



G10K3976

Radial Glass Thermistor

SPECIFICATIONS

- **Glass hermetic encapsulation with high resistance to humid environments**
- **Wide operating temperature range**
- **High stability and performance in harsh environmental conditions**
- **Fast response time**
- **RoHS Compliant**

The NTC Chip hermetically sealed in a glass encapsulation package

FEATURES

Hermetically sealed glass package
 Proven Stability and Reliability
 Available in $\pm 1\%$, $\pm 2\%$, $\pm 3\%$, $\pm 5\%$ and $\pm 10\%$
 tolerance @ $+25^{\circ}\text{C}$
 Fast time response
 Low cost
 Temperature range -40°C to $+250^{\circ}\text{C}$

APPLICATIONS

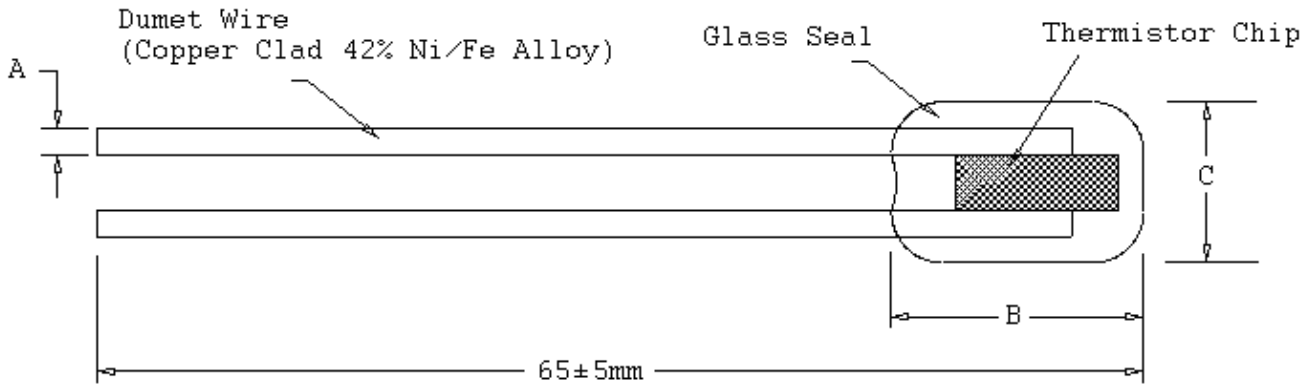
Air conditioning systems
 Refrigeration control
 Assembly into probes for a wide variety of
 applications
 In environments where thermal shock and humidity
 are present
 Hot water boiler systems
 Sensor for engine temperature control

PERFORMANCE SPECS

Parameters	Units	Value
Resistance @ $+25^{\circ}\text{C}$	Ohms	10,000
Resistance tolerance @ 25°C	%	± 1
Beta Value 25/85	K	3976
Tolerance on Beta Value 25/85	%	± 2
Series A Dissipation Constant in still air	mW/ $^{\circ}\text{C}$	1.3
Series B Dissipation Constant in still air	mW/ $^{\circ}\text{C}$	0.8
Series C Dissipation Constant in still air	mW/ $^{\circ}\text{C}$	0.5
Series A Time response in Liquids	Seconds	0.9~1.1
Series B Time response in Liquids	Seconds	0.3~0.4
Series C Time response in Liquids	Seconds	0.18~0.2

Reliability Tests	Standard	Test Condition	Delta R
Storage in Dry Heat	IEC 60068-2-2	Storage temperature: $+250^{\circ}\text{C}$ Duration: 1000 hours	< 3%
Storage in Damp Heat	IEC 60068-2-3	Temperature of air is 50°C & RH 95% Duration: 56 days.	< 2%
Rapid Temperature Cycling	IEC 60068-2-14	Lower Test Temperature -55°C Upper Test Temperature $+200^{\circ}\text{C}$ Number of Cycles 1000	< 2%

MECHANICAL DETAILS



Dimensions			
	A	B	C
Series A Thermistor	0.3mm	4mm Max	2.5mm Max
Series B Thermistor	0.2mm	3mm Max	1.5mm Max
Series C Thermistor	0.15mm	2mm Max	0.9mm Max

RESISTANCE V TEMPERATURE TABLE

Temp. °C	KOhms
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-40	337.1
-39	315.5
-38	295.4
-37	276.7
-36	259.3
-35	243.2
-34	228.1
-33	214
-32	200.9
-31	188.7
-30	177.3
-29	166.7
-28	156.7
-27	147.5
-26	138.8
-25	130.7
-24	123.1
-23	116
-22	109.3
-21	103.1
-20	97.24
-19	91.77
-18	86.64
-17	81.82
-16	77.3
-15	73.06
-14	69.08
-13	65.33
-12	61.82
-11	58.51
-10	55.4
-9	52.47
-8	49.72
-7	47.12
-6	44.68
-5	42.37

Temp. °C	KOhms
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-4	40.2
-3	38.16
-2	36.23
-1	34.4
0	32.68
1	31.06
2	29.53
3	28.08
4	26.71
5	25.41
6	24.19
7	23.03
8	21.93
9	20.9
10	19.91
11	18.98
12	18.1
13	17.26
14	16.47
15	15.72
16	15
17	14.33
18	13.68
19	13.07
20	12.49
21	11.94
22	11.42
23	10.92
24	10.45
25	10
26	9.572
27	9.164
28	8.776
29	8.407
30	8.055
31	7.72

Temp. °C	KOhms
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32	7.401
33	7.097
34	6.806
35	6.53
36	6.266
37	6.014
38	5.773
39	5.544
40	5.325
41	5.115
42	4.915
43	4.724
44	4.542
45	4.367
46	4.2
47	4.041
48	3.888
49	3.742
50	3.602
51	3.468
52	3.339
53	3.217
54	3.099
55	2.986
56	2.878
57	2.774
58	2.675
59	2.58
60	2.488
61	2.401
62	2.317
63	2.236
64	2.158
65	2.084
66	2.012
67	1.944

Temp. °C	KOhms
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68	1.878
69	1.814
70	1.753
71	1.695
72	1.639
73	1.584
74	1.532
75	1.482
76	1.434
77	1.387
78	1.343
79	1.3
80	1.258
81	1.218
82	1.18
83	1.143
84	1.107
85	1.073
86	1.039
87	1.007
88	0.9766
89	0.9468
90	0.9181
91	0.8904
92	0.8637
93	0.8379
94	0.813
95	0.789
96	0.7658
97	0.7434
98	0.7217
99	0.7008
100	0.6806
101	0.661
102	0.6421
103	0.6239

104	0.6062
105	0.5892
106	0.5727
107	0.5567
108	0.5413
109	0.5263
110	0.5119
111	0.4979
112	0.4843
113	0.4712
114	0.4585
115	0.4462
116	0.4343
117	0.4227
118	0.4115
119	0.4007
120	0.3902
121	0.38
122	0.3702
123	0.3606
124	0.3513
125	0.3423
126	0.3336
127	0.3252
128	0.3169
129	0.309
130	0.3013
131	0.2938
132	0.2865
133	0.2794
134	0.2725
135	0.2659
136	0.2594
137	0.2531
138	0.247
139	0.2411

140	0.2353
141	0.2297
142	0.2243
143	0.219
144	0.2139
145	0.2089
146	0.204
147	0.1993
148	0.1947
149	0.1902
150	0.1859
151	0.1817
152	0.1775
153	0.1735
154	0.1696
155	0.1658
156	0.1622
157	0.1586
158	0.1551
159	0.1517
160	0.1483
161	0.1451
162	0.142
163	0.1389
164	0.1359
165	0.133
166	0.1302
167	0.1274
168	0.1247
169	0.1221
170	0.1195
171	0.117
172	0.1146
173	0.1122
174	0.1099
175	0.1077

176	0.1055
177	0.1033
178	0.1012
179	0.0992
180	0.0972
181	0.0952
182	0.0933
183	0.0915
184	0.0897
185	0.0879
186	0.0862
187	0.0845
188	0.0829
189	0.0813
190	0.0797
191	0.0782
192	0.0767
193	0.0752
194	0.0738
195	0.0724
196	0.071
197	0.0697
198	0.0684
199	0.0671
200	0.0659
201	0.0647
202	0.0635
203	0.0623
204	0.0612
205	0.0601
206	0.059
207	0.0579
208	0.0569
209	0.0559
210	0.0549
211	0.0539

212	0.053
213	0.052
214	0.0511
215	0.0502
216	0.0494
217	0.0485
218	0.0477
219	0.0468
220	0.046
221	0.0453
222	0.0445
223	0.0437
224	0.043
225	0.0423
226	0.0416
227	0.0409
228	0.0402
229	0.0395
230	0.0389
231	0.0382
232	0.0376
233	0.037
234	0.0364
235	0.0358
236	0.0352
237	0.0347
238	0.0341
239	0.0336
240	0.033
241	0.0325
242	0.032
243	0.0315
244	0.031
245	0.0305
246	0.0301
247	0.0296
248	0.0291
249	0.0287
250	0.0283