Ultra-Stable Miniature Thermistor

ATH10K1R3B3950K0.5%

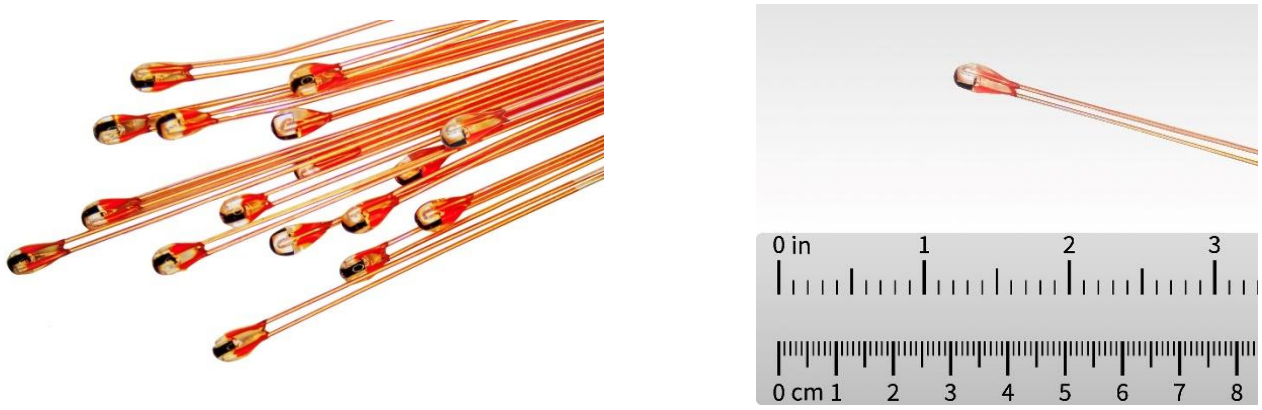


Figure 1. The Physical Photo of ATH10K1R3B3950K0.5%

MAIN FEATURES

Glass Encapsulated for Long Term Stability & Reliability
High Stability: 0.02 ~ 0.1°C/year
Small Size: ϕ1.3mm ×2.4mm
High Resistance Accuracy: 0.5%
Quick Response Time: 7s
Wide Temp. Range: –40°C to 250°C
Leads: dumet wires (copper-clad FeNi)
100% Lead (Pb)-free and RoHS Compliant

APPLICATIONS

The ATH10K1R3B3950K0.5% thermistor is ideal for temperature sensing in high-precision devices such as laser diodes and optical components that require accurate temperature monitoring. In addition, due to its low cost, it is also suitable for use in automotive electronics, industrial electronics, and home appliances where cost-effective temperature sensing is required.

DESCRIPTION

Figure 1 displays the ATH10K1R3B3950K0.5% thermistor, which boasts high precision and a glass encapsulation design. In contrast to conventional epoxy-encapsulated thermistors, the ATH10K1R3B3950K0.5% offers superior long-term stability and a wider temperature range. Moreover, it has a compact size and a quick response time.

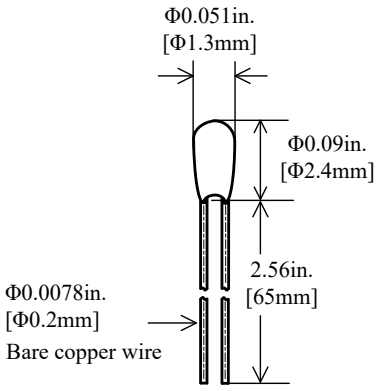


Figure 2. Side View of ATH10K1R3B3950K0.5%

SPECIFICATIONS

Parameters	Symbol	Value
Nominal Resistance @ 25°C	R_{25}	10K ± 0.5%
B Value @ 25°C /50°C	$B_{25/50}$	3950K ± 1%
Thermistor Diameter	D_T	1.3 ± 0.2mm
Thermistor Length	L_T	2.4 ± 0.5mm
Lead Diameter	D_L	0.2± 0.05mm
Lead Length	L_L	65 ± 5mm
Dissipation Factor	δ_{th}	0.9mW/°C
Insulation Resistance	R_{is}	≥100MΩ
Maximum Power @ 25°C	P_{max}	35mW
Time Constant	τ_c	7s (in still air @5~25°C)

APPLICATION

One common issue encountered when potting the thermistor into a solid object to sense its temperature is the formation of air bubbles within the epoxy between the thermistor bead and the target object. These air bubbles can significantly delay the thermistor's response time. To address this problem, it is recommended to drill a deep counterbore hole and use thermal conductive epoxy to pot the thermistor at the bottom of the hole, as illustrated in Figure 3. This method effectively reduces the formation of air bubbles and enhances the thermistor's overall performance.

To prevent the formation of air bubbles during the potting process, it is recommended to cure the epoxy at the temperature specified by the manufacturer. For optimal results, curing should be conducted in a vacuum environment and/or on top of a vibration platform to eliminate any remaining air pockets. By taking these measures, the potting process can be optimized, resulting in accurate temperature sensing with the shortest possible response time.

The ATH10K1R3B3950K0.5% thermistor is terminated with leaded bare copper wires. For applications that require insulated lead wires, we offer insulation tubing. For more information, please click **HERE**.

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The radial glass bead encapsulation NTC thermistor exhibits superior resistance to heat and climatic conditions and have a long lifetime compared to resin-coated thermistors. It is made of bonding lead wire, gold/silver electrodes and qualified ceramic thermistor chip, which makes it keep stable characteristics. It features long-term stability, reliability, wide temperature range and fast thermal response time. Multiple bead diameters and sensor spec. are available. And they can be easily incorporated into various housing options because of their small size.

Please note that the ATH10K1R3B3950K0.5% thermistor is not designed for direct immersion in water or other electrically conductive or corrosive liquids, due to the non-isolated nature of its leads. Doing so may result in inaccurate resistance readings, damage to the thermistor's leads, or pose a safety hazard.

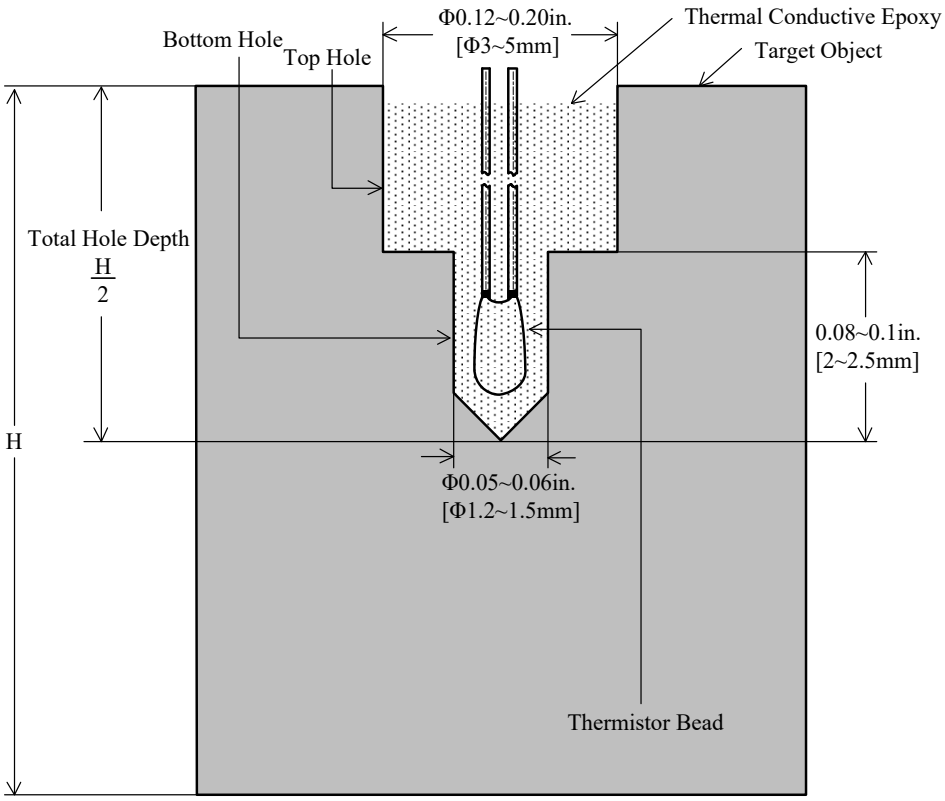


Figure 3. Section View of Recommended Counterbore Hole

PART NUMBER CONVENTION

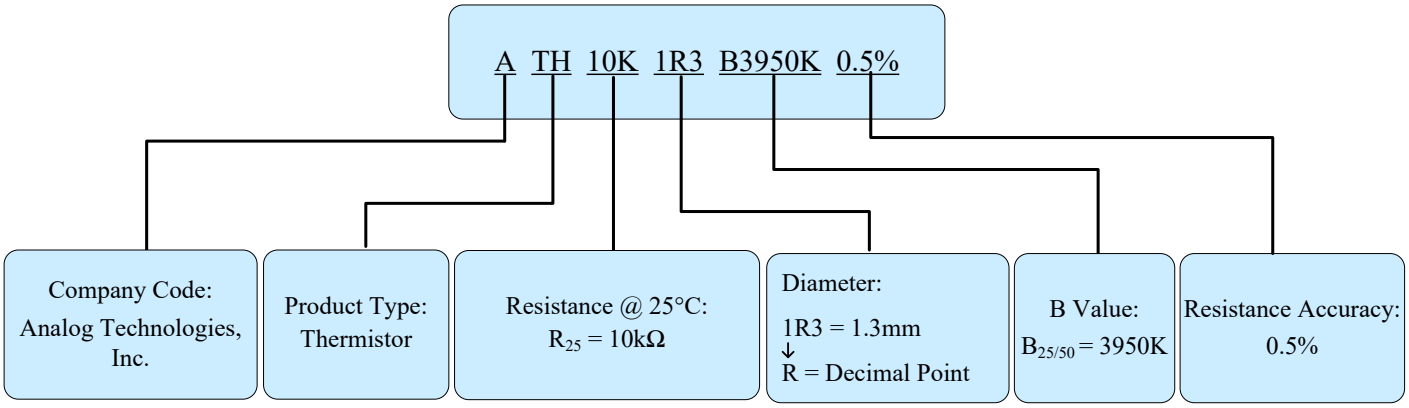


Figure 4. Part Number Convention of ATH10K1R3B3950K0.5%

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RESISTANCE TEMPERATURE CHARACTERISTICS

$B_{25/50}$ = 3950K, R_{25} = 10kΩ, T_R = 25°C, $\frac{\Delta R_T}{R_T}$: ± 0.5%,

T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
−55	759.987	798.001	837.894	4.88	0.09	17.31
−54	600.995	629.561	659.469	4.64	0.11	15.66
−53	510.926	534.334	558.801	4.48	0.16	14.21
−52	457.310	477.727	499.042	4.37	0.23	9.58
−51	424.155	442.755	462.159	4.29	0.33	6.49
−50	402.801	420.245	438.433	4.24	0.47	4.51
−49	388.190	404.850	422.214	4.20	0.63	3.33
−48	377.195	393.269	410.018	4.17	0.77	2.73
−47	367.832	383.409	399.637	4.15	0.82	2.52
−46	358.848	373.952	389.682	4.12	0.80	2.58
−45	349.493	364.105	379.320	4.10	0.73	2.81
−44	339.368	353.453	368.113	4.07	0.65	3.15
−43	328.332	341.844	355.904	4.03	0.57	3.53
−42	316.408	329.307	342.723	4.00	0.51	3.93
−41	303.733	315.984	328.722	3.95	0.46	4.31
−40	290.499	302.081	314.116	3.91	0.42	4.66
−39	276.925	287.826	299.149	3.86	0.39	4.97
−38	263.224	273.445	284.057	3.81	0.36	5.24
−37	249.591	259.144	269.056	3.76	0.34	5.47
−36	236.193	245.096	254.329	3.70	0.33	5.65
−35	223.162	231.441	240.022	3.64	0.31	5.79
−34	210.599	218.285	226.245	3.58	0.30	5.90
−33	198.576	205.701	213.076	3.52	0.30	5.97
−32	187.137	193.735	200.561	3.46	0.29	6.01
−31	176.306	182.413	188.726	3.40	0.28	6.03
−30	166.089	171.738	177.574	3.34	0.28	6.03
−29	156.477	161.702	167.097	3.28	0.27	6.01
−28	147.455	152.287	157.274	3.22	0.27	5.99
−27	138.998	143.468	148.077	3.16	0.27	5.95
−26	131.079	135.213	139.475	3.10	0.26	5.91
−25	123.665	127.491	131.431	3.05	0.26	5.86

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T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
−24	116.726	120.266	123.911	2.99	0.26	5.81
−23	110.229	113.507	116.880	2.93	0.25	5.76
−22	104.144	107.180	110.301	2.87	0.25	5.72
−21	98.442	101.254	104.144	2.82	0.25	5.67
−20	93.095	95.700	98.376	2.76	0.25	5.62
−19	88.076	90.490	92.968	2.70	0.24	5.58
−18	83.362	85.599	87.894	2.65	0.24	5.54
−17	78.930	81.004	83.130	2.59	0.24	5.50
−16	74.761	76.683	78.652	2.54	0.23	5.47
−15	70.834	72.616	74.440	2.48	0.23	5.44
−14	67.135	68.786	70.476	2.43	0.22	5.41
−13	63.647	65.177	66.742	2.37	0.22	5.38
−12	60.355	61.773	63.223	2.32	0.22	5.35
−11	57.248	58.562	59.904	2.27	0.21	5.33
−10	54.314	55.531	56.773	2.21	0.21	5.31
−9	51.541	52.668	53.818	2.16	0.20	5.29
−8	48.920	49.963	51.027	2.11	0.20	5.26
−7	46.442	47.407	48.391	2.06	0.20	5.24
−6	44.098	44.991	45.901	2.00	0.19	5.22
−5	41.880	42.706	43.547	1.95	0.19	5.20
−4	39.782	40.546	41.323	1.90	0.18	5.18
−3	37.797	38.502	39.220	1.85	0.18	5.16
−2	35.918	36.569	37.232	1.80	0.17	5.14
−1	34.139	34.741	35.352	1.75	0.17	5.12
0	32.456	33.011	33.574	1.69	0.17	5.10
1	30.862	31.373	31.893	1.64	0.16	5.08
2	29.352	29.824	30.302	1.59	0.16	5.05
3	27.923	28.358	28.798	1.54	0.15	5.03
4	26.570	26.970	27.375	1.49	0.15	5.01
5	25.288	25.656	26.028	1.44	0.14	4.99
6	24.074	24.412	24.754	1.39	0.14	4.96
7	22.924	23.235	23.548	1.34	0.14	4.93

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T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
8	21.835	22.119	22.407	1.29	0.13	4.91
9	20.803	21.063	21.327	1.24	0.12	5.01
10	19.771	20.009	20.248	1.19	0.12	4.87
11	18.897	19.116	19.336	1.15	0.12	4.68
12	18.019	18.218	18.419	1.10	0.11	4.80
13	17.185	17.367	17.551	1.05	0.11	4.77
14	16.395	16.561	16.728	1.01	0.11	4.74
15	15.646	15.796	15.948	0.96	0.10	4.72
16	14.935	15.071	15.209	0.91	0.10	4.68
17	14.260	14.384	14.508	0.86	0.09	4.66
18	13.619	13.731	13.844	0.82	0.09	4.63
19	13.011	13.112	13.213	0.77	0.08	4.60
20	12.434	12.525	12.616	0.73	0.08	4.57
21	11.885	11.967	12.048	0.68	0.07	4.55
22	11.364	11.437	11.509	0.63	0.07	4.52
23	10.869	10.933	10.998	0.59	0.07	4.49
24	10.398	10.455	10.512	0.55	0.06	4.46
25	9.951	10.001	10.050	0.49	0.06	4.43
26	9.516	9.568	9.620	0.54	0.06	4.41
27	9.103	9.157	9.211	0.59	0.07	4.38
28	8.711	8.766	8.822	0.63	0.07	4.35
29	8.337	8.394	8.451	0.68	0.08	4.32
30	7.982	8.040	8.098	0.72	0.08	4.30
31	7.644	7.703	7.761	0.76	0.09	4.28
32	7.322	7.381	7.441	0.81	0.09	4.25
33	7.016	7.075	7.135	0.84	0.10	4.22
34	6.724	6.784	6.844	0.88	0.11	4.19
35	6.445	6.506	6.566	0.93	0.11	4.17
36	6.180	6.241	6.302	0.98	0.12	4.15
37	5.928	5.988	6.049	1.01	0.12	4.12
38	5.687	5.747	5.808	1.05	0.13	4.10
39	5.457	5.517	5.578	1.10	0.13	4.08

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	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
40	5.237	5.297	5.358	1.14	0.14	4.05
41	5.028	5.088	5.148	1.18	0.15	4.02
42	4.828	4.888	4.947	1.22	0.15	4.01
43	4.638	4.696	4.756	1.26	0.16	3.98
44	4.455	4.514	4.572	1.30	0.16	3.95
45	4.281	4.339	4.397	1.34	0.17	3.94
46	4.115	4.172	4.230	1.38	0.18	3.91
47	3.956	4.013	4.070	1.42	0.18	3.89
48	3.804	3.860	3.916	1.45	0.19	3.87
49	3.659	3.714	3.770	1.49	0.19	3.84
50	3.520	3.575	3.630	1.54	0.20	3.82
51	3.387	3.441	3.495	1.57	0.21	3.81
52	3.260	3.313	3.367	1.61	0.21	3.77
53	3.138	3.191	3.243	1.65	0.22	3.76
54	3.022	3.073	3.125	1.68	0.22	3.74
55	2.910	2.961	3.012	1.72	0.23	3.71
56	2.804	2.853	2.904	1.75	0.24	3.70
57	2.701	2.750	2.800	1.80	0.25	3.67
58	2.603	2.651	2.700	1.83	0.25	3.64
59	2.509	2.557	2.605	1.88	0.26	3.62
60	2.419	2.466	2.513	1.91	0.26	3.61
61	2.333	2.379	2.425	1.93	0.27	3.59
62	2.250	2.295	2.341	1.98	0.28	3.57
63	2.171	2.215	2.260	2.01	0.28	3.54
64	2.094	2.138	2.182	2.06	0.29	3.53
65	2.021	2.064	2.107	2.08	0.30	3.51
66	1.951	1.993	2.035	2.11	0.30	3.49
67	1.884	1.925	1.966	2.13	0.31	3.48
68	1.819	1.859	1.900	2.18	0.31	3.47
69	1.757	1.796	1.837	2.23	0.33	3.42
70	1.697	1.736	1.775	2.25	0.33	3.40
71	1.640	1.678	1.717	2.29	0.34	3.40

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	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
72	1.585	1.622	1.660	2.31	0.34	3.39
73	1.532	1.568	1.606	2.36	0.35	3.35
74	1.481	1.517	1.553	2.37	0.36	3.33
75	1.432	1.467	1.503	2.42	0.36	3.34
76	1.385	1.419	1.454	2.43	0.37	3.31
77	1.339	1.373	1.408	2.51	0.38	3.28
78	1.296	1.329	1.363	2.52	0.39	3.27
79	1.254	1.286	1.319	2.53	0.39	3.27
80	1.213	1.245	1.278	2.61	0.41	3.21
81	1.175	1.206	1.238	2.61	0.41	3.19
82	1.137	1.168	1.199	2.65	0.41	3.21
83	1.101	1.131	1.162	2.70	0.42	3.18
84	1.066	1.096	1.126	2.74	0.43	3.15
85	1.033	1.062	1.091	2.73	0.43	3.15
86	1.001	1.029	1.058	2.77	0.44	3.16
87	0.969	0.997	1.025	2.81	0.44	3.16
88	0.939	0.966	0.994	2.85	0.46	3.11
89	0.910	0.937	0.964	2.88	0.47	3.04
90	0.883	0.909	0.935	2.86	0.46	3.08
91	0.856	0.881	0.907	2.89	0.47	3.06
92	0.830	0.855	0.880	2.92	0.48	3.04
93	0.805	0.829	0.854	2.96	0.49	3.02
94	0.781	0.805	0.829	2.98	0.50	2.98
95	0.757	0.781	0.805	3.07	0.51	3.01
96	0.735	0.758	0.781	3.03	0.51	2.97
97	0.713	0.736	0.759	3.13	0.52	2.99
98	0.692	0.714	0.737	3.15	0.52	3.01
99	0.672	0.693	0.716	3.17	0.55	2.89
100	0.652	0.674	0.695	3.19	0.55	2.89
101	0.633	0.654	0.676	3.29	0.57	2.91
102	0.615	0.636	0.657	3.30	0.57	2.91
103	0.598	0.617	0.638	3.24	0.56	2.92

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	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
104	0.581	0.600	0.620	3.25	0.57	2.83
105	0.564	0.583	0.603	3.34	0.59	2.83
106	0.548	0.567	0.586	3.35	0.59	2.82
107	0.533	0.551	0.570	3.36	0.60	2.81
108	0.518	0.536	0.555	3.45	0.62	2.80
109	0.504	0.521	0.539	3.36	0.60	2.78
110	0.490	0.507	0.525	3.45	0.63	2.76
111	0.476	0.493	0.511	3.55	0.65	2.74
112	0.463	0.480	0.497	3.54	0.65	2.71
113	0.451	0.467	0.484	3.53	0.63	2.78
114	0.438	0.454	0.471	3.63	0.66	2.75
115	0.427	0.442	0.459	3.62	0.70	2.60
116	0.415	0.431	0.447	3.71	0.70	2.67
117	0.404	0.419	0.435	3.70	0.67	2.74
118	0.394	0.408	0.424	3.68	0.71	2.57
119	0.383	0.398	0.413	3.77	0.75	2.51
120	0.373	0.388	0.402	3.74	0.73	2.58
121	0.364	0.378	0.392	3.70	0.70	2.65
122	0.354	0.368	0.382	3.80	0.74	2.58
123	0.345	0.359	0.373	3.90	0.78	2.51
124	0.336	0.350	0.363	3.86	0.75	2.57
125	0.328	0.341	0.354	3.81	0.72	2.64
126	0.320	0.332	0.346	3.92	0.76	2.56
127	0.312	0.324	0.337	3.86	0.78	2.47
128	0.304	0.316	0.329	3.96	0.83	2.37
129	0.297	0.309	0.321	3.88	0.80	2.43
130	0.289	0.301	0.313	3.99	0.80	2.49
131	0.282	0.294	0.306	4.08	0.86	2.38
132	0.275	0.287	0.299	4.18	0.86	2.44
133	0.269	0.280	0.292	4.11	0.82	2.50
134	0.262	0.273	0.285	4.21	0.88	2.38
135	0.256	0.267	0.278	4.12	0.92	2.25

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T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
136	0.250	0.261	0.272	4.21	0.92	2.30
137	0.244	0.255	0.266	4.31	0.92	2.35
138	0.239	0.249	0.259	4.02	0.83	2.41
139	0.233	0.243	0.254	4.32	0.95	2.26
140	0.228	0.238	0.248	4.20	0.91	2.31
141	0.223	0.232	0.242	4.09	0.86	2.37
142	0.218	0.227	0.237	4.19	0.95	2.20
143	0.213	0.222	0.232	4.28	0.95	2.25
144	0.208	0.217	0.227	4.38	0.95	2.30
145	0.203	0.212	0.222	4.48	1.06	2.12
146	0.199	0.208	0.217	4.33	1.00	2.16
147	0.194	0.203	0.212	4.43	1.00	2.22
148	0.190	0.199	0.208	4.52	1.00	2.26
149	0.186	0.194	0.203	4.38	0.94	2.32
150	0.182	0.190	0.199	4.47	1.06	2.11
151	0.178	0.186	0.195	4.57	1.06	2.15
152	0.174	0.182	0.191	4.67	1.06	2.20
153	0.171	0.178	0.187	4.49	1.14	1.97
154	0.167	0.175	0.183	4.57	1.14	2.00
155	0.163	0.171	0.179	4.68	1.14	2.05
156	0.160	0.168	0.175	4.46	1.07	2.08
157	0.157	0.164	0.172	4.57	1.07	2.13
158	0.153	0.161	0.168	4.66	1.07	2.17
159	0.150	0.157	0.165	4.78	1.07	2.23
160	0.147	0.154	0.162	4.87	1.25	1.95
161	0.144	0.151	0.158	4.64	1.17	1.99
162	0.141	0.148	0.155	4.73	1.17	2.03
163	0.138	0.145	0.152	4.83	1.17	2.07
164	0.136	0.142	0.149	4.58	1.08	2.11
165	0.133	0.139	0.146	4.68	1.08	2.16
166	0.130	0.136	0.143	4.78	1.30	1.84
167	0.127	0.134	0.140	4.85	1.30	1.87

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T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
168	0.125	0.131	0.138	4.96	1.08	2.29
169	0.122	0.128	0.135	5.08	1.30	1.95
170	0.120	0.126	0.132	4.76	1.20	1.98
171	0.118	0.123	0.130	4.88	1.20	2.03
172	0.115	0.121	0.127	4.96	1.50	1.65
173	0.113	0.119	0.125	5.04	1.20	2.10
174	0.111	0.116	0.122	4.74	1.10	2.16
175	0.108	0.114	0.120	5.26	1.50	1.75
176	0.106	0.112	0.117	4.91	1.10	2.23
177	0.104	0.109	0.115	5.05	1.10	2.29
178	0.102	0.107	0.113	5.14	1.38	1.87
179	0.100	0.105	0.111	5.24	1.38	1.90
180	0.098	0.103	0.108	4.85	1.25	1.94
181	0.096	0.101	0.106	4.95	1.25	1.98
182	0.094	0.099	0.104	5.05	1.25	2.02
183	0.092	0.097	0.102	5.15	1.25	2.06
184	0.090	0.095	0.100	5.26	1.25	2.11
185	0.088	0.093	0.098	5.38	1.25	2.15
186	0.087	0.091	0.096	4.95	1.13	2.20
187	0.085	0.089	0.094	5.06	1.50	1.69
188	0.083	0.088	0.092	5.11	1.50	1.70
189	0.081	0.086	0.090	5.23	1.13	2.33
190	0.080	0.084	0.089	5.36	1.13	2.38
191	0.078	0.082	0.087	5.49	1.50	1.83
192	0.077	0.081	0.085	4.94	1.33	1.85
193	0.075	0.079	0.083	5.06	1.00	2.53
194	0.073	0.077	0.082	5.84	1.50	1.95
195	0.072	0.076	0.080	5.26	1.33	1.97
196	0.070	0.074	0.078	5.41	1.33	2.03
197	0.069	0.073	0.077	5.48	1.33	2.05
198	0.067	0.071	0.075	5.63	1.33	2.11
199	0.066	0.070	0.074	5.71	1.33	2.14

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T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
200	0.065	0.068	0.072	5.15	1.17	2.21
201	0.063	0.067	0.071	5.97	1.33	2.24
202	0.062	0.065	0.069	5.38	1.17	2.31
203	0.061	0.064	0.068	5.47	1.75	1.56
204	0.059	0.063	0.066	5.56	1.17	2.38
205	0.058	0.061	0.065	5.74	1.17	2.46
206	0.057	0.060	0.064	5.83	1.75	1.67
207	0.056	0.059	0.062	5.08	1.50	1.69
208	0.054	0.058	0.061	6.03	1.17	2.59
209	0.053	0.056	0.060	6.25	1.17	2.68
210	0.052	0.055	0.058	5.45	1.50	1.82
211	0.051	0.054	0.057	5.56	1.50	1.85
212	0.050	0.053	0.056	5.66	1.50	1.89
213	0.049	0.052	0.055	5.77	1.50	1.92
214	0.048	0.051	0.054	5.88	1.50	1.96
215	0.047	0.050	0.053	6.00	1.50	2.00
216	0.046	0.049	0.052	6.12	1.50	2.04
217	0.045	0.048	0.050	5.21	1.25	2.08
218	0.044	0.047	0.049	5.32	1.25	2.13
219	0.043	0.046	0.048	5.43	1.25	2.17
220	0.042	0.045	0.047	5.56	1.25	2.22
221	0.041	0.044	0.047	6.82	1.50	2.27
222	0.041	0.043	0.046	5.81	1.25	2.33
223	0.040	0.042	0.045	5.95	1.25	2.38
224	0.039	0.041	0.044	6.10	2.50	1.22
225	0.038	0.041	0.043	6.10	2.50	1.22
226	0.038	0.040	0.042	5.00	1.00	2.50
227	0.037	0.039	0.042	6.41	1.25	2.56
228	0.036	0.038	0.041	6.58	2.50	1.32
229	0.036	0.038	0.040	5.26	2.00	1.32
230	0.035	0.037	0.039	5.41	1.00	2.70
231	0.034	0.036	0.039	6.94	2.50	1.39

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T (°C)	Resistance (kΩ)			Relative Resistance Variation at a Specific Temperature (±%)	Temperature Measurement Error at a Specific Temperature (±°C)	Temperature Coefficient (%/°C)
	Minimum	Nominal	Maximum	$\frac{\Delta R_T}{R_T}$	$\Delta T_N = \frac{\Delta R_N}{R_{N+1} - R_{N-1}}$	$\alpha = \frac{R_{N-1} - R_{N+1}}{2 \times R_N}$
232	0.034	0.036	0.038	5.56	2.00	1.39
233	0.033	0.035	0.038	7.14	2.50	1.43
234	0.033	0.035	0.037	5.71	2.00	1.43
235	0.032	0.034	0.036	5.88	2.00	1.47
236	0.032	0.034	0.036	5.88	2.00	1.47
237	0.031	0.033	0.035	6.06	2.00	1.52
238	0.031	0.033	0.035	6.06	2.00	1.52
239	0.031	0.033	0.035	6.06	2.00	1.52
240	0.030	0.032	0.034	6.25	2.00	1.56
241	0.030	0.032	0.034	6.25	2.00	1.56
242	0.030	0.032	0.034	6.25	2.00	1.56
243	0.029	0.031	0.033	6.45	2.00	1.61
244	0.029	0.031	0.033	6.45	2.00	1.61
245	0.029	0.031	0.033	6.45	1.98	1.59
246	0.029	0.031	0.033	6.45	1.98	1.59
247	0.029	0.031	0.033	6.45	1.98	1.59
248	0.029	0.031	0.032	4.84	1.50	1.61
249	0.029	0.030	0.032	5.00	1.50	1.61
250	0.029	0.031	0.032	4.84	1.48	1.60

To ensure optimal performance and reliability, it is recommended to follow proper storage procedures for the ATH10K1R3B3950K0.5% thermistor. Here are some guidelines:

1. Store the thermistors only in their original packaging and do not open the package before storage.
2. The recommended storage temperature is between –25°C to +45°C, with a relative humidity of less than 75% on average and a maximum of 95%. Dew precipitation is not allowed.
3. Do not expose the thermistors to heat or direct sunlight during storage as this may cause deformation of the packing material or sticking of the thermistors, leading to difficulties during mounting.
4. Avoid contamination of the thermistor's surface during storage, handling, and processing.
5. Do not store the thermistor in harmful environments containing corrosive gases like SOx, Cl, etc.
6. After opening the factory seals, such as polyvinyl-sealed packages, it is recommended to use the thermistors as soon as possible.
7. For optimal soldering performance, it is recommended to solder the thermistors within 12 months for SMDs and 24 months for leaded components after shipment from the manufacturer, ATI.

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When handling NTC thermistors, it is important to prevent them from being dropped, as this could cause chip-offs and damage to the components. To avoid any damage, components should not be touched with bare hands, and gloves are recommended. It is also important to prevent any contamination of the thermistor surface during handling to ensure accurate readings.

When soldering the ATH10K1R3B3950K0.5% thermistor, it is important to use a resin-type or non-activated flux. Insufficient preheating can cause ceramic cracks, so proper preheating is recommended. Rapid cooling by dipping in solvent is not recommended. It is also recommended to completely remove any flux residue after soldering to prevent contamination or damage to the thermistor.

NOTICE

1. It is important to carefully read and follow the warnings, cautions, and product-specific notes provided with electronic components. These instructions are designed to ensure the safe and proper use of the component and to prevent damage to the component or surrounding equipment. Failure to follow these instructions could result in malfunction or failure of the component, damage to surrounding equipment, or even injury or harm to individuals. Always take the necessary precautions and seek professional assistance if unsure about proper use or handling of electronic components.
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