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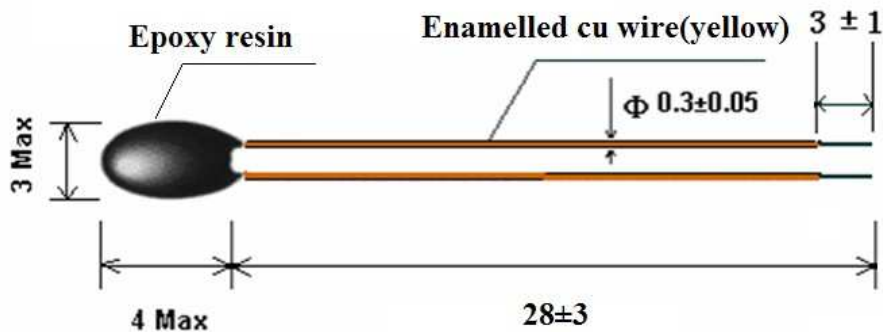
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Specifications for NTC Thermistor

Part No.	NTCM-5K-B3470
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1、Dimensions(mm)



2、Materials

Coating		Lead wire	
Material	Color	Material	Color
Epoxy Resin	Black	Enamelled Cu wire	Yellow

3、Ordering information

MF52	B2	502	F	3470
Pearl-Shape Temp Measurement NTC Thermistor	Enamelled cu wire	Resistance	Tolerance	B-value (25/50)
		$50 \times 10^2 = 5K\Omega$	±1%	3470K

4、Electrical characteristics

	Item	Symbol	Test conditions	Unit	Specification
4.1	Zero Power Resistance at 25°C	R_{25}	$T_a = 25 \pm 0.05^\circ\text{C}$ Test Power $\leq 0.1\text{mW}$ Test in fluid liquid	$K\Omega$	$5 \pm 1\%$
4.2	B-value	$B_{25/50}$	$B = [(T_a \times T_b) / (T_b - T_a)] \times \ln(R_a / R_b)$ $T_b = 50^\circ\text{C} \pm 0.1^\circ\text{C}$	K	$3470 \pm 1\%$
4.3	Thermal dissipation Coefficient	δ	In still air	$\text{mW}/^\circ\text{C}$	≥ 2

4.4	Thermal time constant	τ	In still air	sec	≤ 7
4.5	Insulation resistance	/	100V/DC 1min	M Ω	≥ 100
4.6	Operating temperature	/	/	$^{\circ}\text{C}$	-55 ~ 125
4.7	R&T-table	/	/	/	See attached table
4.8	Resistance tolerance	/	/	/	See attached curve

5、Reliability

	Item	Test conditions and methods	Technical requirements
5.1	Solderability	The lead wire shall be dipped into solder bath of $235\pm 5^{\circ}\text{C}$ for 2~3sec with 6mm space from the body.	Solder dipped on lead wire should be uniform and smooth; the coverage area should be more than 95%.
5.2	Withstand Soldering heat	The lead wire shall be dipped into solder bath of $265\pm 5^{\circ}\text{C}$ for 5 ± 1 sec with 6mm space from the body.	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.3	Terminal strength	Pull strength : 5N , time : 10sec	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.4	Temperature cycle	-55°C 30min \rightarrow 25°C 5min \rightarrow 125°C 30min \rightarrow 25°C 5min , 5cycles ,recover 4hrs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.5	High temperature	Temperature : 125°C ,time : 16hrs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.6	Low temperature	Temperature : -55°C ,Time : 2hrs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.7	Low atmospheric pressure	Atmospheric pressure : $40\pm 0.1\text{Kpa}$, time :4hrs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.8	Steady humidity and heat	Temp : 40°C ,humidity : 93% , Time : 500 ± 12 hrs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$, Withstanding voltage $\geq 700\text{V/AC}$ 1min Insulating resistance $\geq 100\text{M}\Omega$
5.9	Damp heat	Temp : $25\sim 40^{\circ}\text{C}$,humidity : 90% , Time : 24hrs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$, Withstanding voltage $\geq 700\text{V/AC}$ 1min Insulating resistance $\geq 100\text{M}\Omega$
5.1 0	Zero power endurance at upper category temperature	Temp : $125^{\circ}\text{C} \pm 2^{\circ}\text{C}$, Time : 1000 ± 24 hrs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.1 1	Vibrate	Frequency : $10\sim 500\text{HZ}$,swing : 0.75m or 98m/S^2 , time :2hurs	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$
5.1 2	Bump	Acceleration : 250m/S^2 ,pulse duration : 6mS , Bump times : 4000times	No obvious damage, $R_{25} \Delta R/R \leq \pm 2\%$


6、 Soldering conditions

When soldering, space between iron tip and thermistor body must be more than 6mm, temperature should be less than 350°C, soldering time should be as short as possible.

7、 Storage conditions

- 7.1 Storage temp : -10°C ~ 40°C ;
- 7.2 Storage humidity : ≤75% RH ;
- 7.3 Avoid air corrosion or sunlight
- 7.4 Remake sealed storage after package opening.

8. Certificate

- 8.1 Quality Control System Certification ISO9001 : 2000 (01110Q20002R3M)
- 8.2 Environment Management System Certification ISO14001 : 2004 (01110E20031R1M)
- 8.3 Environment Test Report RoHS (RLSHD000645310001C)
- 8.4  CQC Certification (CQC07001019009)

R&T Table

R25=5K Ω TOLERANCE: ±1% B25/50=3470K TOLERANCE: ±1% (P219-2)							
TEMP (°C)	RESISTANCE (K Ω)			RESISST-TOL (%)		TEMP-TOL (°C)	
	MIN	CENTER	MAX	△R	-△R	△T	-△T
-55	342.601	361.195	380.760	5.416	-5.147	0.740	-0.704
-54	314.746	331.544	349.203	5.326	-5.066	0.737	-0.701
-53	289.660	304.863	320.832	5.238	-4.986	0.733	-0.698
-52	267.018	280.802	295.267	5.151	-4.908	0.730	-0.695
-51	246.541	259.059	272.185	5.066	-4.832	0.726	-0.693
-50	227.984	239.371	251.301	4.983	-4.756	0.723	-0.690
-49	211.136	221.509	232.368	4.902	-4.682	0.719	-0.687
-48	195.810	205.274	215.173	4.822	-4.610	0.715	-0.684
-47	181.844	190.490	199.527	4.744	-4.538	0.711	-0.680
-46	169.094	177.004	185.266	4.667	-4.468	0.707	-0.677
-45	157.436	164.682	172.244	4.591	-4.399	0.703	-0.674
-44	146.759	153.405	160.335	4.517	-4.332	0.699	-0.671
-43	136.965	143.067	149.426	4.444	-4.265	0.695	-0.667
-42	127.966	133.576	139.418	4.373	-4.199	0.691	-0.664

-41	119.688	124.850	130.222	4.302	-4.134	0.687	-0.660
-40	112.060	116.815	121.761	4.233	-4.071	0.682	-0.656
-39	105.022	109.407	113.964	4.165	-4.008	0.678	-0.652
-38	98.521	102.568	106.771	4.097	-3.946	0.673	-0.649
-37	92.506	96.246	100.126	4.031	-3.885	0.669	-0.645
-36	86.936	90.393	93.979	3.966	-3.824	0.664	-0.641
-35	81.771	84.970	88.286	3.902	-3.765	0.660	-0.636
-34	76.976	79.939	83.007	3.838	-3.706	0.655	-0.632
-33	72.519	75.265	78.107	3.776	-3.648	0.650	-0.628
-32	68.372	70.919	73.553	3.714	-3.591	0.645	-0.624
-31	64.510	66.874	69.317	3.653	-3.534	0.640	-0.619
-30	60.909	63.105	65.372	3.593	-3.478	0.635	-0.615
-29	57.549	59.589	61.695	3.534	-3.423	0.630	-0.610
-28	54.410	56.306	58.263	3.475	-3.368	0.625	-0.606
-27	51.475	53.239	55.059	3.417	-3.314	0.620	-0.601
-26	48.728	50.370	52.063	3.360	-3.260	0.614	-0.596
-25	46.155	47.685	49.260	3.303	-3.207	0.609	-0.591
-24	43.743	45.168	46.635	3.247	-3.155	0.604	-0.586
-23	41.480	42.809	44.175	3.192	-3.103	0.598	-0.581
-22	39.356	40.594	41.868	3.137	-3.051	0.593	-0.576
-21	37.359	38.515	39.702	3.083	-3.000	0.587	-0.571
-20	35.482	36.561	37.668	3.029	-2.950	0.581	-0.566
-19	33.715	34.722	35.756	2.976	-2.900	0.576	-0.561
-18	32.052	32.992	33.957	2.923	-2.850	0.570	-0.555
-17	30.484	31.363	32.264	2.871	-2.801	0.564	-0.550
-16	29.007	29.828	30.669	2.820	-2.752	0.558	-0.544
-15	27.612	28.380	29.165	2.768	-2.704	0.552	-0.539
-14	26.296	27.013	27.747	2.718	-2.656	0.546	-0.533
-13	25.052	25.723	26.409	2.667	-2.608	0.540	-0.528
-12	23.877	24.504	25.146	2.618	-2.561	0.533	-0.522
-11	22.765	23.352	23.952	2.568	-2.514	0.527	-0.516
-10	21.714	22.263	22.824	2.519	-2.467	0.521	-0.510
-9	20.718	21.232	21.757	2.471	-2.421	0.514	-0.504
-8	19.775	20.256	20.747	2.422	-2.375	0.508	-0.498
-7	18.881	19.332	19.791	2.375	-2.329	0.501	-0.492
-6	18.034	18.456	18.885	2.327	-2.284	0.495	-0.485
-5	17.230	17.625	18.027	2.280	-2.239	0.488	-0.479
-4	16.468	16.837	17.213	2.233	-2.194	0.481	-0.473
-3	15.744	16.090	16.442	2.187	-2.150	0.474	-0.466
-2	15.056	15.380	15.709	2.141	-2.106	0.467	-0.460
-1	14.403	14.706	15.014	2.095	-2.062	0.460	-0.453
0	13.782	14.066	14.354	2.050	-2.018	0.453	-0.447
1	13.191	13.457	13.727	2.004	-1.975	0.446	-0.440
2	12.629	12.878	13.130	1.960	-1.932	0.439	-0.433

3	12.094	12.327	12.563	1.915	-1.889	0.432	-0.426
4	11.585	11.803	12.024	1.871	-1.846	0.425	-0.419
5	11.101	11.305	11.511	1.827	-1.804	0.417	-0.412
6	10.639	10.830	11.023	1.783	-1.762	0.410	-0.405
7	10.199	10.377	10.558	1.740	-1.720	0.403	-0.398
8	9.779	9.946	10.115	1.697	-1.678	0.395	-0.391
9	9.379	9.535	9.693	1.654	-1.637	0.387	-0.383
10	8.982	9.128	9.274	1.609	-1.594	0.380	-0.377
11	8.634	8.770	8.908	1.569	-1.554	0.372	-0.369
12	8.286	8.413	8.542	1.527	-1.513	0.364	-0.361
13	7.954	8.073	8.193	1.485	-1.473	0.356	-0.354
14	7.637	7.748	7.860	1.443	-1.432	0.349	-0.346
15	7.335	7.438	7.543	1.402	-1.392	0.341	-0.338
16	7.046	7.142	7.239	1.360	-1.352	0.333	-0.330
17	6.769	6.859	6.950	1.319	-1.312	0.324	-0.323
18	6.505	6.589	6.673	1.279	-1.272	0.316	-0.315
19	6.252	6.330	6.409	1.238	-1.233	0.308	-0.307
20	6.011	6.083	6.156	1.198	-1.194	0.300	-0.299
21	5.779	5.847	5.915	1.158	-1.154	0.291	-0.291
22	5.558	5.621	5.684	1.118	-1.115	0.283	-0.282
23	5.346	5.405	5.463	1.078	-1.077	0.275	-0.274
24	5.144	5.198	5.252	1.039	-1.038	0.266	-0.266
25	4.950	5.000	5.050	1.000	-1.000	0.258	-0.258
26	4.760	4.810	4.860	1.039	-1.038	0.269	-0.269
27	4.578	4.628	4.678	1.077	-1.076	0.281	-0.280
28	4.405	4.454	4.504	1.116	-1.114	0.292	-0.292
29	4.238	4.287	4.337	1.155	-1.151	0.304	-0.303
30	4.079	4.128	4.177	1.193	-1.189	0.316	-0.315
31	3.926	3.975	4.024	1.231	-1.226	0.328	-0.327
32	3.779	3.828	3.876	1.270	-1.263	0.340	-0.339
33	3.639	3.687	3.735	1.307	-1.300	0.352	-0.351
34	3.505	3.552	3.600	1.345	-1.337	0.365	-0.362
35	3.376	3.423	3.470	1.383	-1.374	0.377	-0.374
36	3.252	3.299	3.345	1.420	-1.410	0.389	-0.386
37	3.133	3.179	3.226	1.458	-1.447	0.402	-0.399
38	3.020	3.065	3.111	1.495	-1.483	0.414	-0.411
39	2.910	2.955	3.001	1.532	-1.519	0.427	-0.423
40	2.806	2.850	2.895	1.569	-1.554	0.439	-0.435
41	2.705	2.749	2.793	1.605	-1.590	0.452	-0.448
42	2.608	2.652	2.695	1.642	-1.625	0.465	-0.460
43	2.516	2.558	2.601	1.678	-1.660	0.478	-0.473
44	2.427	2.469	2.511	1.715	-1.696	0.491	-0.485
45	2.341	2.382	2.424	1.751	-1.730	0.504	-0.498
46	2.259	2.300	2.341	1.787	-1.765	0.517	-0.511

47	2.180	2.220	2.261	1.823	-1.800	0.530	-0.523
48	2.104	2.144	2.183	1.858	-1.834	0.543	-0.536
49	2.031	2.070	2.109	1.894	-1.869	0.557	-0.549
50	1.996	2.035	2.073	1.912	-1.885	0.576	-0.568
51	1.894	1.931	1.969	1.965	-1.937	0.584	-0.575
52	1.829	1.866	1.903	2.000	-1.970	0.597	-0.588
53	1.767	1.803	1.839	2.035	-2.004	0.611	-0.602
54	1.707	1.742	1.778	2.070	-2.037	0.624	-0.615
55	1.649	1.684	1.719	2.104	-2.071	0.638	-0.628
56	1.593	1.628	1.663	2.139	-2.104	0.652	-0.641
57	1.540	1.574	1.608	2.174	-2.137	0.666	-0.655
58	1.489	1.522	1.555	2.208	-2.170	0.680	-0.668
59	1.439	1.472	1.505	2.242	-2.203	0.694	-0.682
60	1.392	1.423	1.456	2.276	-2.235	0.708	-0.696
61	1.346	1.377	1.409	2.310	-2.268	0.723	-0.709
62	1.301	1.332	1.363	2.344	-2.300	0.737	-0.723
63	1.259	1.289	1.320	2.378	-2.332	0.751	-0.737
64	1.218	1.247	1.278	2.411	-2.364	0.766	-0.751
65	1.178	1.207	1.237	2.445	-2.396	0.780	-0.765
66	1.140	1.169	1.198	2.478	-2.428	0.795	-0.779
67	1.104	1.132	1.160	2.511	-2.459	0.810	-0.793
68	1.068	1.096	1.124	2.544	-2.491	0.824	-0.807
69	1.034	1.061	1.088	2.577	-2.522	0.839	-0.821
70	1.001	1.028	1.055	2.610	-2.553	0.854	-0.836
71	0.970	0.996	1.022	2.642	-2.584	0.869	-0.850
72	0.939	0.964	0.990	2.675	-2.615	0.884	-0.864
73	0.910	0.935	0.960	2.707	-2.646	0.899	-0.879
74	0.881	0.906	0.930	2.739	-2.676	0.915	-0.894
75	0.854	0.878	0.902	2.772	-2.707	0.930	-0.908
76	0.827	0.851	0.875	2.804	-2.737	0.945	-0.923
77	0.802	0.825	0.848	2.835	-2.767	0.961	-0.938
78	0.777	0.800	0.823	2.867	-2.797	0.976	-0.953
79	0.754	0.775	0.798	2.899	-2.827	0.992	-0.967
80	0.731	0.752	0.774	2.930	-2.857	1.008	-0.982
81	0.708	0.729	0.751	2.962	-2.886	1.024	-0.997
82	0.687	0.708	0.729	2.993	-2.916	1.039	-1.013
83	0.666	0.687	0.707	3.024	-2.945	1.055	-1.028
84	0.646	0.666	0.687	3.055	-2.974	1.071	-1.043
85	0.627	0.647	0.666	3.086	-3.003	1.087	-1.058
86	0.608	0.627	0.647	3.117	-3.032	1.104	-1.074
87	0.590	0.609	0.628	3.147	-3.061	1.120	-1.089
88	0.573	0.591	0.610	3.178	-3.090	1.136	-1.105
89	0.556	0.574	0.593	3.208	-3.118	1.153	-1.120
90	0.540	0.558	0.576	3.239	-3.147	1.169	-1.136

91	0.524	0.541	0.559	3.269	-3.175	1.186	-1.152
92	0.509	0.526	0.543	3.299	-3.203	1.202	-1.167
93	0.494	0.511	0.528	3.329	-3.231	1.219	-1.183
94	0.480	0.496	0.513	3.359	-3.259	1.236	-1.199
95	0.466	0.482	0.499	3.388	-3.287	1.253	-1.215
96	0.453	0.469	0.485	3.418	-3.315	1.269	-1.231
97	0.440	0.456	0.471	3.447	-3.342	1.286	-1.247
98	0.428	0.443	0.458	3.477	-3.369	1.304	-1.263
99	0.416	0.430	0.446	3.506	-3.397	1.321	-1.280
100	0.404	0.419	0.433	3.535	-3.424	1.338	-1.296
101	0.393	0.407	0.421	3.564	-3.451	1.355	-1.312
102	0.382	0.396	0.410	3.593	-3.478	1.373	-1.329
103	0.371	0.385	0.399	3.621	-3.505	1.390	-1.345
104	0.361	0.374	0.388	3.650	-3.531	1.408	-1.362
105	0.351	0.364	0.378	3.679	-3.558	1.425	-1.379
106	0.342	0.354	0.368	3.707	-3.584	1.443	-1.395
107	0.332	0.345	0.358	3.735	-3.610	1.461	-1.412
108	0.323	0.336	0.348	3.763	-3.637	1.479	-1.429
109	0.315	0.327	0.339	3.791	-3.663	1.497	-1.446
110	0.306	0.318	0.330	3.819	-3.688	1.515	-1.463
111	0.298	0.310	0.321	3.847	-3.714	1.533	-1.480
112	0.290	0.301	0.313	3.875	-3.740	1.551	-1.497
113	0.282	0.293	0.305	3.902	-3.765	1.569	-1.514
114	0.275	0.286	0.297	3.930	-3.791	1.588	-1.531
115	0.268	0.278	0.289	3.957	-3.816	1.606	-1.549
116	0.261	0.271	0.282	3.985	-3.841	1.625	-1.566
117	0.254	0.264	0.275	4.012	-3.867	1.643	-1.584
118	0.247	0.257	0.268	4.039	-3.891	1.662	-1.601
119	0.241	0.251	0.261	4.066	-3.916	1.681	-1.619
120	0.235	0.244	0.254	4.092	-3.941	1.699	-1.636
121	0.229	0.238	0.248	4.119	-3.966	1.718	-1.654
122	0.223	0.232	0.242	4.146	-3.990	1.737	-1.672
123	0.217	0.226	0.236	4.172	-4.015	1.756	-1.690
124	0.212	0.221	0.230	4.198	-4.039	1.775	-1.708
125	0.206	0.215	0.224	4.225	-4.063	1.795	-1.726

