Coaxial

High Pass Filter

ZHFG-K2750+

50Ω 2900 to 16000 MHz

Generic photo used for illustration purposes only

CASE STYLE: UK3042

The Big Deal

- Good Power Handling, 4 W
- Temperature Stable
- Broadband Connectorized Package
- Good Rejection, 40 dB Typ.

Product Overview

ZHFG-K2750+ is a 50Ω high pass filter built in broadband connectorized package. Covering 2900-16000 MHz bandwidth, these units offer good matching within the passband and good rejection in stopband. ZHFG-K2750+ 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 applications.
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
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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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50Ω 2900 to 16000 MHz

ZHFG-K2750+

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CASE STYLE: UK3042

Connectors	Model
2.92mm-F	ZHFG-K2750+

+RoHS Compliant

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

Features

- Temperature Stable
- Good Power Handling, 4 W

Applications

- Transmitters / Receivers
- Test and Measurements
- Military Applications
- Telecommunications and Broadband Wireless Systems
- 5G Sub 6 GHz
- WiFi 6E and X-band Radar

Functional Schematic

Electrical Specifications at 25°C

Parameter		F#	Frequency (MHz)	Min.	Typ.	Max.	Unit
Stopband	Rejection	DC-F1	DC - 1000	30	40	-	dB
		F1-F2	1000 - 2000	30	37	-	dB
	Freq. Cut-Off	F3*	2750	-	3.0	-	dB
Passband	Insertion Loss	F4-F5	2900 - 3100	-	2.0	-	dB
		F5-F6	3100 - 3500	-	1.5	2.5	dB
		F6-F7	3500 - 14000	-	1.4	2.2	dB
		F7-F8	14000 - 16000	-	1.6	-	dB
	Return Loss	F4-F8	2900 - 16000	-	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.

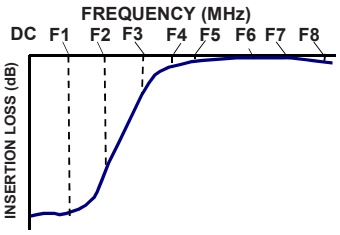
Maximum Ratings	
Operating Temperature	-55°C to 125°C
Storage Temperature	-55°C to 125°C
RF Power Input*	4W max.@25°C

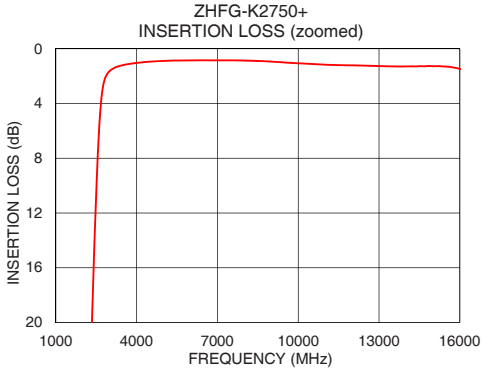
*Passband rating, derate linearly to 0.7W at 125°C ambient
Permanent damage may occur if any of these limits are exceeded.

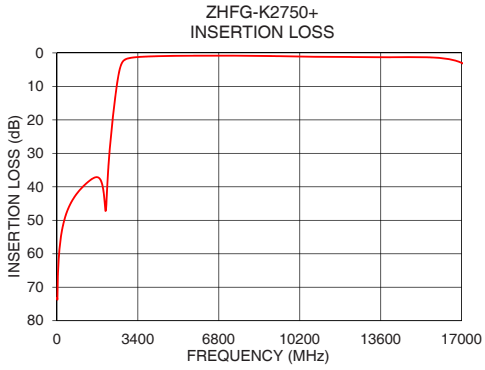
Typical Performance Data at 25°C

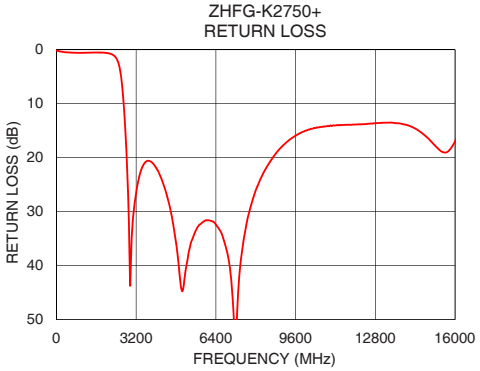
Frequency (MHz)	Insertion Loss (dB)	Return Loss (dB)
10	73.22	0.15
250	51.75	0.40
500	46.08	0.51
1000	40.66	0.57
1500	37.54	0.52
2000	44.08	0.59
2100	41.78	0.67
2200	30.48	0.81
2320	21.31	1.13
2500	10.54	2.66
2700	3.48	10.18
2750	2.78	13.75
2900	1.85	30.76
3100	1.47	29.97
3500	1.19	21.26
5000	0.88	44.00
8000	0.86	26.03
10000	1.06	14.99
14000	1.29	13.89
16000	1.47	16.96

Typical Frequency Response









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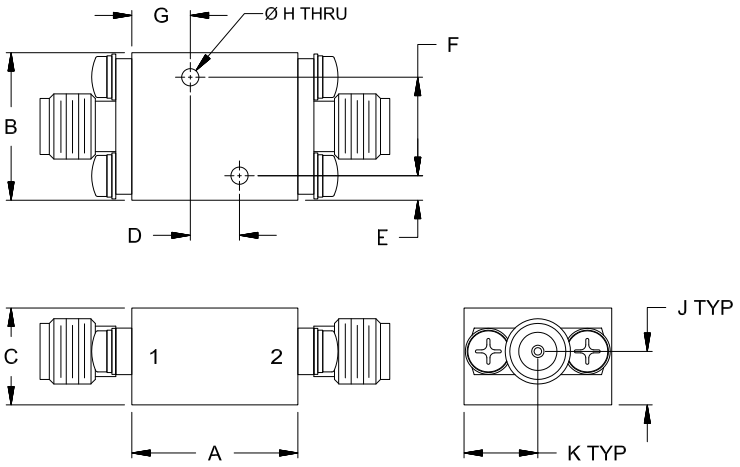
Coaxial Connections

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 High Pass Filter ZHFG-K2750+

Typical Performance Data

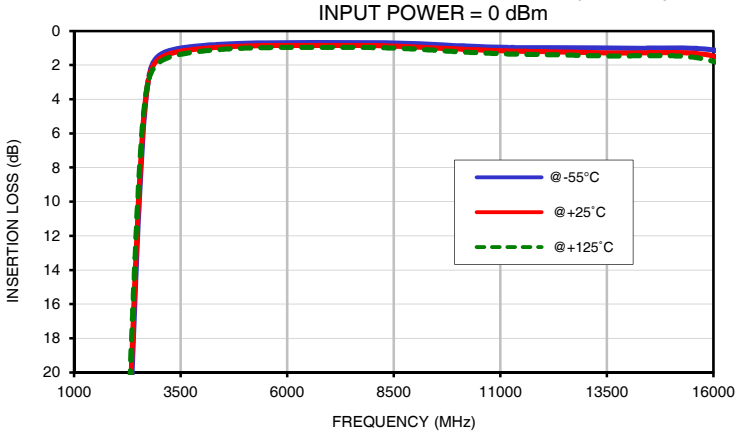
FREQ. (MHz)	INSERTION LOSS (dB)			INPUT RETURN LOSS (dB)			OUTPUT RETURN LOSS (dB)		
	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C	@-55°C	@+25°C	@+125°C
10	76.84	73.22	82.16	0.10	0.15	0.20	0.11	0.15	0.22
20	72.45	73.68	72.61	0.12	0.17	0.23	0.13	0.19	0.25
80	61.10	61.13	61.05	0.18	0.25	0.34	0.20	0.27	0.37
100	59.18	59.25	59.21	0.20	0.27	0.36	0.22	0.29	0.39
150	55.86	55.86	55.97	0.24	0.32	0.42	0.26	0.34	0.45
200	53.50	53.52	53.62	0.28	0.36	0.47	0.30	0.38	0.49
250	51.71	51.75	51.80	0.31	0.40	0.51	0.32	0.41	0.53
300	50.20	50.22	50.26	0.34	0.43	0.54	0.35	0.44	0.56
350	48.93	48.97	49.01	0.36	0.46	0.58	0.37	0.47	0.59
400	47.83	47.90	47.94	0.37	0.48	0.60	0.38	0.49	0.62
450	46.89	46.95	47.03	0.39	0.50	0.63	0.39	0.50	0.63
500	46.04	46.08	46.19	0.40	0.51	0.64	0.40	0.52	0.65
600	44.59	44.63	44.74	0.42	0.54	0.67	0.42	0.54	0.68
700	43.37	43.45	43.55	0.43	0.56	0.69	0.43	0.55	0.69
800	42.34	42.38	42.48	0.44	0.57	0.70	0.44	0.56	0.69
900	41.42	41.48	41.57	0.45	0.57	0.71	0.44	0.57	0.70
1000	40.60	40.66	40.74	0.44	0.57	0.70	0.44	0.56	0.69
1100	39.86	39.90	39.99	0.44	0.56	0.69	0.43	0.55	0.68
1200	39.17	39.21	39.30	0.43	0.56	0.68	0.42	0.54	0.67
1300	38.55	38.58	38.66	0.42	0.55	0.67	0.42	0.53	0.65
1400	37.97	38.01	38.09	0.41	0.54	0.65	0.41	0.52	0.64
1500	37.49	37.54	37.62	0.40	0.52	0.64	0.40	0.51	0.63
1600	37.13	37.20	37.31	0.39	0.52	0.63	0.39	0.51	0.62
1700	37.01	37.13	37.31	0.39	0.52	0.63	0.39	0.51	0.63
1800	37.35	37.59	37.91	0.39	0.52	0.65	0.40	0.52	0.64
1900	38.67	39.20	39.88	0.41	0.55	0.67	0.42	0.54	0.68
2000	42.76	44.08	45.31	0.44	0.59	0.73	0.45	0.59	0.74
2100	45.27	41.78	38.42	0.50	0.67	0.84	0.52	0.68	0.85
2200	32.32	30.48	28.51	0.61	0.81	1.02	0.63	0.82	1.04
2320	22.61	21.31	19.82	0.87	1.13	1.45	0.90	1.16	1.49
2500	11.44	10.54	9.55	2.06	2.66	3.49	2.13	2.75	3.62
2700	3.57	3.48	3.44	8.51	10.18	12.31	8.80	10.56	12.84
2750	2.72	2.78	2.87	11.82	13.75	16.14	12.27	14.32	16.87
2900	1.66	1.85	2.06	27.74	30.76	32.29	28.87	30.02	28.65
2960	1.49	1.70	1.91	44.46	43.74	33.12	34.07	31.51	28.25
3000	1.42	1.62	1.83	41.14	37.28	30.67	32.37	30.45	27.50
3060	1.33	1.52	1.73	33.61	31.92	27.62	31.08	29.62	26.52
3100	1.28	1.47	1.68	31.82	29.97	26.12	31.00	29.17	25.82
3160	1.21	1.41	1.61	29.96	27.72	24.31	31.39	28.44	24.72
3200	1.18	1.37	1.57	28.82	26.45	23.32	31.20	27.67	23.98
3260	1.13	1.32	1.52	27.23	24.88	22.12	29.90	26.26	22.86
3300	1.10	1.29	1.49	26.24	24.00	21.48	28.69	25.32	22.23
3360	1.07	1.26	1.44	24.92	22.89	20.72	26.87	24.01	21.38
3400	1.05	1.23	1.42	24.17	22.29	20.32	25.81	23.25	20.90
3460	1.02	1.20	1.39	23.26	21.59	19.91	24.48	22.32	20.35
3500	1.00	1.19	1.37	22.79	21.26	19.71	23.74	21.81	20.04
3560	0.98	1.16	1.34	22.22	20.88	19.55	22.81	21.19	19.71
3600	0.96	1.15	1.32	21.95	20.72	19.52	22.33	20.88	19.55
3660	0.94	1.12	1.30	21.67	20.59	19.56	21.78	20.55	19.42
3700	0.93	1.11	1.28	21.58	20.58	19.66	21.50	20.37	19.38
4000	0.86	1.03	1.18	22.43	21.84	21.65	21.09	20.46	20.16
5000	0.72	0.88	1.01	40.45	44.00	38.12	32.31	32.73	32.43
6000	0.68	0.84	0.96	34.74	31.59	28.96	27.66	25.69	24.16
7000	0.68	0.84	0.96	42.05	41.94	36.88	25.13	24.26	24.02
8000	0.68	0.86	0.97	27.03	26.03	27.86	25.41	24.73	26.29
10000	0.86	1.06	1.22	15.08	14.99	14.46	14.88	14.81	14.38
12000	0.98	1.21	1.38	13.65	13.86	13.55	14.07	14.29	14.00
14000	1.01	1.29	1.46	14.15	13.89	14.09	13.72	13.37	13.65
15000	1.00	1.27	1.45	16.16	16.80	17.66	16.32	17.10	18.65
16000	1.12	1.47	1.78	17.93	16.96	15.33	23.17	21.10	18.22

Typical Performance Data

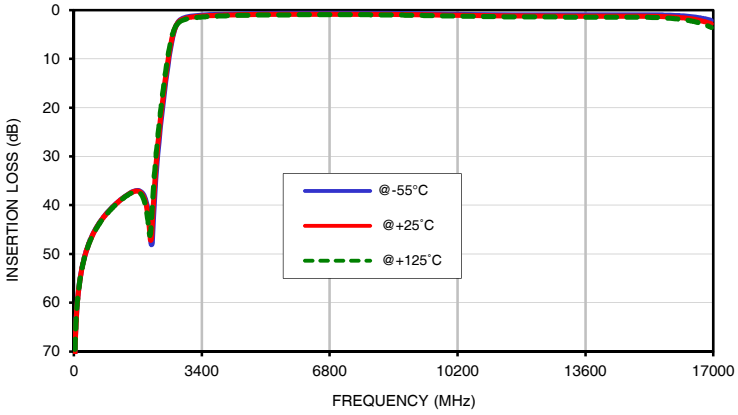
FREQ. (MHz)	GROUP DELAY (nsec)		
	@-55°C	@+25°C	@+125°C
2900	0.84	0.81	0.78
3100	0.64	0.62	0.61
3300	0.53	0.52	0.51
3500	0.46	0.46	0.45
3700	0.41	0.41	0.40
4000	0.37	0.37	0.37
4300	0.34	0.33	0.33
4600	0.31	0.31	0.31
4900	0.29	0.29	0.29
5200	0.28	0.27	0.28
5500	0.26	0.26	0.26
5800	0.25	0.25	0.25
6100	0.25	0.24	0.25
6400	0.24	0.24	0.24
6700	0.23	0.23	0.23
7000	0.23	0.23	0.23
7300	0.22	0.22	0.23
7600	0.22	0.22	0.22
7900	0.22	0.22	0.22
8200	0.22	0.22	0.22
8500	0.21	0.21	0.22
8800	0.21	0.21	0.22
9100	0.21	0.21	0.21
9400	0.21	0.21	0.21
9700	0.21	0.21	0.21
10000	0.21	0.21	0.21
10300	0.21	0.21	0.21
10600	0.20	0.21	0.21
10900	0.20	0.20	0.21
11200	0.20	0.20	0.21
11500	0.20	0.20	0.21
11800	0.20	0.20	0.21
12100	0.20	0.20	0.21
12400	0.20	0.20	0.21
12700	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	0.21
14500	0.21	0.21	0.22
15000	0.22	0.22	0.22
16000	0.23	0.24	0.24

Typical Performance Curves

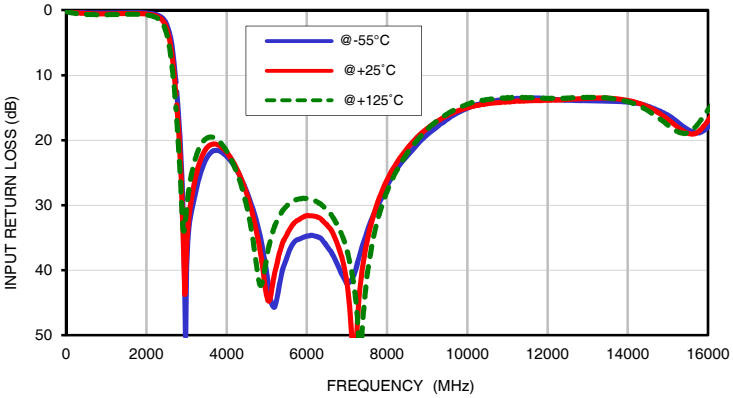
INSERTION LOSS vs. TEMPERATURE (Zoomed)
INPUT POWER = 0 dBm



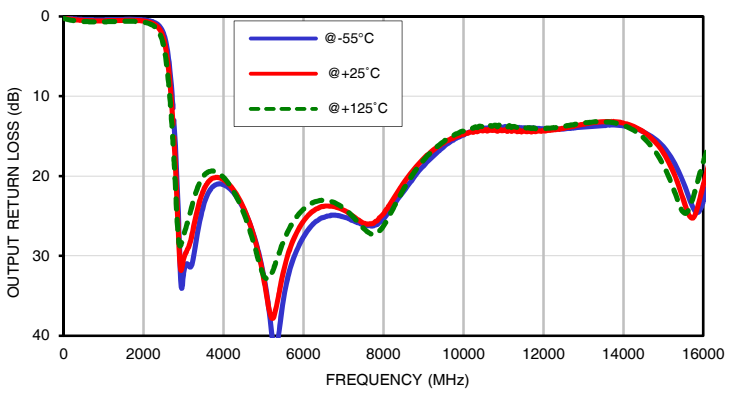
INSERTION LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



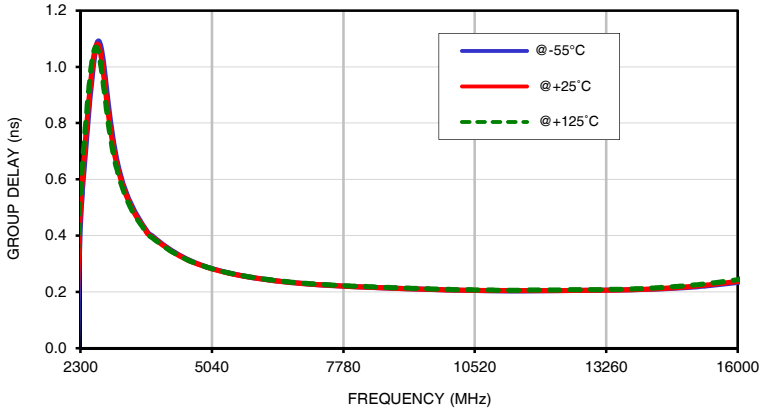
INPUT RETURN LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



OUTPUT RETURN LOSS vs. TEMPERATURE
INPUT POWER = 0 dBm



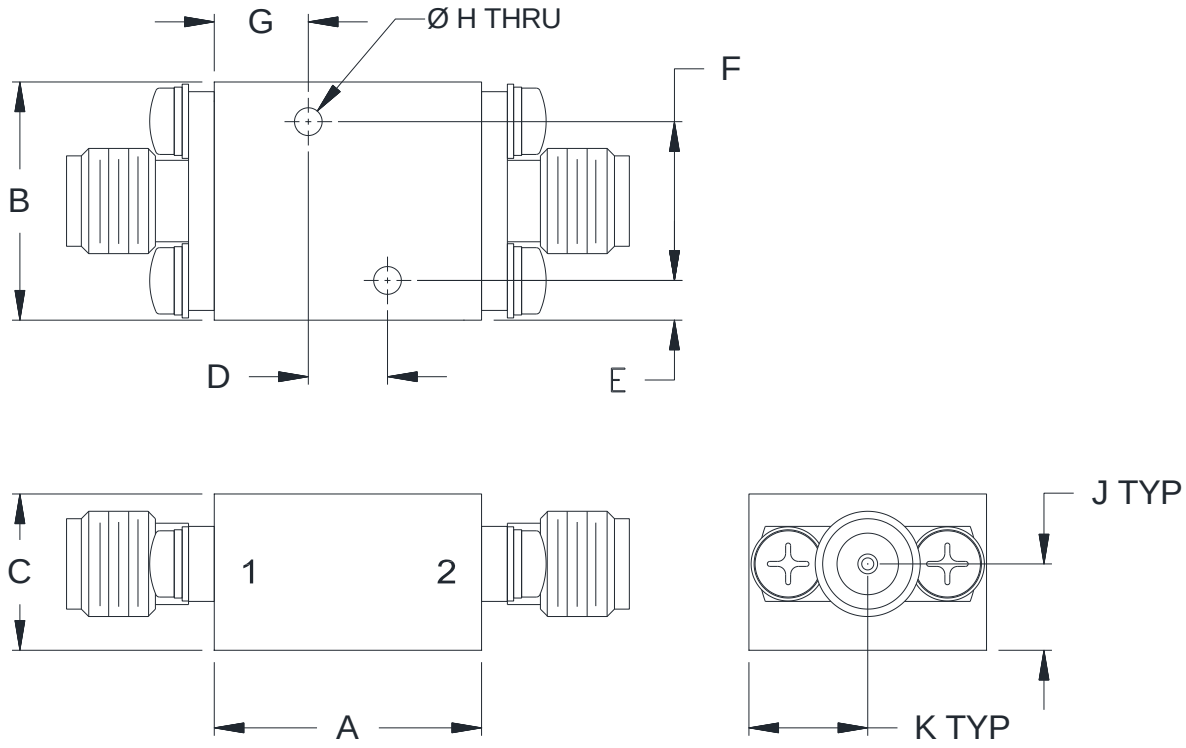
GROUP DELAY vs. TEMPERATURE
INPUT POWER = 0 dBm



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.

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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

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