

Specification of Glass Thermistor

PART NUMBER: **TT2-10KC8-13**

No. of pages: 9

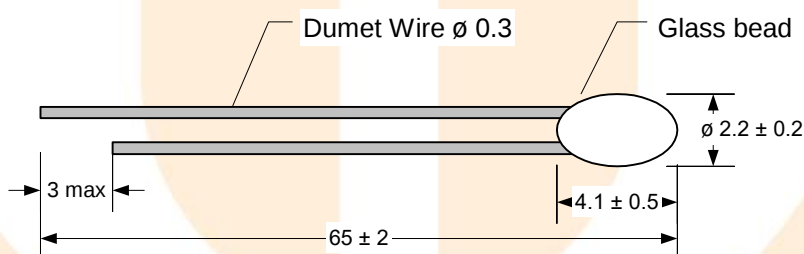
Date: **19.02.2019**

Revision: **00**

FEATURES:

Element	Glass NTC Thermistor
No-load resistance at 25°C	10 000 Ω
Tolerance at 25°C	$\pm 1\%$
Beta(25/100) Constant	3 492K $\pm 1.5\%$
Operating temperature range	-40°C ÷ 300°C

DRAWING:



UNITS: [mm]

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T(°C)	Rmin(kΩ)	Rcent(kΩ)	Rmax(kΩ)	DR(%)	DT(°C)
-40	196.33	207.54	219.37	5.70%	0.96
-39	185.61	196.04	207.04	5.61%	0.95
-38	175.54	185.25	195.47	5.52%	0.94
-37	166.08	175.11	184.63	5.43%	0.93
-36	157.18	165.60	174.45	5.34%	0.92
-35	148.82	156.66	164.89	5.26%	0.92
-34	140.96	148.26	155.92	5.17%	0.91
-33	133.56	140.36	147.49	5.08%	0.90
-32	126.59	132.93	139.57	5.00%	0.89
-31	120.03	125.94	132.12	4.91%	0.88
-30	113.85	119.36	125.12	4.83%	0.87
-29	108.02	113.16	118.53	4.74%	0.86
-28	102.53	107.32	112.32	4.66%	0.86
-27	97.353	101.82	106.48	4.58%	0.85
-26	92.467	96.633	100.98	4.50%	0.84
-25	87.855	91.742	95.792	4.41%	0.83
-24	83.501	87.128	90.904	4.33%	0.82
-23	79.389	82.774	86.295	4.25%	0.81
-22	75.504	78.663	81.947	4.17%	0.80
-21	71.833	74.782	77.844	4.09%	0.79
-20	68.362	71.114	73.970	4.02%	0.78
-19	65.079	67.649	70.313	3.94%	0.77
-18	61.974	64.373	66.859	3.86%	0.76
-17	59.036	61.276	63.594	3.78%	0.75
-16	56.254	58.346	60.509	3.71%	0.74
-15	53.620	55.573	57.592	3.63%	0.73
-14	51.125	52.949	54.832	3.56%	0.72
-13	48.761	50.464	52.222	3.48%	0.71
-12	46.521	48.111	49.751	3.41%	0.70
-11	44.396	45.881	47.411	3.33%	0.69
-10	42.382	43.768	45.196	3.26%	0.68
-9	40.470	41.765	43.097	3.19%	0.67
-8	38.657	39.866	41.108	3.12%	0.66
-7	36.935	38.064	39.223	3.05%	0.65
-6	35.300	36.354	37.435	2.97%	0.64
-5	33.748	34.731	35.740	2.90%	0.63
-4	32.272	33.190	34.131	2.83%	0.62
-3	30.870	31.727	32.604	2.76%	0.61
-2	29.538	30.337	31.155	2.70%	0.60
-1	28.270	29.016	29.778	2.63%	0.59
0	27.065	27.760	28.471	2.56%	0.57
1	25.918	26.566	27.228	2.49%	0.56
2	24.826	25.431	26.047	2.42%	0.55

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3	23.787	24.351	24.925	2.36%	0.54
4	22.798	23.322	23.857	2.29%	0.53
5	21.855	22.344	22.841	2.23%	0.52
6	20.957	21.412	21.875	2.16%	0.50
7	20.101	20.525	20.955	2.10%	0.49
8	19.285	19.679	20.079	2.03%	0.48
9	18.507	18.873	19.244	1.97%	0.47
10	17.765	18.105	18.450	1.90%	0.46
11	17.057	17.373	17.693	1.84%	0.44
12	16.381	16.674	16.971	1.78%	0.43
13	15.736	16.008	16.283	1.72%	0.42
14	15.121	15.372	15.626	1.65%	0.41
15	14.532	14.765	15.000	1.59%	0.39
16	13.970	14.186	14.403	1.53%	0.38
17	13.433	13.632	13.833	1.47%	0.37
18	12.920	13.104	13.288	1.41%	0.36
19	12.429	12.598	12.769	1.35%	0.34
20	11.960	12.116	12.272	1.29%	0.33
21	11.511	11.654	11.798	1.23%	0.32
22	11.082	11.213	11.344	1.17%	0.30
23	10.670	10.790	10.911	1.12%	0.29
24	10.277	10.387	10.496	1.06%	0.28
25	9.900	10.000	10.100	1.00%	0.26
26	9.528	9.630	9.732	1.06%	0.28
27	9.173	9.276	9.379	1.11%	0.30
28	8.832	8.936	9.041	1.17%	0.32
29	8.506	8.611	8.717	1.23%	0.33
30	8.194	8.300	8.406	1.28%	0.35
31	7.895	8.001	8.109	1.34%	0.37
32	7.609	7.715	7.823	1.39%	0.38
33	7.334	7.441	7.549	1.45%	0.40
34	7.071	7.178	7.286	1.50%	0.42
35	6.819	6.925	7.033	1.56%	0.44
36	6.577	6.683	6.791	1.61%	0.46
37	6.344	6.451	6.558	1.67%	0.47
38	6.122	6.228	6.335	1.72%	0.49
39	5.908	6.013	6.120	1.77%	0.51
40	5.703	5.808	5.914	1.83%	0.53
41	5.506	5.610	5.715	1.88%	0.55
42	5.317	5.420	5.525	1.93%	0.57
43	5.135	5.237	5.341	1.98%	0.59
44	4.960	5.062	5.165	2.04%	0.60
45	4.793	4.893	4.995	2.09%	0.62
46	4.631	4.731	4.832	2.14%	0.64

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47	4.476	4.575	4.675	2.19%	0.66
48	4.327	4.425	4.524	2.24%	0.68
49	4.184	4.280	4.379	2.29%	0.70
50	4.046	4.141	4.238	2.34%	0.72
51	3.913	4.007	4.103	2.39%	0.74
52	3.786	3.879	3.973	2.45%	0.76
53	3.663	3.754	3.848	2.50%	0.78
54	3.544	3.635	3.727	2.54%	0.80
55	3.430	3.520	3.611	2.59%	0.82
56	3.320	3.409	3.499	2.64%	0.84
57	3.215	3.302	3.390	2.69%	0.86
58	3.113	3.198	3.286	2.74%	0.88
59	3.015	3.099	3.185	2.79%	0.90
60	2.920	3.003	3.088	2.84%	0.92
61	2.829	2.911	2.995	2.89%	0.94
62	2.741	2.821	2.904	2.94%	0.96
63	2.656	2.735	2.817	2.98%	0.99
64	2.574	2.652	2.732	3.03%	1.01
65	2.495	2.572	2.651	3.08%	1.03
66	2.419	2.494	2.572	3.13%	1.05
67	2.345	2.420	2.496	3.17%	1.07
68	2.274	2.347	2.423	3.22%	1.09
69	2.205	2.278	2.352	3.27%	1.11
70	2.139	2.210	2.284	3.31%	1.14
71	2.075	2.145	2.217	3.36%	1.16
72	2.014	2.082	2.153	3.41%	1.18
73	1.954	2.022	2.091	3.45%	1.20
74	1.896	1.963	2.031	3.50%	1.23
75	1.841	1.906	1.973	3.54%	1.25
76	1.787	1.851	1.917	3.59%	1.27
77	1.735	1.798	1.863	3.63%	1.29
78	1.684	1.746	1.811	3.68%	1.32
79	1.636	1.697	1.760	3.72%	1.34
80	1.589	1.649	1.711	3.77%	1.36
81	1.543	1.602	1.663	3.81%	1.38
82	1.499	1.557	1.617	3.86%	1.41
83	1.456	1.513	1.572	3.90%	1.43
84	1.415	1.471	1.529	3.95%	1.46
85	1.375	1.430	1.487	3.99%	1.48
86	1.337	1.391	1.447	4.03%	1.50
87	1.299	1.352	1.408	4.08%	1.53
88	1.263	1.315	1.369	4.12%	1.55
89	1.228	1.279	1.333	4.16%	1.57
90	1.194	1.244	1.297	4.21%	1.60

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91	1.161	1.211	1.262	4.25%	1.62
92	1.129	1.178	1.229	4.29%	1.65
93	1.099	1.146	1.196	4.34%	1.67
94	1.069	1.116	1.164	4.38%	1.70
95	1.040	1.086	1.134	4.42%	1.72
96	1.012	1.057	1.104	4.46%	1.75
97	0.9844	1.029	1.075	4.50%	1.77
98	0.9581	1.002	1.047	4.55%	1.80
99	0.9325	0.9754	1.020	4.59%	1.82
100	0.9077	0.9498	0.9938	4.63%	1.85
101	0.8837	0.9250	0.9683	4.67%	1.87
102	0.8604	0.9010	0.9435	4.71%	1.90
103	0.8377	0.8777	0.9194	4.75%	1.92
104	0.8158	0.8550	0.8960	4.80%	1.95
105	0.7945	0.8330	0.8733	4.84%	1.97
106	0.7739	0.8117	0.8513	4.88%	2.00
107	0.7539	0.7910	0.8299	4.92%	2.03
108	0.7344	0.7709	0.8092	4.96%	2.05
109	0.7156	0.7514	0.7890	5.00%	2.08
110	0.6973	0.7325	0.7694	5.04%	2.11
111	0.6795	0.7141	0.7503	5.08%	2.13
112	0.6622	0.6962	0.7319	5.12%	2.16
113	0.6455	0.6789	0.7139	5.16%	2.19
114	0.6292	0.6620	0.6964	5.20%	2.21
115	0.6134	0.6456	0.6795	5.24%	2.24
116	0.5981	0.6297	0.6630	5.28%	2.27
117	0.5832	0.6143	0.6469	5.32%	2.29
118	0.5688	0.5993	0.6314	5.36%	2.32
119	0.5547	0.5847	0.6162	5.39%	2.35
120	0.5410	0.5705	0.6015	5.43%	2.38
121	0.5278	0.5567	0.5872	5.47%	2.40
122	0.5149	0.5433	0.5733	5.51%	2.43
123	0.5024	0.5303	0.5597	5.55%	2.46
124	0.4902	0.5176	0.5466	5.59%	2.49
125	0.4784	0.5053	0.5337	5.63%	2.52
126	0.4669	0.4934	0.5213	5.66%	2.54
127	0.4557	0.4817	0.5092	5.70%	2.57
128	0.4448	0.4704	0.4974	5.74%	2.60
129	0.4343	0.4594	0.4859	5.78%	2.63
130	0.4240	0.4487	0.4748	5.81%	2.66
131	0.4140	0.4383	0.4639	5.85%	2.69
132	0.4043	0.4281	0.4533	5.89%	2.72
133	0.3948	0.4183	0.4430	5.93%	2.75
134	0.3856	0.4087	0.4330	5.96%	2.78

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135	0.3767	0.3993	0.4233	6.00%	2.80
136	0.3680	0.3902	0.4138	6.04%	2.83
137	0.3595	0.3814	0.4045	6.07%	2.86
138	0.3513	0.3728	0.3956	6.11%	2.89
139	0.3433	0.3644	0.3868	6.14%	2.92
140	0.3355	0.3562	0.3783	6.18%	2.95
141	0.3279	0.3483	0.3700	6.2%	2.98
142	0.3205	0.3406	0.3619	6.3%	3.01
143	0.3133	0.3330	0.3540	6.3%	3.04
144	0.3063	0.3257	0.3463	6.3%	3.07
145	0.2995	0.3186	0.3388	6.4%	3.11
146	0.2928	0.3116	0.3315	6.4%	3.14
147	0.2864	0.3048	0.3244	6.4%	3.17
148	0.2801	0.2982	0.3175	6.5%	3.20
149	0.2740	0.2918	0.3108	6.5%	3.23
150	0.2680	0.2855	0.3042	6.5%	3.26
151	0.2622	0.2794	0.2978	6.6%	3.29
152	0.2565	0.2735	0.2915	6.6%	3.32
153	0.2510	0.2677	0.2854	6.6%	3.35
154	0.2456	0.2620	0.2795	6.7%	3.39
155	0.2404	0.2565	0.2737	6.7%	3.42
156	0.2353	0.2511	0.2681	6.7%	3.45
157	0.2303	0.2459	0.2626	6.8%	3.48
158	0.2254	0.2408	0.2572	6.8%	3.51
159	0.2207	0.2358	0.2520	6.8%	3.55
160	0.2161	0.2310	0.2468	6.9%	3.58
161	0.2116	0.2262	0.2419	6.9%	3.61
162	0.2072	0.2216	0.2370	6.9%	3.64
163	0.2029	0.2171	0.2323	7.0%	3.68
164	0.1988	0.2127	0.2276	7.0%	3.71
165	0.1947	0.2084	0.2231	7.0%	3.74
166	0.1907	0.2043	0.2187	7.1%	3.77
167	0.1869	0.2002	0.2144	7.1%	3.81
168	0.1831	0.1962	0.2102	7.1%	3.84
169	0.1794	0.1923	0.2061	7.2%	3.87
170	0.1758	0.1885	0.2021	7.2%	3.91
171	0.1723	0.1848	0.1982	7.2%	3.94
172	0.1689	0.1812	0.1944	7.3%	3.97
173	0.1656	0.1777	0.1906	7.3%	4.01
174	0.1623	0.1742	0.1870	7.3%	4.04
175	0.1591	0.1709	0.1834	7.4%	4.08
176	0.1560	0.1676	0.1799	7.4%	4.11
177	0.1530	0.1644	0.1766	7.4%	4.14
178	0.1500	0.1612	0.1732	7.5%	4.18

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179	0.1471	0.1582	0.1700	7.5%	4.21
180	0.1443	0.1552	0.1668	7.5%	4.25
181	0.1416	0.1522	0.1637	7.5%	4.28
182	0.1389	0.1494	0.1607	7.6%	4.32
183	0.1362	0.1466	0.1577	7.6%	4.35
184	0.1337	0.1439	0.1549	7.6%	4.39
185	0.1311	0.1412	0.1520	7.7%	4.42
186	0.1287	0.1386	0.1493	7.7%	4.46
187	0.1263	0.1360	0.1466	7.7%	4.49
188	0.1239	0.1336	0.1439	7.8%	4.53
189	0.1216	0.1311	0.1413	7.8%	4.57
190	0.1194	0.1287	0.1388	7.8%	4.60
191	0.1172	0.1264	0.1363	7.8%	4.64
192	0.1151	0.1241	0.1339	7.9%	4.67
193	0.1130	0.1219	0.1315	7.9%	4.71
194	0.1109	0.1197	0.1292	7.9%	4.75
195	0.1089	0.1176	0.1269	8.0%	4.78
196	0.1069	0.1155	0.1247	8.0%	4.82
197	0.1050	0.1135	0.1226	8.0%	4.86
198	0.1031	0.1115	0.1204	8.0%	4.89
199	0.1013	0.1095	0.1183	8.1%	4.93
200	0.0995	0.1076	0.1163	8.1%	4.97
201	0.0977	0.1057	0.1143	8.1%	5.00
202	0.0960	0.1039	0.1124	8.2%	5.04
203	0.0943	0.1021	0.1104	8.2%	5.08
204	0.0927	0.1003	0.1086	8.2%	5.12
205	0.0911	0.0986	0.1067	8.2%	5.15
206	0.0895	0.0969	0.1049	8.3%	5.19
207	0.0879	0.0953	0.1032	8.3%	5.23
208	0.0864	0.0936	0.1014	8.3%	5.27
209	0.0849	0.0921	0.0997	8.4%	5.30
210	0.0835	0.0905	0.0981	8.4%	5.34
211	0.0821	0.0890	0.0965	8.4%	5.38
212	0.0807	0.0875	0.0949	8.4%	5.42
213	0.0793	0.0860	0.0933	8.5%	5.46
214	0.0780	0.0846	0.0918	8.5%	5.50
215	0.0767	0.0832	0.0903	8.5%	5.54
216	0.0754	0.0818	0.0888	8.5%	5.57
217	0.0741	0.0805	0.0874	8.6%	5.61
218	0.0729	0.0792	0.0860	8.6%	5.65
219	0.0717	0.0779	0.0846	8.6%	5.69
220	0.0705	0.0766	0.0832	8.7%	5.73
221	0.0693	0.0753	0.0819	8.7%	5.77
222	0.0682	0.0741	0.0806	8.7%	5.81

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223	0.0671	0.0729	0.0793	8.7%	5.85
224	0.0660	0.0718	0.0780	8.8%	5.89
225	0.0649	0.0706	0.0768	8.8%	5.93
226	0.0638	0.0695	0.0756	8.8%	5.97
227	0.0628	0.0684	0.0744	8.8%	6.01
228	0.0618	0.0673	0.0733	8.9%	6.05
229	0.0608	0.0662	0.0721	8.9%	6.09
230	0.0598	0.0652	0.0710	8.9%	6.13
231	0.0589	0.0642	0.0699	8.9%	6.17
232	0.0579	0.0631	0.0688	9.0%	6.21
233	0.0570	0.0622	0.0678	9.0%	6.25
234	0.0561	0.0612	0.0667	9.0%	6.29
235	0.0552	0.0602	0.0657	9.0%	6.34
236	0.0544	0.0593	0.0647	9.1%	6.38
237	0.0535	0.0584	0.0637	9.1%	6.42
238	0.0527	0.0575	0.0628	9.1%	6.46
239	0.0519	0.0566	0.0618	9.2%	6.50
240	0.0511	0.0558	0.0609	9.2%	6.54
241	0.0503	0.0549	0.0600	9.2%	6.58
242	0.0495	0.0541	0.0591	9.2%	6.63
243	0.0488	0.0533	0.0582	9.3%	6.67
244	0.0480	0.0525	0.0573	9.3%	6.71
245	0.0473	0.0517	0.0565	9.3%	6.75
246	0.0466	0.0509	0.0557	9.3%	6.80
247	0.0459	0.0502	0.0549	9.3%	6.84
248	0.0452	0.0494	0.0541	9.4%	6.88
249	0.0445	0.0487	0.0533	9.4%	6.92
250	0.0438	0.0480	0.0525	9.4%	6.97
251	0.0432	0.0473	0.0517	9.4%	7.01
252	0.0426	0.0466	0.0510	9.5%	7.05
253	0.0419	0.0459	0.0503	9.5%	7.10
254	0.0413	0.0452	0.0496	9.5%	7.14
255	0.0407	0.0446	0.0489	9.5%	7.18
256	0.0401	0.0440	0.0482	9.6%	7.23
257	0.0395	0.0433	0.0475	9.6%	7.27
258	0.0390	0.0427	0.0468	9.6%	7.31
259	0.0384	0.0421	0.0462	9.6%	7.36
260	0.0379	0.0415	0.0455	9.7%	7.40
261	0.0373	0.0409	0.0449	9.7%	7.45
262	0.0368	0.0404	0.0443	9.7%	7.49
263	0.0363	0.0398	0.0437	9.7%	7.53
264	0.0358	0.0393	0.0431	9.8%	7.58
265	0.0353	0.0387	0.0425	9.8%	7.62
266	0.0348	0.0382	0.0419	9.8%	7.67

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TEWA TEMPERATURE SENSORS

HIGH PRECISION NTC THERMISTORS AND TEMPERATURE SENSORS

267	0.0343	0.0377	0.0414	9.8%	7.71
268	0.0338	0.0371	0.0408	9.8%	7.76
269	0.0334	0.0366	0.0403	9.9%	7.80
270	0.0329	0.0362	0.0397	9.9%	7.85
271	0.0324	0.0357	0.0392	9.9%	7.89
272	0.0320	0.0352	0.0387	9.9%	7.94
273	0.0316	0.0347	0.0382	10.0%	7.99
274	0.0312	0.0343	0.0377	10.0%	8.03
275	0.0307	0.0338	0.0372	10.0%	8.08
276	0.0303	0.0334	0.0367	10.0%	8.12
277	0.0299	0.0329	0.0362	10.0%	8.17
278	0.0295	0.0325	0.0358	10.1%	8.22
279	0.0291	0.0321	0.0353	10.1%	8.26
280	0.0288	0.0317	0.0349	10.1%	8.31
281	0.0284	0.0313	0.0344	10.1%	8.35
282	0.0280	0.0309	0.0340	10.1%	8.40
283	0.0277	0.0305	0.0336	10.2%	8.45
284	0.0273	0.0301	0.0332	10.2%	8.49
285	0.0270	0.0297	0.0328	10.2%	8.54
286	0.0266	0.0293	0.0323	10.2%	8.59
287	0.0263	0.0290	0.0319	10.3%	8.64
288	0.0259	0.0286	0.0316	10.3%	8.68
289	0.0256	0.0283	0.0312	10.3%	8.73
290	0.0253	0.0279	0.0308	10.3%	8.78
291	0.0250	0.0276	0.0304	10.3%	8.83
292	0.0247	0.0272	0.0300	10.4%	8.87
293	0.0244	0.0269	0.0297	10.4%	8.92
294	0.0241	0.0266	0.0293	10.4%	8.97
295	0.0238	0.0262	0.0290	10.4%	9.02
296	0.0235	0.0259	0.0286	10.4%	9.07
297	0.0232	0.0256	0.0283	10.5%	9.12
298	0.0229	0.0253	0.0279	10.5%	9.16
299	0.0226	0.0250	0.0276	10.5%	9.21
300	0.0223	0.0246	0.0272	10.5%	9.26

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