

G30K3942 Radial Glass Thermistor



- 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

DESCRIPTION

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

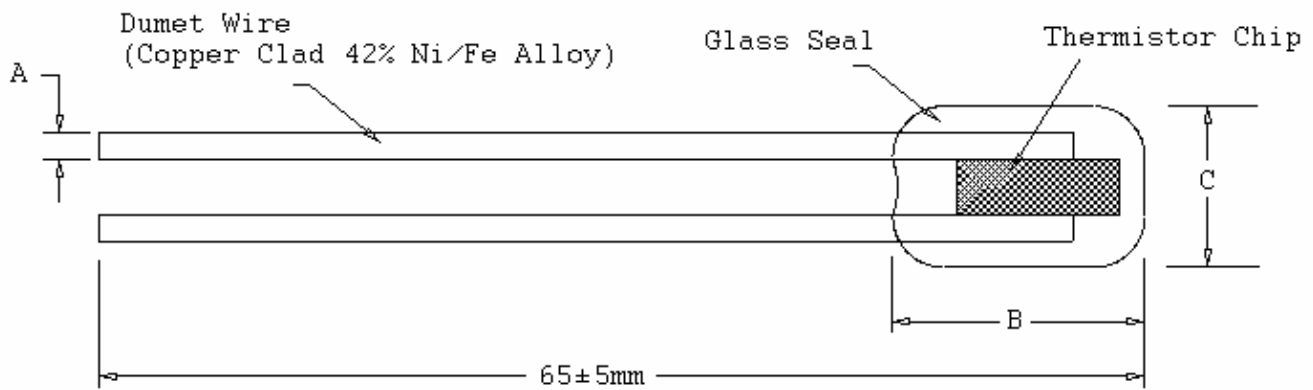
Parameters	Units	Value
Resistance @ $+25^\circ\text{C}$	Ohms	30,000
Resistance tolerance @ 25°C	%	± 1
Beta Value 25/85	K	3942
Tolerance on Beta Value 25/85	%	± 2
Series A Dissipation Constant in still air	mW/ $^\circ\text{C}$	1.3
Series B Dissipation Constant in still air	mW/ $^\circ\text{C}$	0.8
Series 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

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Reliability Tests	Standard	Test Condition	Delta R
Storage in Dry Heat	IEC 60068-2-2	Storage temperature: +250°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°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

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RESISTANCE V TEMPERATURE TABLE

Temp. °C	KOhms
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-40	925
-39	867.9
-38	814.7
-37	765.1
-36	718.8
-35	675.5
-34	635.1
-33	597.3
-32	562
-31	529
-30	498.1
-29	469.1
-28	442.1
-27	416.7
-26	392.9
-25	370.6
-24	349.7
-23	330.1
-22	311.8
-21	294.5
-20	278.3
-19	263.1
-18	248.7
-17	235.3
-16	222.6
-15	210.7
-14	199.5
-13	189
-12	179.1
-11	169.7
-10	160.9
-9	152.6
-8	144.8
-7	137.4
-6	130.4
-5	123.9
-4	117.7
-3	111.8
-2	106.3
-1	101
0	96.09
1	91.41

Temp. °C	KOhms
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2	86.98
3	82.8
4	78.84
5	75.09
6	71.54
7	68.17
8	64.99
9	61.96
10	59.1
11	56.38
12	53.81
13	51.36
14	49.04
15	46.84
16	44.74
17	42.76
18	40.87
19	39.07
20	37.37
21	35.74
22	34.2
23	32.73
24	31.33
25	30
26	28.73
27	27.53
28	26.37
29	25.28
30	24.23
31	23.24
32	22.29
33	21.38
34	20.52
35	19.69
36	18.91
37	18.15
38	17.44
39	16.75
40	16.09
41	15.47
42	14.87
43	14.3

Temp. °C	KOhms
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44	13.75
45	13.22
46	12.72
47	12.24
48	11.78
49	11.35
50	10.92
51	10.52
52	10.14
53	9.765
54	9.41
55	9.07
56	8.744
57	8.432
58	8.132
59	7.844
60	7.568
61	7.303
62	7.048
63	6.804
64	6.57
65	6.344
66	6.128
67	5.92
68	5.72
69	5.527
70	5.343
71	5.165
72	4.994
73	4.829
74	4.671
75	4.519
76	4.372
77	4.231
78	4.095
79	3.964
80	3.838
81	3.717
82	3.6
83	3.487
84	3.379
85	3.274

Temp. °C	KOhms
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86	3.173
87	3.075
88	2.981
89	2.891
90	2.803
91	2.719
92	2.637
93	2.559
94	2.483
95	2.409
96	2.339
97	2.27
98	2.204
99	2.14
100	2.078
101	2.019
102	1.961
103	1.905
104	1.852
105	1.799
106	1.749
107	1.7
108	1.653
109	1.607
110	1.563
111	1.52
112	1.479
113	1.439
114	1.4
115	1.362
116	1.326
117	1.291
118	1.257
119	1.223
120	1.191
121	1.16
122	1.13
123	1.101
124	1.072
125	1.045
126	1.018
127	0.9923

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128	0.9672
129	0.9428
130	0.9192
131	0.8962
132	0.874
133	0.8523
134	0.8313
135	0.811
136	0.7912
137	0.7719
138	0.7533
139	0.7351
140	0.7175
141	0.7004
142	0.6837
143	0.6675
144	0.6518
145	0.6365
146	0.6216
147	0.6072
148	0.5931
149	0.5795
150	0.5662
151	0.5532
152	0.5406
153	0.5284
154	0.5165
155	0.5049
156	0.4936
157	0.4826
158	0.4719

159	0.4615
160	0.4513
161	0.4414
162	0.4318
163	0.4224
164	0.4133
165	0.4044
166	0.3957
167	0.3873
168	0.3791
169	0.371
170	0.3632
171	0.3556
172	0.3482
173	0.3409
174	0.3338
175	0.327
176	0.3202
177	0.3137
178	0.3073
179	0.301
180	0.295
181	0.289
182	0.2832
183	0.2776
184	0.272
185	0.2667
186	0.2614
187	0.2563
188	0.2512
189	0.2463

190	0.2416
191	0.2369
192	0.2323
193	0.2279
194	0.2235
195	0.2193
196	0.2151
197	0.211
198	0.2071
199	0.2032
200	0.1994
201	0.1957
202	0.1921
203	0.1885
204	0.1851
205	0.1817
206	0.1784
207	0.1751
208	0.172
209	0.1689
210	0.1658
211	0.1629
212	0.16
213	0.1571
214	0.1544
215	0.1517
216	0.149
217	0.1464
218	0.1438
219	0.1414
220	0.1389

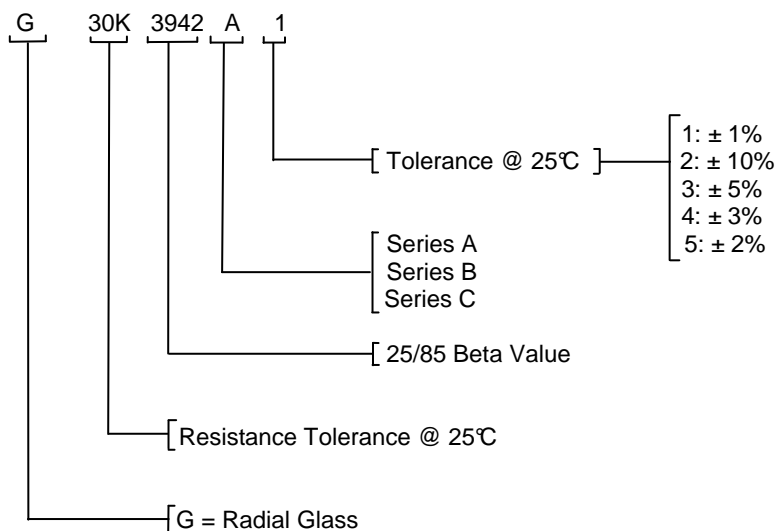
221	0.1365
222	0.1342
223	0.1319
224	0.1297
225	0.1275
226	0.1253
227	0.1232
228	0.1211
229	0.1191
230	0.1171
231	0.1152
232	0.1133
233	0.1114
234	0.1096
235	0.1078
236	0.1061
237	0.1044
238	0.1027
239	0.101
240	0.0994
241	0.0978
242	0.0963
243	0.0947
244	0.0932
245	0.0918
246	0.0903
247	0.0889
248	0.0875
249	0.0862
250	0.0849

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ORDERING INFORMATION

Part Number	Description	Ω @25°C	MOQ
G30K3942A1	Radial Glass Thermistor Series A	30,000	10,000*
G30K3942B1	Radial Glass Thermistor Series B	30,000	10,000*
G30K3942C1	Radial Glass Thermistor Series C	30,000	10,000*

* For quantities less than Minimum Order Quantity – Contact Distribution



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