2.18	15.84	13.80
14400	3.02	9.83	16.18
15000	19.41	1.05	2.26
15400	31.27	0.88	1.85
15600	35.99	0.88	1.78
16000	44.06	0.92	1.70
17000	61.80	0.97	1.68
17500	70.48	0.96	1.66
18000	78.26	0.91	1.55
18200	80.42	0.88	1.49
18400	78.21	0.85	1.41
19000	71.07	0.74	1.18
19200	68.08	0.70	1.11
19400	65.76	0.67	1.03
19500	64.45	0.65	0.99
20000	58.78	0.57	0.82
20500	55.53	0.54	0.73
21000	50.57	0.51	0.61
22000	41.06	0.60	0.50
22500	36.22	0.73	0.52
23000	30.96	0.94	0.61
23500	24.69	1.33	0.84
24000	16.39	3.08	1.72
24200	13.95	4.36	2.30
24700	20.35	1.52	1.13
25000	28.80	1.50	1.09

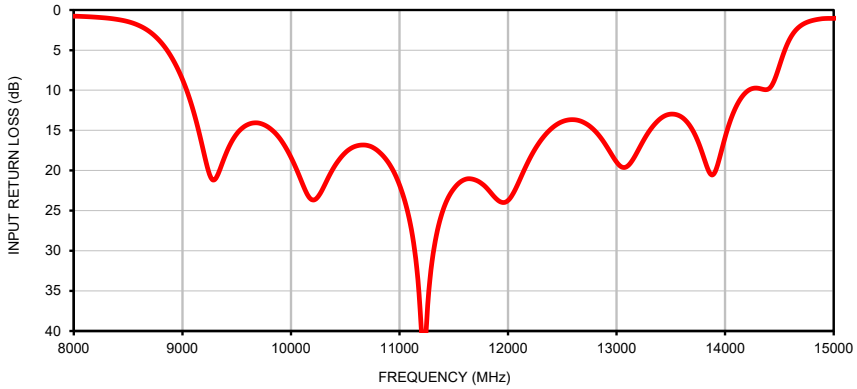
FREQ. (MHz)	Group Delay (ns)
9600	0.60
9660	0.59
9680	0.59
9700	0.59
9800	0.58
9820	0.58
9840	0.58
9860	0.58
9880	0.58
9900	0.58
9920	0.58
9940	0.57
9960	0.57
9980	0.57
10000	0.57
10100	0.57
10120	0.57
10160	0.57
10180	0.57
10200	0.57
10220	0.57
10240	0.57
10260	0.57
10280	0.56
10300	0.56
10360	0.56
10400	0.56
10460	0.55
10500	0.55
10560	0.55
10600	0.54
10660	0.54
10700	0.54
10760	0.54
10800	0.54
10860	0.54
10900	0.54
10960	0.54
11000	0.54
11160	0.54
11180	0.54
11200	0.54
11260	0.54
11280	0.54
11300	0.54
11320	0.54
11340	0.54
11380	0.54
11400	0.54
11500	0.54
11600	0.54
11800	0.54
12000	0.55
12200	0.55
12400	0.55
12600	0.55
12800	0.56
13000	0.59
13100	0.59
13200	0.60

Typical Performance Curves

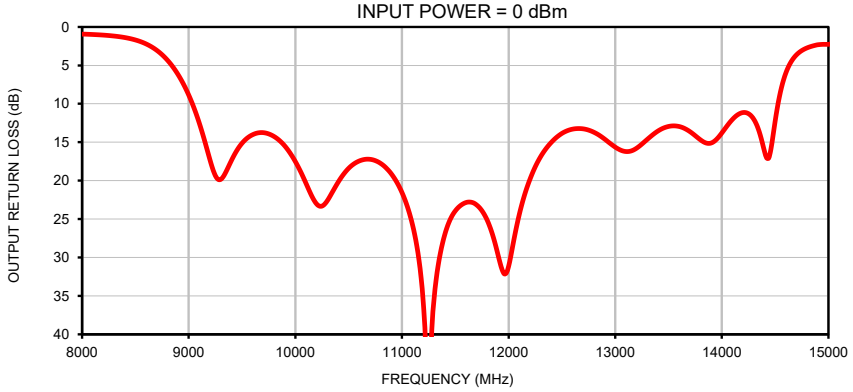
INSERTION LOSS
INPUT POWER = 0 dBm



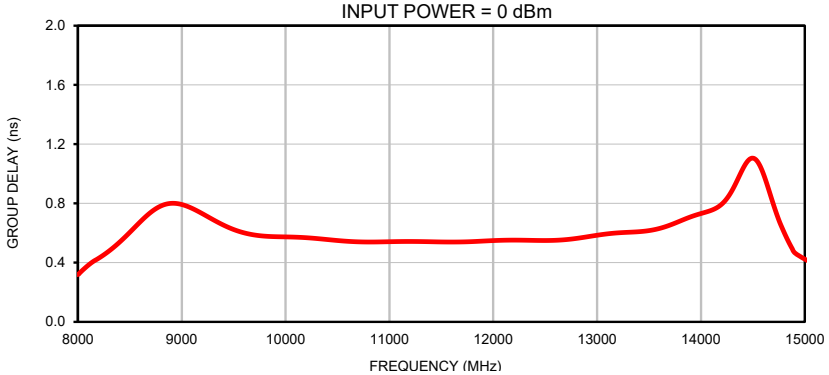
INPUT RETURN LOSS
INPUT POWER = 0 dBm



OUTPUT RETURN LOSS
INPUT POWER = 0 dBm



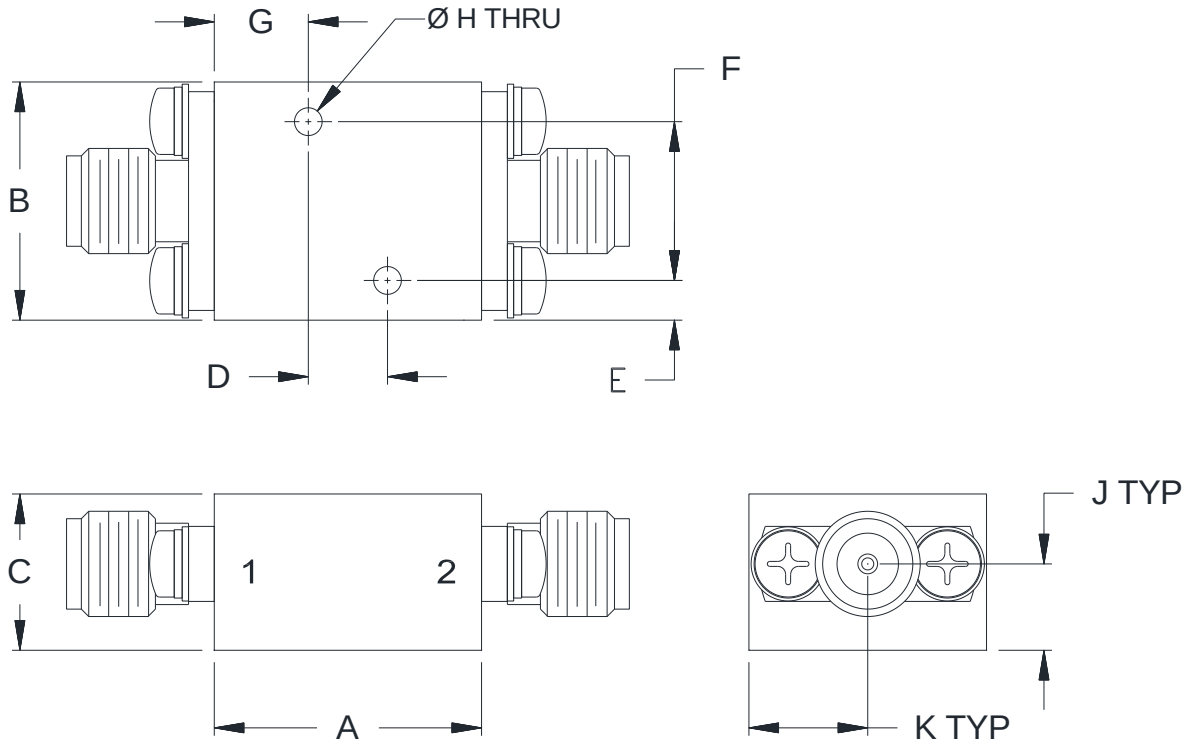
GROUP DELAY
INPUT POWER = 0 dBm



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.

Mini-Circuits

Environmental Specifications ENV144

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	-40° to 100° C Ambient Environment	Individual Model Data Sheet
Storage Temperature	-55° to 100° C Ambient Environment	Individual Model Data Sheet
Humidity	90 to 95% RH, 40°C, 96 hours Units may require bake-out after humidity to restore full performance.	MIL-STD-202. method 103. Condition B
Thermal Shock	-40°C to 100°C, 100 cycles	MIL-STD-202, Method 107, Condition A-3, except -40°C and +100°C