

Coaxial High Pass Filter

ZHFG-K2000+

50Ω 2100 to 10000 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, 55 dB typical

Product Overview

ZHFG-K2000+ is a 50Ω high pass filter built in broadband connectorized package. Covering 2100-10000 MHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZHFG-K2000+ 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

ZHFG-K2000+

50Ω 2100 to 10000 MHz



Features

- Very good rejection, 55dB typ.
- Temperature stable

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CASE STYLE: UK3042
Connectors Model
2.92mm-F ZHFG-K2000+

+RoHS Compliant

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

Applications

- Test and measurements
- Military applications
- Telecommunications and broadband wireless systems
- 5G Sub 6 GHz
- WiFi 6E and X-band Radar
- UWB, ISM Band and Zigbee

Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Stop Band	Rejection Loss	DC-F1	DC - 1100	45	55	-	dB
		F1-F2	1100 - 1530	20	31	-	dB
	Freq. Cut-Off	F3*	1930	-	3.0	-	dB
Pass Band	Insertion Loss	F4-F5	2100 - 2300	-	1.8	-	dB
		F5-F6	2300 - 2800	-	1.5	2.4	dB
	Return loss	F6-F7	2800 - 10000	-	1.2	2	dB
		F4-F7	2100 - 10000	-	12	-	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.

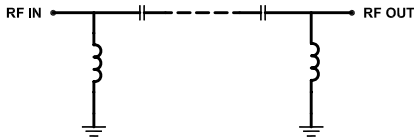
Maximum Ratings

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

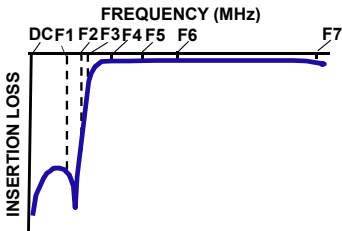
*Passband rating, derate linearly to 0.9 at 125°C ambient

Permanent damage may occur if any of these limits are exceeded.

Functional Schematic

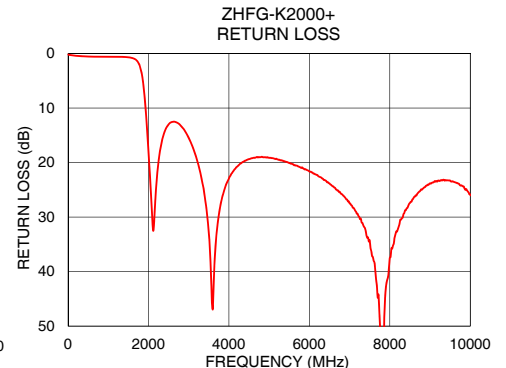
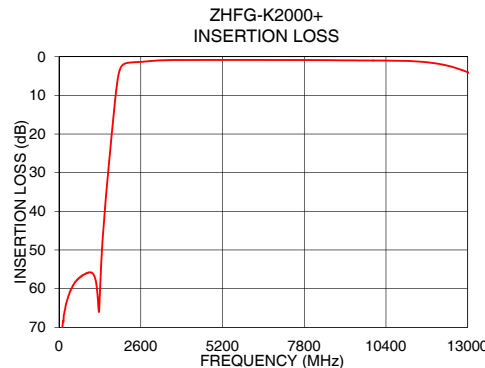
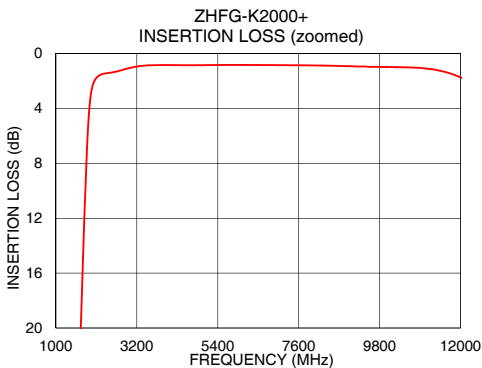


Typical Frequency Response



Typical Performance Data at 25°C

Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	84.40	0.17
250	63.16	0.43
500	58.46	0.54
950	55.83	0.59
1100	56.38	0.59
1250	64.65	0.59
1380	48.01	0.62
1530	32.67	0.71
1560	29.99	0.75
1670	20.52	1.05
1790	10.71	2.37
1930	3.41	10.18
2100	1.77	30.99
2300	1.46	17.31
2800	1.19	13.20
3500	0.85	32.81
5000	0.84	19.11
6500	0.83	23.82
8000	0.86	37.49
10000	0.98	25.89



Notes

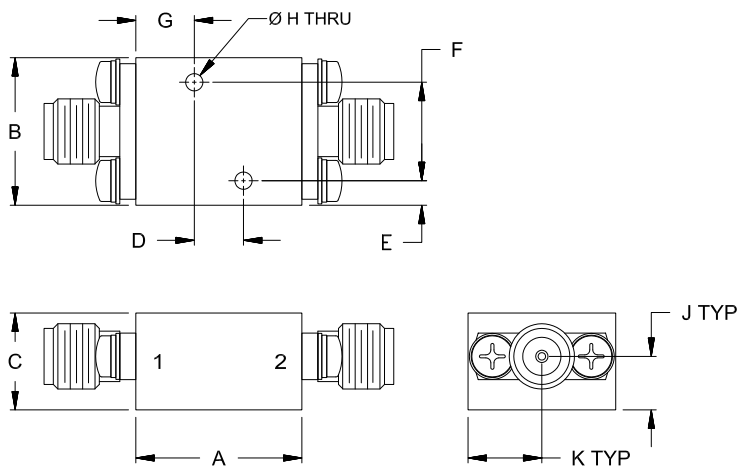
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Coaxial Connections

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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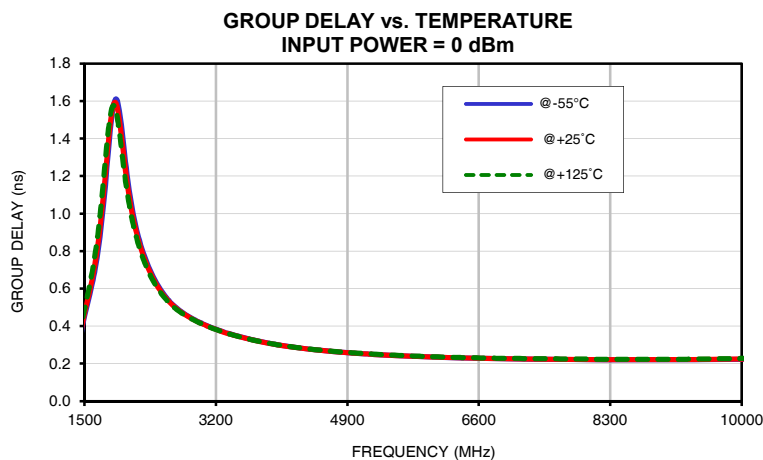
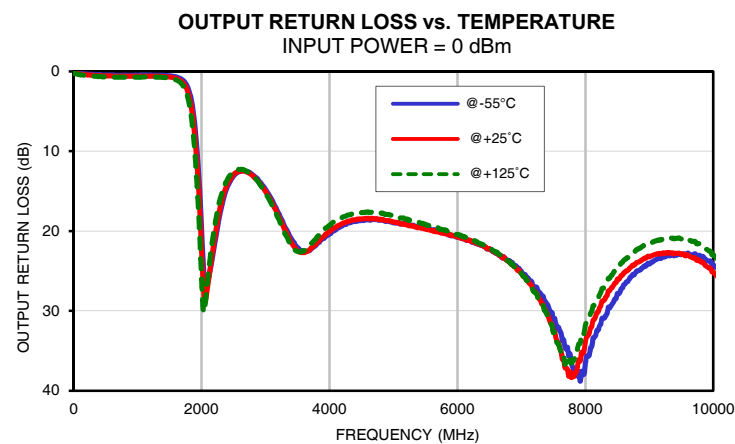
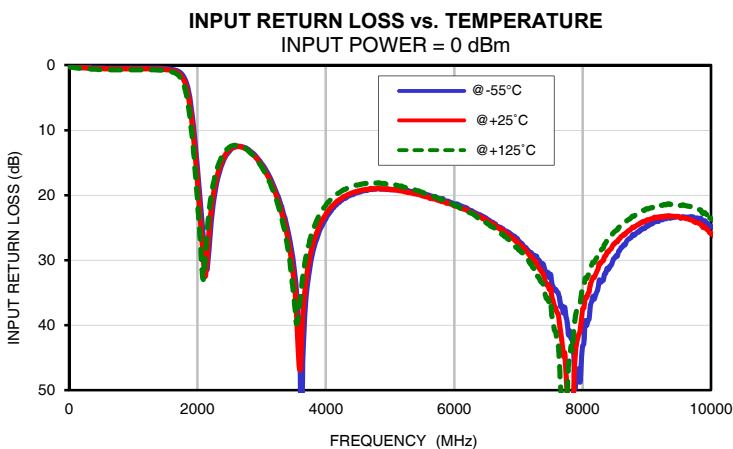
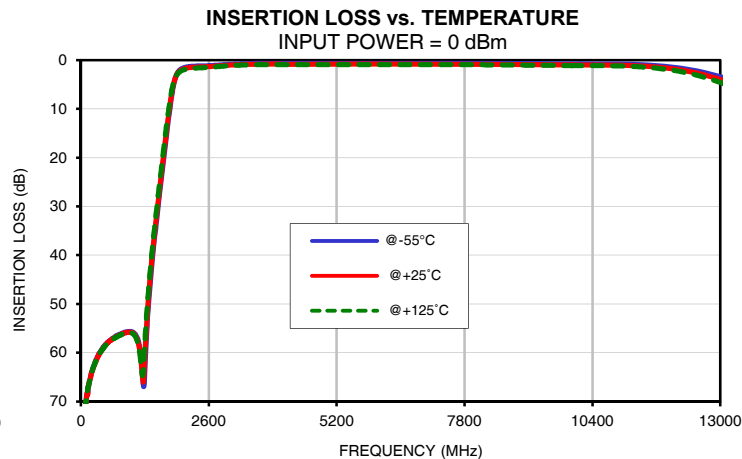
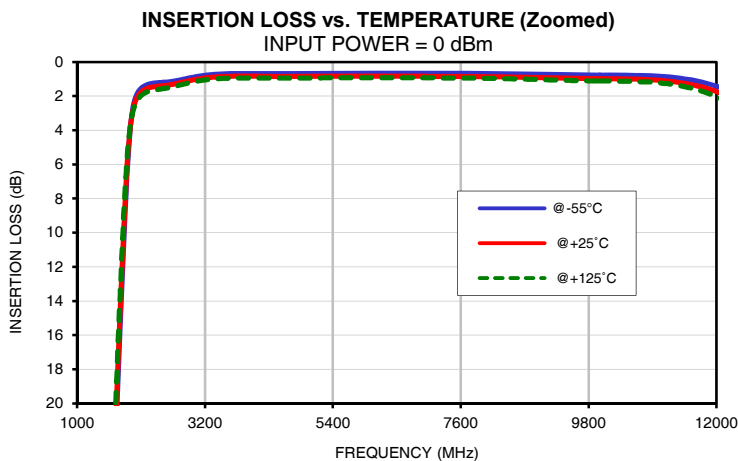
Typical Performance Data

FREQ. (MHz)	INSERTION LOSS			INPUT RETURN LOSS			OUTPUT RETURN LOSS		
	(dB)			(dB)			(dB)		
	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C
10	84.84	84.40	79.95	0.13	0.17	0.23	0.09	0.15	0.19
20	79.95	79.84	88.06	0.19	0.24	0.31	0.19	0.24	0.30
80	72.61	72.36	72.01	0.24	0.30	0.39	0.23	0.32	0.39
100	70.73	70.61	69.91	0.26	0.33	0.42	0.27	0.35	0.43
150	66.87	66.82	67.11	0.30	0.37	0.46	0.30	0.40	0.48
180	65.79	65.67	65.75	0.32	0.39	0.49	0.33	0.43	0.52
200	64.65	64.88	65.07	0.33	0.41	0.51	0.34	0.44	0.53
220	63.93	64.02	64.03	0.35	0.42	0.52	0.36	0.45	0.55
250	63.16	63.16	63.07	0.36	0.43	0.54	0.36	0.47	0.56
300	61.67	61.79	61.85	0.38	0.46	0.58	0.39	0.50	0.60
350	60.64	60.79	60.88	0.40	0.49	0.61	0.41	0.52	0.64
400	59.74	59.95	59.88	0.41	0.51	0.63	0.43	0.54	0.66
450	59.02	59.06	59.29	0.43	0.53	0.66	0.44	0.56	0.68
500	58.38	58.46	58.49	0.44	0.54	0.67	0.45	0.57	0.69
550	57.90	57.91	58.06	0.45	0.56	0.68	0.46	0.59	0.71
600	57.49	57.53	57.61	0.46	0.57	0.69	0.47	0.59	0.72
650	57.06	57.20	57.25	0.47	0.58	0.71	0.48	0.61	0.73
700	56.78	56.84	56.97	0.47	0.58	0.71	0.48	0.62	0.73
750	56.50	56.56	56.64	0.47	0.59	0.71	0.48	0.62	0.74
800	56.21	56.34	56.41	0.48	0.59	0.72	0.49	0.63	0.74
850	56.03	56.15	56.18	0.47	0.59	0.72	0.48	0.63	0.73
900	55.85	55.95	56.01	0.47	0.59	0.72	0.49	0.63	0.73
950	55.69	55.83	55.93	0.47	0.59	0.72	0.48	0.63	0.73
1000	55.70	55.83	55.89	0.47	0.59	0.71	0.48	0.62	0.73
1100	56.21	56.38	56.60	0.47	0.59	0.71	0.47	0.62	0.72
1200	59.09	59.69	60.33	0.47	0.59	0.71	0.48	0.62	0.72
1300	63.83	61.08	58.19	0.47	0.60	0.72	0.48	0.63	0.73
1400	46.82	45.59	44.17	0.49	0.62	0.75	0.51	0.66	0.77
1500	36.37	35.41	34.23	0.54	0.68	0.83	0.57	0.72	0.85
1530	33.60	32.67	31.51	0.56	0.71	0.87	0.60	0.76	0.90
1670	21.41	20.52	19.39	0.82	1.05	1.32	0.90	1.14	1.40
1790	11.44	10.71	9.80	1.85	2.37	3.10	2.08	2.63	3.37
1930	3.40	3.41	3.39	8.60	10.18	12.34	9.87	11.62	14.04
2100	1.55	1.77	1.97	27.37	30.99	32.50	26.23	26.66	25.79
2300	1.25	1.46	1.66	18.18	17.31	16.10	17.42	16.80	15.80
2500	1.19	1.38	1.55	13.19	13.00	12.61	13.14	12.96	12.58
2800	1.03	1.19	1.32	13.04	13.20	13.23	12.94	13.09	13.08
3000	0.89	1.05	1.17	15.12	15.44	15.66	14.77	15.03	15.21
3200	0.78	0.94	1.05	18.84	19.36	19.90	17.70	18.05	18.41
3400	0.72	0.87	0.98	25.19	26.24	27.69	20.89	21.34	21.73
3600	0.68	0.84	0.95	46.44	46.89	36.24	22.61	22.71	22.49
3800	0.67	0.83	0.94	28.60	27.44	25.29	21.65	21.51	20.83
4000	0.67	0.83	0.94	23.60	22.95	21.56	20.32	20.05	19.28
4200	0.68	0.84	0.94	21.16	20.77	19.67	19.35	19.07	18.31
4400	0.68	0.84	0.95	19.92	19.65	18.67	18.83	18.61	17.83
4600	0.68	0.84	0.95	19.29	19.15	18.22	18.53	18.40	17.60
4800	0.68	0.84	0.95	19.01	18.99	18.12	18.59	18.52	17.75
5000	0.68	0.84	0.94	19.13	19.11	18.32	18.98	18.89	18.13
5200	0.67	0.83	0.93	19.23	19.39	18.71	19.14	19.20	18.49
5400	0.67	0.83	0.92	19.63	19.82	19.26	19.46	19.55	18.92
5600	0.66	0.82	0.92	19.98	20.32	19.90	19.84	19.94	19.46
5800	0.65	0.82	0.91	20.69	20.98	20.71	20.31	20.32	19.91
6000	0.66	0.82	0.92	21.37	21.63	21.55	20.77	20.75	20.44
6200	0.65	0.82	0.91	22.00	22.29	22.38	21.17	21.17	20.95
6500	0.66	0.83	0.92	23.54	23.82	24.21	22.21	22.22	22.13
7000	0.66	0.84	0.93	27.05	27.46	28.39	25.04	25.31	25.30
7500	0.67	0.85	0.94	32.17	34.24	36.39	31.01	32.56	32.73
8000	0.68	0.86	0.96	43.22	37.49	34.09	36.49	33.88	31.82
9000	0.71	0.91	1.03	24.67	23.81	22.07	24.14	23.24	21.57
10000	0.78	0.98	1.12	24.81	25.89	23.58	24.28	25.17	23.02

Typical Performance Data

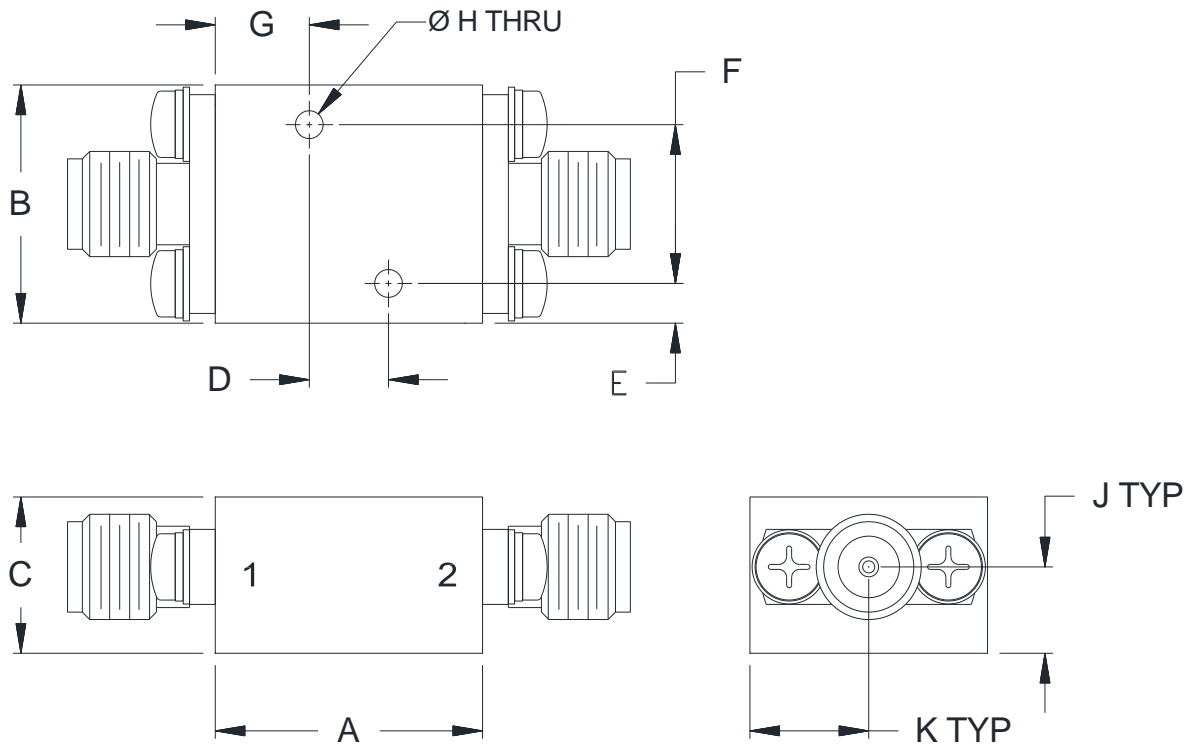
FREQ. (MHz)	GROUP DELAY		
	(nsec)		
	@-55°C	@+25°C	@+125°C
2100	1.07	1.03	1.00
2300	0.75	0.73	0.72
2500	0.59	0.58	0.57
2700	0.49	0.49	0.49
2800	0.46	0.46	0.46
3100	0.40	0.40	0.40
3300	0.37	0.37	0.37
3500	0.35	0.34	0.34
3700	0.32	0.32	0.32
3900	0.31	0.31	0.31
4100	0.29	0.29	0.29
4300	0.28	0.28	0.28
4500	0.27	0.27	0.27
4700	0.27	0.26	0.27
4900	0.26	0.26	0.26
5100	0.25	0.25	0.25
5300	0.25	0.25	0.25
5500	0.24	0.24	0.24
5700	0.24	0.24	0.24
5900	0.24	0.24	0.24
6100	0.23	0.23	0.24
6300	0.23	0.23	0.23
6500	0.23	0.23	0.23
6700	0.23	0.23	0.23
6900	0.23	0.23	0.23
7100	0.23	0.23	0.23
7300	0.22	0.22	0.23
7500	0.22	0.22	0.23
7700	0.22	0.22	0.22
7900	0.22	0.22	0.22
8100	0.22	0.22	0.22
8300	0.22	0.22	0.22
8500	0.22	0.22	0.22
8700	0.22	0.22	0.22
8900	0.22	0.22	0.22
9100	0.22	0.22	0.22
9300	0.22	0.22	0.22
9500	0.22	0.22	0.22
9700	0.22	0.22	0.23
9900	0.22	0.22	0.23
10000	0.22	0.23	0.23

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:

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.



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



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