(LTCC) COAXIAL

Low Pass Filter

ZLFV-K1852+

50Ω DC to 18.5 GHz 2.92mm Female

KEY FEATURES

- Low Insertion Loss, 2 dB Typ.
- Return Loss, 12 dB Typ.
- Stop Band Rejection, 42 dB Typ.
- Broadband Connectorized Package.
- Power Handling: 4.5 Watts.

Generic photo used for illustration purposes only

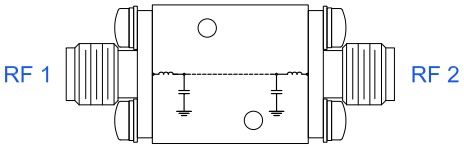
APPLICATIONS

- Ka Satcom
- Cellular Backhaul

PRODUCT OVERVIEW

ZLFV-K1852+ is a 50Ω low pass filter built in broadband connectorized package. Covering DC-18.5 GHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZLFV-K1852+ offer low insertion loss, and good power handling capability. It handles up to 4.5 W RF input power and provides a wide operating temperature range from -55°C to 125°C.

FUNCTIONAL DIAGRAM



ELECTRICAL SPECIFICATIONS[1,2] AT +25°C

Parameter		F#	Frequency (GHz)	Min.	Typ.	Max.	Units
Pass Band	Insertion Loss	DC-F1	DC- 17.5	—	2	2.6	dB
		F1-F2	17.5 - 18.5	—	2.3	—	
	Freq. Cut-Off	Fc	20.25	—	3	—	dB
	Return Loss	DC-F2	DC - 18.5	—	12	—	dB
Stop Band	Rejection	F3-F4	23.7 - 26.5	20	42	—	dB
		F4-F5	26.5 - 32	30	41	—	
		F5-F6	32 - 40	—	40	—	
		F6-F7	40 - 50	—	15	—	

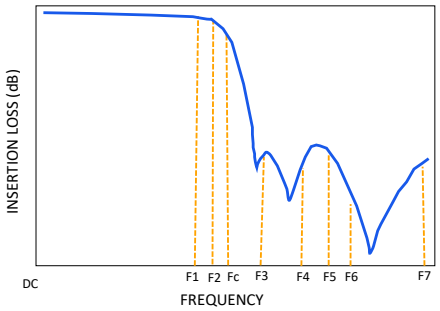
1. This component should not be used as a DC-block. In applications where DC voltage and/or current is present at either the input or output ports, external DC blocking capacitors are required.
2. Typical variation ± 5%.

ABSOLUTE MAXIMUM RATINGS[3]

Parameter	Ratings
Operating Temperature	-55°C to +125°C
Storage Temperature	-55°C to +125°C
Input Power[4]	4.5 W @ +25°C

3. Permanent damage may occur if any of these limits are exceeded.
4. Power rating applies only to signals within the passband. Power rating above +25°C operating temperature decreases linearly to 1.6 W at +125°C.

TYPICAL FREQUENCY RESPONSE



REV. OR
ECO-027003
ZLFV-K1852+
EDU5187
URJ
250919

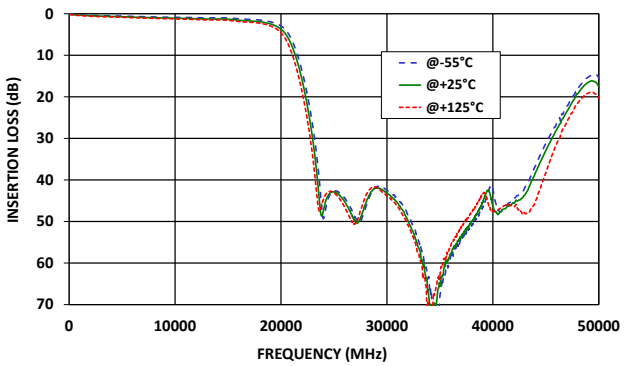
Low Pass Filter

ZLFV-K1852+

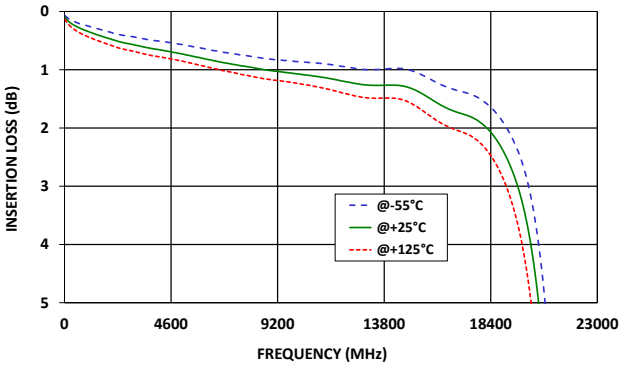
50Ω DC to 18.5 GHz 2.92mm Female

TYPICAL PERFORMANCE GRAPHS

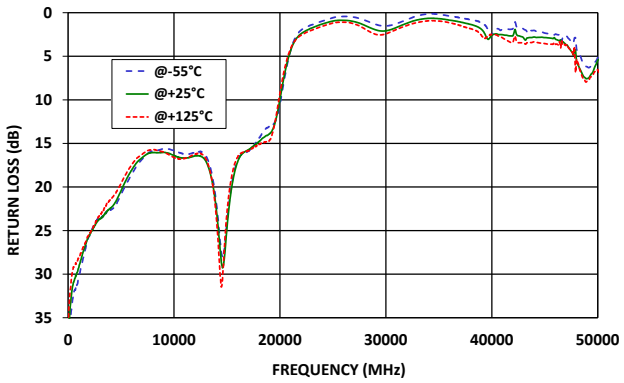
ZLFV-K1852+
INSERTION LOSS



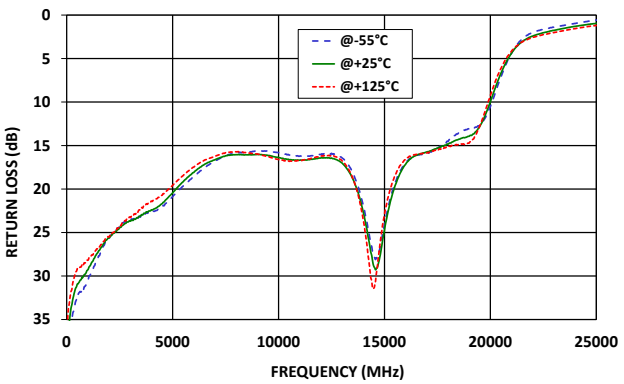
ZLFV-K1852+
INSERTION LOSS (Zoomed)



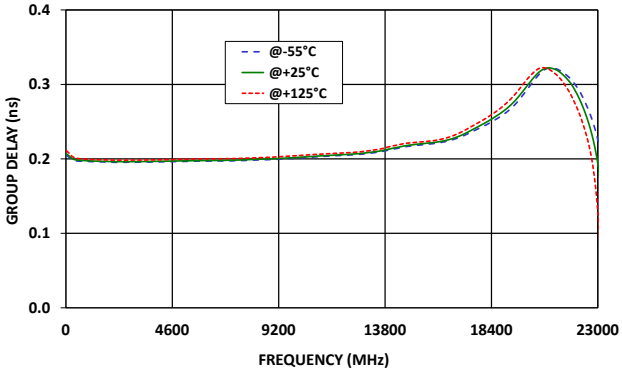
ZLFV-K1852+
RETURN LOSS



ZLFV-1852+
RETURN LOSS (Zoomed)



ZLFV-K1852+
GROUP DELAY



Low Pass Filter

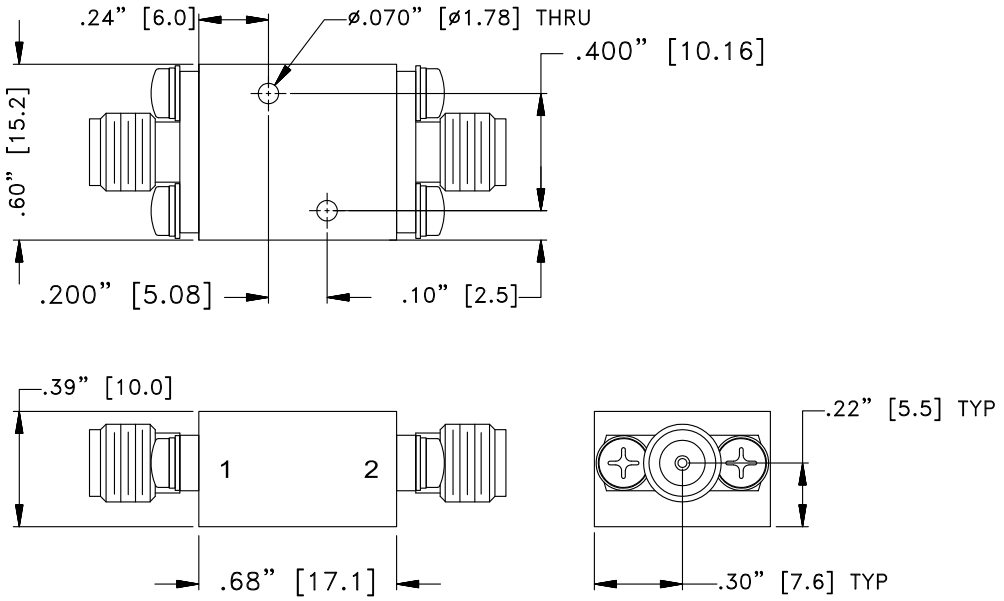
ZLFV-K1852+

50Ω DC to 18.5 GHz 2.92mm Female

CONNECTOR DESCRIPTION

Function	Marking on Unit	Connector
RF1	1	2.92mm Female
RF2	2	2.92mm Female

CASE STYLE DRAWING



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

PRODUCT MARKING*: ZLFV-K1852+

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

Low Pass Filter

ZLFV-K1852+

50Ω DC to 18.5 GHz 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	ENV124

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 Low Pass Filter ZLFV-K1852+

Typical Performance Data

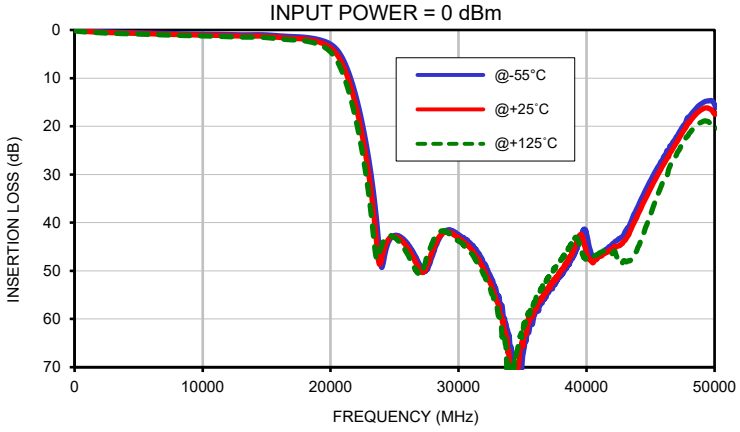
FREQ.	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
(MHz)	(dB)			(dB)			(dB)		
	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C
25	0.07	0.10	0.13	42.89	39.14	36.52	43.02	39.25	36.54
50	0.08	0.12	0.16	40.40	37.46	34.80	40.79	37.50	34.69
100	0.10	0.14	0.19	38.23	35.81	33.47	39.38	35.94	33.38
200	0.13	0.18	0.23	35.28	33.76	31.81	36.33	34.04	31.86
300	0.15	0.21	0.27	34.16	32.54	30.66	34.38	32.89	31.07
400	0.17	0.23	0.30	33.14	31.56	29.71	33.44	31.99	30.33
500	0.19	0.26	0.33	32.12	30.92	29.16	33.16	31.32	29.69
1000	0.25	0.34	0.43	30.47	29.28	28.18	30.76	29.04	27.93
1500	0.31	0.41	0.51	27.71	27.12	26.63	28.01	27.12	26.51
2000	0.36	0.47	0.58	25.63	25.62	25.50	25.94	25.56	25.46
2500	0.41	0.53	0.64	24.22	24.46	24.25	24.02	24.01	23.78
3000	0.44	0.57	0.69	23.57	23.69	23.27	23.02	22.96	22.47
3500	0.48	0.62	0.73	23.09	23.05	22.28	22.08	21.99	21.17
4000	0.50	0.65	0.77	22.55	22.39	21.37	21.48	21.32	20.35
4500	0.53	0.68	0.81	22.07	21.69	20.71	20.76	20.55	19.67
5000	0.56	0.72	0.85	20.86	20.44	19.58	20.10	19.87	19.15
6000	0.64	0.81	0.94	18.60	18.09	17.48	19.10	18.87	18.41
7000	0.71	0.89	1.03	16.82	16.64	16.25	18.02	18.18	17.95
8000	0.77	0.95	1.11	15.85	16.05	15.72	17.29	17.75	17.58
9000	0.82	1.02	1.18	15.60	16.02	15.97	16.89	17.50	17.78
10000	0.86	1.07	1.23	15.81	16.39	16.61	17.22	17.73	18.09
11000	0.89	1.12	1.30	16.22	16.68	16.72	17.72	17.57	17.27
12000	0.94	1.20	1.40	16.02	16.43	16.23	16.28	16.16	15.72
13000	1.00	1.26	1.48	16.43	17.01	16.76	15.79	16.08	15.89
14000	0.98	1.26	1.49	21.93	22.68	23.60	19.95	20.61	21.33
15000	1.02	1.33	1.59	24.10	24.71	22.93	22.24	22.28	20.55
17500	1.42	1.80	2.13	15.28	15.29	15.47	15.08	15.08	15.34
18500	1.68	2.12	2.53	13.54	14.29	14.86	13.66	13.73	13.60
19300	2.16	2.71	3.27	12.88	13.42	13.80	10.91	10.65	10.28
20250	3.43	4.32	5.37	8.78	8.23	7.51	7.21	6.76	6.26
21400	8.74	10.37	12.61	2.99	3.25	3.26	3.15	3.36	3.56
22000	13.95	16.07	18.95	2.00	2.42	2.59	2.63	3.14	3.56
22800	23.92	26.91	30.69	1.48	1.85	2.09	2.63	3.07	3.39
23000	27.10	30.38	34.56	1.40	1.76	2.02	2.58	2.96	3.25
23500	37.09	41.59	46.29	1.17	1.52	1.77	2.23	2.51	2.76
23700	42.45	46.95	47.37	1.08	1.42	1.68	2.07	2.32	2.56
24000	49.32	47.43	44.71	0.97	1.30	1.56	1.81	2.06	2.29
24200	47.13	45.28	43.56	0.88	1.22	1.47	1.64	1.89	2.11
24400	44.94	43.94	42.98	0.80	1.15	1.39	1.50	1.76	1.98
24600	43.63	43.22	42.74	0.72	1.07	1.32	1.37	1.64	1.86
24800	42.95	42.91	42.85	0.66	1.02	1.26	1.25	1.54	1.75
25000	42.66	42.86	43.09	0.58	0.96	1.20	1.17	1.47	1.68
26500	46.32	47.50	49.08	0.44	0.91	1.14	1.08	1.54	1.92
28000	46.58	45.61	43.85	0.87	1.45	1.86	2.57	3.44	4.66
30000	42.55	43.17	43.75	1.54	2.08	2.44	3.18	3.67	4.09
32000	48.44	50.00	50.85	0.80	1.21	1.47	2.56	2.95	3.14
34000	65.11	69.10	70.02	0.13	0.64	0.92	1.20	1.56	1.82
36000	58.51	57.70	56.16	0.39	0.86	1.16	0.77	1.16	1.38
38000	51.02	50.01	47.82	0.79	1.34	1.83	0.94	1.35	1.68
40000	42.32	46.51	47.64	2.58	2.62	2.51	1.24	1.64	1.85
41000	46.85	47.03	46.30	1.89	2.52	2.87	1.31	1.69	1.88
42000	44.41	45.62	46.44	1.83	2.63	3.39	1.25	1.66	1.98
43000	41.90	43.69	47.94	1.88	2.89	3.46	1.21	1.76	2.17
44000	36.70	38.36	45.16	2.03	2.79	3.34	1.30	2.02	2.47
45000	31.22	32.91	38.31	2.34	2.86	3.55	1.80	2.55	3.07
46000	26.41	27.99	31.37	2.45	3.04	3.62	2.58	3.24	4.10
47000	22.22	23.47	26.05	2.73	3.67	3.77	3.27	3.96	4.44
48000	18.21	19.30	21.53	4.22	5.67	5.37	4.35	5.17	4.89
49000	15.25	16.52	19.11	6.20	7.55	7.84	5.80	6.81	7.08
50000	15.52	17.47	20.29	5.13	5.47	6.53	6.23	7.12	9.29

Typical Performance Data

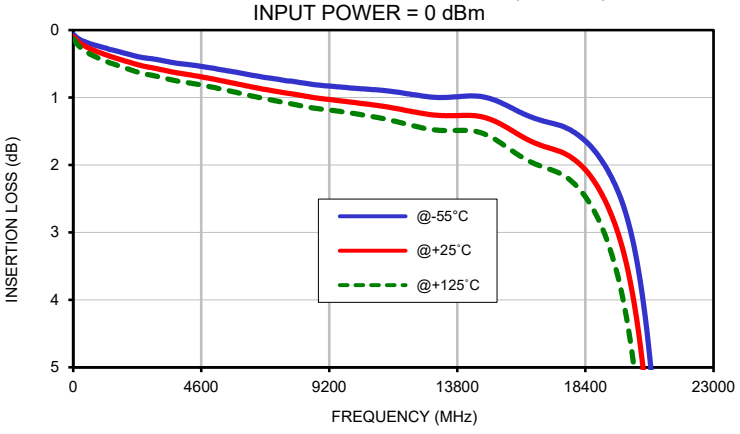
FREQ.	GROUP DELAY		
	(nsec)		
(MHz)	@-55°C	@+25°C	@+125°C
25	0.20	0.21	0.21
50	0.20	0.21	0.21
100	0.20	0.20	0.21
200	0.20	0.20	0.21
300	0.20	0.20	0.20
400	0.20	0.20	0.20
500	0.20	0.20	0.20
1000	0.20	0.20	0.20
1500	0.20	0.20	0.20
2000	0.20	0.20	0.20
2500	0.20	0.20	0.20
3000	0.20	0.20	0.20
3500	0.20	0.20	0.20
4000	0.20	0.20	0.20
4500	0.20	0.20	0.20
5000	0.20	0.20	0.20
5500	0.20	0.20	0.20
6000	0.20	0.20	0.20
6500	0.20	0.20	0.20
7000	0.20	0.20	0.20
7500	0.20	0.20	0.20
8000	0.20	0.20	0.20
8500	0.20	0.20	0.20
9000	0.20	0.20	0.20
9500	0.20	0.20	0.20
10000	0.20	0.20	0.20
10500	0.20	0.20	0.21
11000	0.20	0.20	0.21
11500	0.20	0.20	0.21
12000	0.20	0.21	0.21
12500	0.21	0.21	0.21
13000	0.21	0.21	0.21
13500	0.21	0.21	0.21
14000	0.21	0.21	0.22
14500	0.22	0.22	0.22
15000	0.22	0.22	0.22
15500	0.22	0.22	0.22
16000	0.22	0.22	0.22
17500	0.24	0.24	0.24
18500	0.25	0.26	0.26

Typical Performance Curves

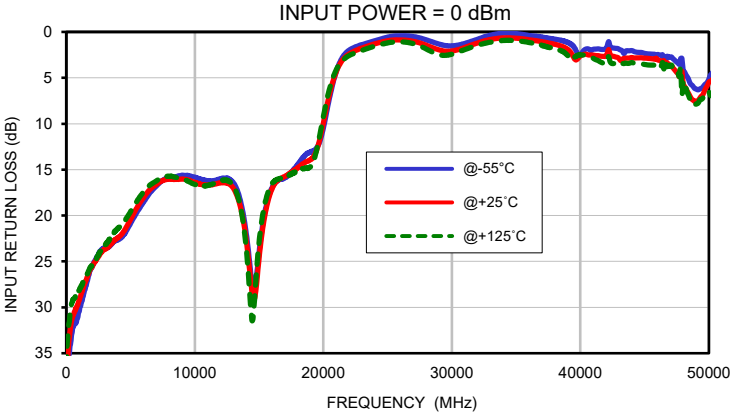
INSERTION LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



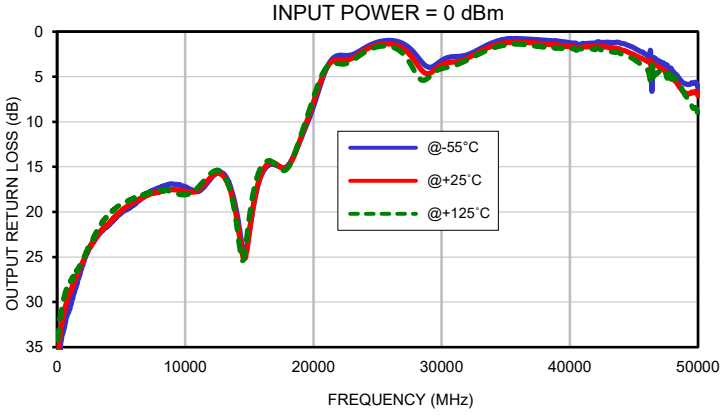
INSERTION LOSS vs. TEMPERATURE (Zoomed)
INPUT POWER = 0 dBm



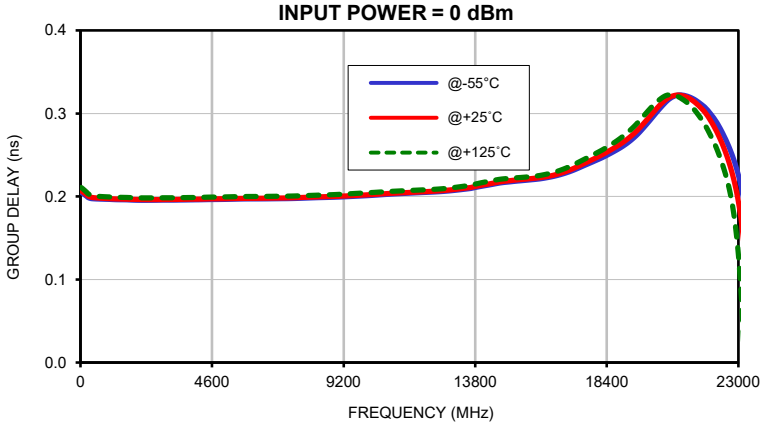
INPUT RETURN LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



OUTPUT RETURN LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



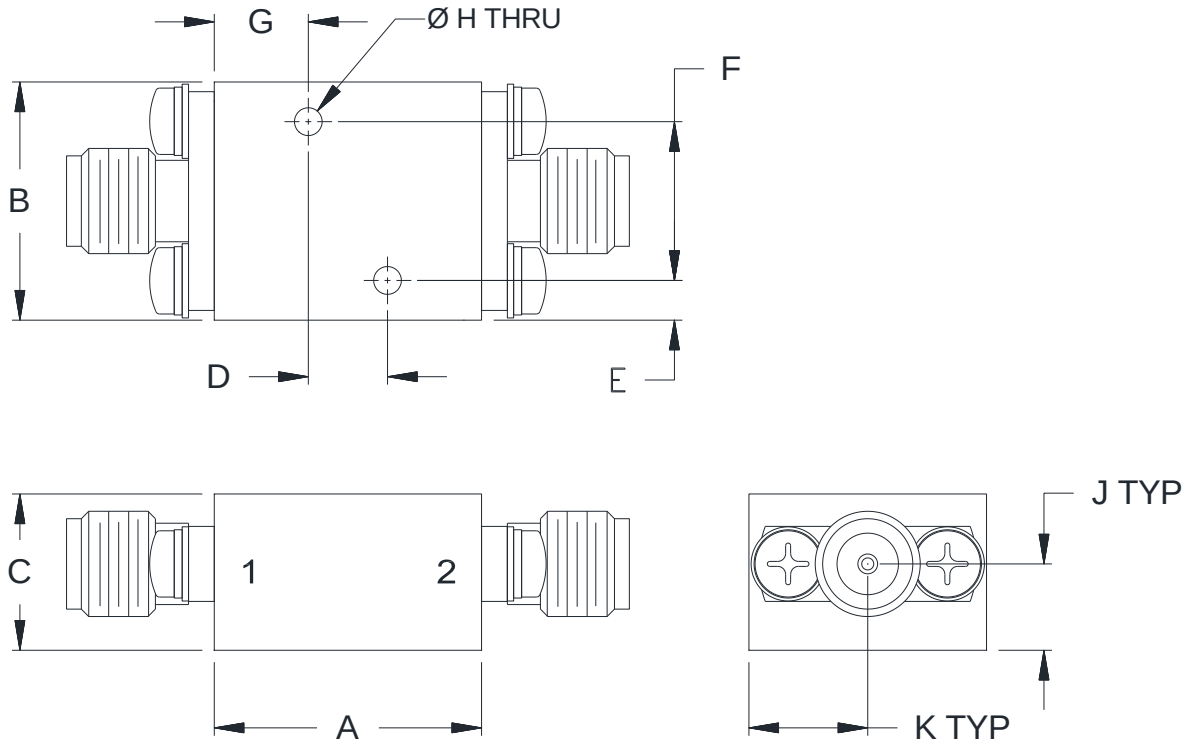
GROUP DELAY vs. TEMPERATURE
INPUT POWER = 0 dBm



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®
ISO 9001 ISO 14001 CERTIFIED
ALL NEW minicircuits.com
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
The Design Engineers Search Engine Provides ACTUAL Data Instantly From MINI-CIRCUITS At: www.minicircuits.com
RF/IF MICROWAVE COMPONENTS

This document and its contents are the property of Mini-Circuits

Mini-Circuits

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

This document and its contents are the property of Mini-Circuits.