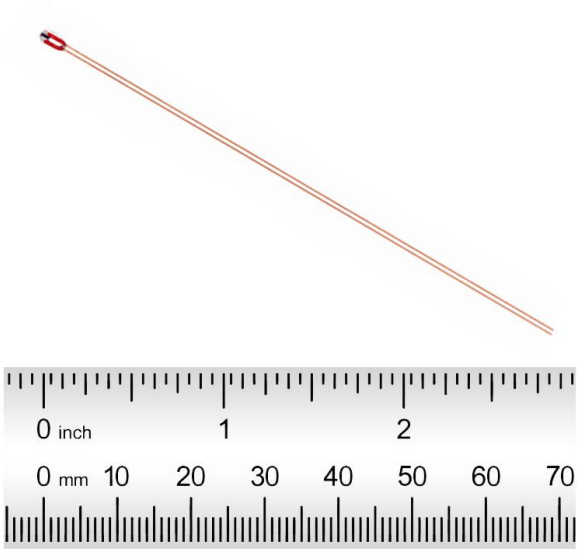


Figure1.1. The physical photo of ATH10KR8B

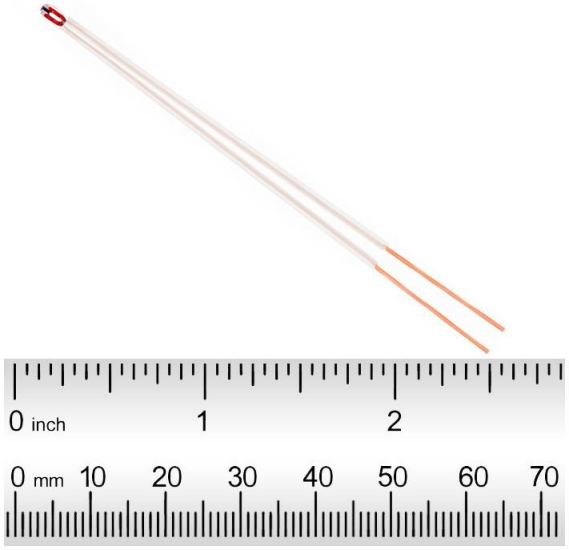


Figure 1.2 The physical photo of ATH10KR8BT65

MAIN FEATURES

Glass Encapsulated for Long Term Stability & Reliability

High Stability: <0.1°C/Y

Small Size: ϕ0.8mm×1.4mm

High Resistance Accuracy: 1%

Short Response Time

Wide Temp. Range: –55°C to 250°C

100 % Lead (Pb)-free and RoHS Compliant

APPLICATIONS

Temperature sensing for laser diodes, optical components, etc.

DESCRIPTION

The ATH10KR8B series thermistor is consisted of three versions, ATH10KR8B as shown in Figure 1.1, ATH10KR8BT65 shown in Figure 1.2 and ATH10KR8BT65S. The ATH10KR8B has bear leads coated with copper, the ATH10KR8BT65S has the leads covered by high temperature plastic tubing and sealed by epoxy, while the ATH10KR8BT65 is the non-sealed version.

Note: This thermistor ATH10KR8B is a replacement for ATH10KR8.

The ATH10KR8B is a high precision glass encapsulated thermistor. Comparing with conventional epoxy encapsulated thermistors, ATH10KR8B presents higher long term stability and wider temperature range. In addition, it has a small size and short response time. In addition, there are two insulation versions available, one of which comes with leads covered by plastic tubing, the ATH10KR8BT65, and the other one, the ATH10KR8BT65S, is sealed between the head and the tubing. They can work under up to 140°C temperature and the latter is of liquid resistant.

The ATH10KR8B series can be used to measure the temperatures for laser diodes, optical components, etc., with high accuracy and long term stability.

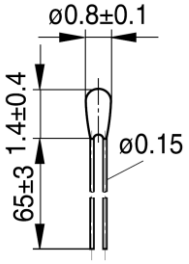


Figure 2. Side View of ATH10KR8B

SPECIFICATIONS

Parameters	Value	
	ATH10KR8B	ATH10KR8
Nominal Resistance @ 25°C	10K ± 1%	10K ± 1%
B Value @ 25°C /85°C	3478K± 1%	3480K ± 1%
B Value @ 0°C /100°C	3450K± 1%	3450K ± 1%
B Value @ 25°C /100°C	3492K± 1%	3497K ± 1%
Thermistor Diameter	0.8 ± 0.1mm	0.8 ± 0.1mm
Thermistor Length	1.4 ± 0.4mm	1.4 ± 0.4mm
Lead Diameter	0.15mm	0.15mm
Lead Length	65± 3mm	63 ± 3mm
Dissipation Factor	0.4mW/K	0.4mW/K
Heat Capacity	1.3mJ/K	1.3mJ/K
Maximum Power @ 25°C	18mW	18mW
Time Constant	0.14s (in water) 2~2.2s (in still air @5~25°C)	0.14s (in water) 2~2.2s (in still air @5~25°C)

APPLICATION

Drill a hole on the object for which the temperature needs to be measured and use thermally conductive epoxy to pot the

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 9/8/2026 Email: staff@analogti.com/sales@analogti.com

thermistor inside the hole. The hole diameter should be between 1.2 to 1.4mm and the depth should between 2 to 2.5mm. When a deeper hole is needed, drill a 2 stage hole to prevent mounting epoxy bobbles trapped inside which would cause temperature measurement errors. Figure 3 shows the section view of the 2 stage hole.

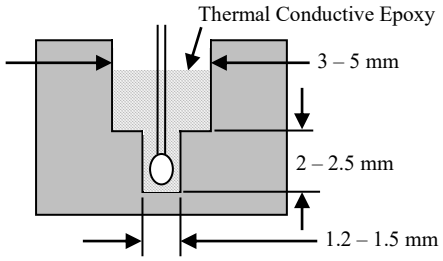


Figure 3. Section View of the 2 Stage Hole

The worst mounting result is that there are air bubbles trapped inside the thermistor mounting hole. These bubbles cause thermal sensing time delay and sensing temperature errors. To avoid the bubbles, use thin epoxy, vibrate the assembly before curing, and cure the epoxy inside the mounting hole at high temperature, 80°C to 150°C, depending on the epoxy used and the maximum temperature assembly components allow.

The thermistor lead wires are made of plain copper and there is no insulation coating on them, please make sure that they do not touch each other after mounting the thermistor.

Some thermal conductive epoxies are also electrically conductive and such epoxies should not be used for mounting the thermistors, since the lead wires are conductive.

Notice: Glass encapsulated cannot be used in water or other liquid directly.

Resistance Temperature Characteristics

Table 1. ATH10KR8B vs. ATH10KR8

T (°C)	R_nom (Ω)		T (°C)	R_nom (Ω)	
	ATH10KR8B	ATH10KR8		ATH10KR8B	ATH10KR8
−55	526240	519911	**50**	4100	4103
−50	384520	379894	**55**	3479.8	3482
−45	284010	280697	**60**	2966.3	2967
−40	211940	209603	**65**	2539.2	2539
−35	159720	158088	**70**	2182.4	2182
−30	121490	120372	**75**	1883	1882
−25	93246	92484	**80**	1630.7	1629
−20	72181	71668	**85**	1417.4	1415
−15	56332	55993	**90**	1236.2	1234
−10	44308	44087	**95**	1081.8	1079
−5	35112	34971	**100**	949.73	946.6
0	28024	27936	**105**	836.4	833.1
5	22520	22468	**110**	738.81	735.5
10	18216	18187	**115**	654.5	651.1
15	14827	14813	**120**	581.44	578.1
20	12142	12136	**125**	517.94	514.6
25	10000	10000	**130**	462.59	459.4
30	8281.8	8284	**135**	414.2	411.1
35	6895.4	6899	**140**	371.79	368.8
40	5770.3	5774	**145**	334.51	331.6
45	4852.5	4856	**150**	301.66	298.9

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 9/8/2026 Email: staff@analogti.com/sales@analogti.com

T (°C)	R_nom (Ω)		T (°C)	R_nom (Ω)	
	ATH10KR8B	ATH10KR8		ATH10KR8B	ATH10KR8
155	272.64	270.0	**205**	110.51	109.1
160	246.94	244.4	**210**	101.94	100.7
165	224.14	221.7	**215**	94.181	93.01
170	203.85	201.6	**220**	87.144	86.08
175	185.77	183.6	**225**	807.51	79.78
180	169.61	167.6	**230**	74.933	74.05
185	155.14	153.3	**235**	69.631	68.83
190	142.16	140.4	**240**	64.791	64.08
195	130.49	128.9	**245**	60.366	59.73
200	119.99	118.5	**250**	56.316	55.75

Table 2. α (Temperature coefficient at T in %/K)－ATH10KR8B

T (°C)	α (%/K)	T (°C)	α (%/K)	T (°C)	α (%/K)
−55	6.4	**50**	3.3	**155**	2.0
−50	6.2	**55**	3.2	**160**	2.0
−45	6.0	**60**	3.2	**165**	1.9
−40	5.8	**65**	3.1	**170**	1.9
−35	5.6	**70**	3.0	**175**	1.8
−30	5.4	**75**	2.9	**180**	1.8
−25	5.2	**80**	2.8	**185**	1.8
−20	5.0	**85**	2.8	**190**	1.7
−15	4.9	**90**	2.7	**195**	1.7
−10	4.7	**95**	2.6	**200**	1.7
−5	4.6	**100**	2.6	**205**	1.6
0	4.4	**105**	2.5	**210**	1.6
5	4.3	**110**	2.5	**215**	1.6
10	4.2	**115**	2.4	**220**	1.5
15	4.1	**120**	2.3	**225**	1.5
20	3.9	**125**	2.3	**230**	1.5
25	3.8	**130**	2.2	**235**	1.5
30	3.7	**135**	2.2	**240**	1.4
35	3.6	**140**	2.1	**245**	1.4
40	3.5	**145**	2.1	**250**	1.4
45	3.4	**150**	2.0		

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 9/8/2026 Email: staff@analogti.com/sales@analogti.com

ORDERING INFORMATIONS

Table 2. Part Number of the Thermistors

Part #	Description
ATH10KR8B	High stability miniature thermistor with bare leads
ATH10KR8BT65	High stability miniature thermistor with leads covered by high temperature plastic tubing
ATH10KR8BT65S	High stability miniature thermistor with leads covered by high temperature plastic tubing and sealed by epoxy

NOTICE

1. ATI reserves the right to make changes to its products or to discontinue any product or service without notice, and advise customers to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete.
2. All products are sold subject to the terms and conditions of sale supplied at the time of order acknowledgment, including those pertaining to warranty, patent infringement, and limitation of liability. Testing and other quality control techniques are utilized to the extent ATI deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.
3. Customers are responsible for their applications using ATI components. In order to minimize risks associated with the customers' applications, adequate design and operating safeguards must be provided by the customers to minimize inherent or procedural hazards. ATI assumes no liability for applications assistance or customer product design.
4. ATI does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right of ATI covering or relating to any combination, machine, or process in which such products or services might be or are used. ATI's publication of information regarding any third party's products or services does not constitute ATI's approval, warranty or endorsement thereof.
5. IP (Intellectual Property) Ownership: ATI retains the ownership of full rights for special technologies and/or techniques embedded in its products, the designs for mechanics, optics, plus all modifications, improvements, and inventions made by ATI for its products and/or projects.

©Copyrights 2000-2026, Analog Technologies, Inc. All Rights Reserved. Updated on 9/8/2026