JEC
ISO-9001

東莞市智旭電子有限公司
JYH HSU（JEC）ELECTRONICS LTD.,

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承　認　書
SPECIFICATION FOR APPROVAL

客户名称
Customer _____

品　　名
Part Name NTC Thermistor

客户料号
Customer Part No: _____

承認規格
Approve Item **MF52A-100KR-B4100-1%**

供应商料号
Part Number _____

日　期
Date **2024-08-13**

客户承认	供应商承认
Customer Acknowledgement	Supplier Acknowledgement
	东莞市智旭电子有限公司 品保部

台湾:智旭电子有限公司
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THERMISTOR SPECIFICATIONS

1) SCOPE

This specifications define ratings, dimension, insulation, climatic sequence and mechanical characteristics for thermistor.

2) PART NO. : MF52A-100KR-B4100-1%

3) RATING

3-1) Rated zero-power resistance R_{25} : 100KΩ ±1 % (at 25℃)

3-2) B value. $B_{25/50}$: 4,100K ±1 %

*The B value is calculated using the zero-power resistance values measured at 25℃ and 50℃.

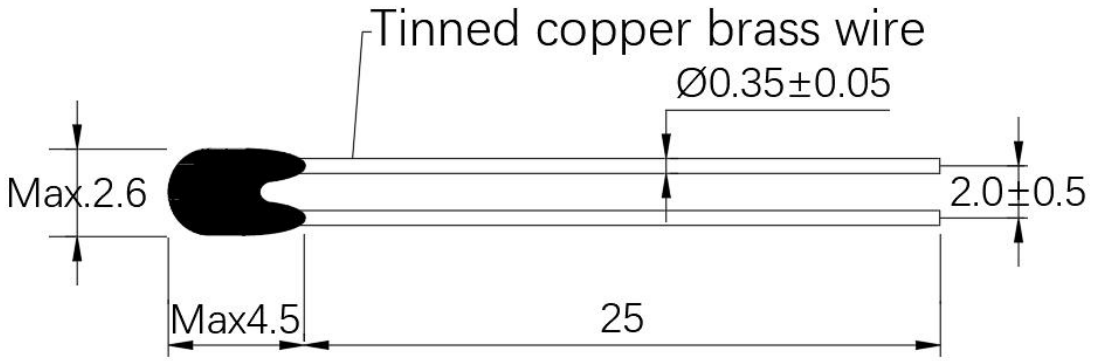
3-3) Dissipation factor. :Approx. 2 mW/℃(in air)

3-4) Thermal time constant. :Approx. 7 s (in air)

3-5) Maximum power rating. : 50 mW (at 25℃)

3-6) Category temperature range : -40 ~ 120 ℃
(=Operating temperature range)

4) DIMENSIONS UNIT: [mm]



5) Climatic test

5-1) Dry Heat

After the test samples were exposed in air at 110 ℃ for 1,000 hours, the change ratio of the rated zero-power resistance shall be within ± 1% of the initial value.

5-2) Damp heat

After the test samples were exposed in the humidity of 95% at 40℃ for 1,000 hours, the change ratio of the rated zero-power resistance shall be within ±1% of the initial value.

5-3) Cold

After the test samples were exposed in air at -30℃ for 1,000 hours, the change ratio of the rated zero-power resistance shall be within ± 1% of the initial value.

5-4) Humidity load

After DC 1mA current was applied to the test samples in the temperature of 40℃ and the humidity of 95% for 1,000 hours, the change ratio of the rated zero-power resistance shall be within ±1% of the initial value.

5-5) Change of temperature

One cycle of the change of temperature shall be carried our in the order of the following conditions.

.Room ambient temperature.(Initial value)
.At -30℃, for 30 minutes.
.Room ambient temperature, for 3 minutes.
.At + 90℃, for 30 minutes.
.Room ambient temperature, for 3 minutes.

After 100 cycles of change of temperature, the change ratio of the rated zero-power resistance shall be within ±1% of the initial value.

5-6) High temperature load

After DC 1mA current was applied to the test samples in the temperature of 110℃ for 1,000 hours, the change ratio of the rated zero-power resistance shall be within ±1% of the initial value.

6) Mechanical characteristics

6-1) Robustness of terminations

Ua:Tensile

After 2N loading weight for 3 seconds was applied to the wire terminations, there shall be no visible damage.

6-2) Free fall

After one time natural fall to a maple board from 1m high, there shall be no visible damage.

6-3) Resistance to soldering heat

After lead wire of the test samples were dipped on time within 8.5 mm from end of lead wire in solder bath at 260℃ ±10% for 4 ±0.5 seconds, the change ratio of the rated zero-power resistance shall be within ±1% of the initial value.

7) R-T characteristics

R_{25}=100 KΩ±1%

$B_{25/50}$=4,100K±1%

TEMP	RESISTANCE (KΩ)		
(℃)	MIN.	CENTER.	MAX.
-40	3703.5044	3880.3091	4065.1479
-39	3456.9153	3619.4282	3789.2019
-38	3228.4189	3377.8557	3533.8564
-37	3016.5708	3154.0386	3297.4409
-36	2820.0508	2946.5574	3078.4309
-35	2637.6511	2754.1143	2875.4324
-34	2468.2673	2575.5242	2687.1731
-33	2310.8872	2409.7012	2512.4890
-32	2164.5845	2255.6519	2350.3157
-31	2028.5098	2112.4666	2199.6780
-30	1901.8833	1979.3099	2059.6826
-29	1783.9900	1855.4175	1929.5118
-28	1674.1732	1740.0868	1808.4147
-27	1571.8292	1632.6727	1695.7020
-26	1476.4034	1532.5834	1590.7418
-25	1387.3854	1439.2736	1492.9531
-24	1304.3058	1352.2430	1401.8020
-23	1226.7319	1271.0306	1316.7974
-22	1154.2654	1195.2120	1237.4873
-21	1086.5392	1124.3962	1163.4559
-20	1023.2142	1058.2228	1094.3198
-19	963.9782	996.3598	1029.7261

-18	908.5427	938.5004	969.3491
-17	856.6409	884.3617	912.8882
-16	808.0269	833.6823	860.0663
-15	762.4726	786.2207	810.6274
-14	719.7675	741.7535	764.3347
-13	679.7166	700.0743	720.9695
-12	642.1394	660.9918	680.3297
-11	606.8688	624.3293	642.2280
-10	573.7497	589.9229	606.4913
-9	542.6384	557.6204	572.9589
-8	513.4016	527.2814	541.4822
-7	485.9156	498.7750	511.9235
-6	460.0655	471.9802	484.1549
-5	435.7447	446.7843	458.0578
-4	412.8540	423.0830	433.5221
-3	391.3011	400.7790	410.4454
-2	371.0005	379.7822	388.7329
-1	351.8722	360.0085	368.2963
0	333.8419	341.3800	349.0534
1	316.8407	323.8239	330.9278
2	300.8039	307.2724	313.8486
3	285.6717	291.6626	297.7495
4	271.3878	276.9357	282.5687
5	257.9002	263.0369	268.2491
6	245.1600	249.9151	254.7368
7	233.1219	237.5226	241.9821
8	221.7432	225.8149	229.9384
9	210.9843	214.7505	218.5622
10	200.8081	204.2906	207.8128
11	191.1799	194.3989	197.6525
12	182.0672	185.0415	188.0456
13	173.4397	176.1867	178.9593
14	165.2690	167.8048	170.3624
15	157.5285	159.8680	162.2260
16	150.1932	152.3504	154.5231
17	143.2398	145.2276	147.2282
18	136.6465	138.4768	140.3176
19	130.3927	132.0767	133.7691
20	124.4590	126.0072	127.5618
21	118.8276	120.2495	121.6761
22	113.4815	114.7859	116.0938

23	108.4046	109.6000	110.7976
24	103.5821	104.6763	105.7714
25	99.0000	100.0000	101.0000
26	94.5590	95.5575	96.5570
27	90.3408	91.3360	92.3330
28	86.3330	87.3234	88.3162
29	82.5242	83.5081	84.4953
30	78.9034	79.8796	80.8599
31	75.4604	76.4278	77.3999
32	72.1856	73.1431	74.1060
33	69.0699	70.0167	70.9694
34	66.1049	67.0402	67.9819
35	63.2825	64.2055	65.1356
36	60.5951	61.5054	62.4231
37	58.0356	58.9326	59.8375
38	55.5973	56.4806	57.3722
39	53.2739	54.1432	55.0211
40	51.0593	51.9143	52.7783
41	48.9481	49.7885	50.6383
42	46.9348	47.7605	48.5959
43	45.0144	45.8253	46.6461
44	43.1823	43.9782	44.7844
45	41.4338	42.2149	43.0063
46	39.7649	40.5310	41.3076
47	38.1715	38.9226	39.6845
48	36.6498	37.3860	38.1332
49	35.1963	35.9177	36.6503
50	33.8076	34.5143	35.2323
51	32.4805	33.1726	33.8761
52	31.2120	31.8896	32.5788
53	29.9992	30.6625	31.3374
54	28.8394	29.4886	30.1494
55	27.7301	28.3653	29.0123
56	26.6688	27.2903	27.9235
57	25.6532	26.2611	26.8808
58	24.6812	25.2757	25.8820
59	23.7506	24.3320	24.9252
60	22.8596	23.4281	24.0083
61	22.0063	22.5620	23.1294
62	21.1888	21.7320	22.2870
63	20.4056	20.9366	21.4792

64	19.6550	20.1739	20.7045
65	18.9356	19.4427	19.9613
66	18.2458	18.7413	19.2484
67	17.5844	18.0686	18.5642
68	16.9501	17.4231	17.9075
69	16.3416	16.8037	17.2772
70	15.7577	16.2092	16.6719
71	15.1975	15.6384	16.0906
72	14.6597	15.0904	15.5323
73	14.1434	14.5641	14.9959
74	13.6476	14.0586	14.4805
75	13.1715	13.5729	13.9852
76	12.7142	13.1063	13.5091
77	12.2748	12.6577	13.0513
78	11.8526	12.2266	12.6111
79	11.4468	11.8121	12.1878
80	11.0568	11.4135	11.7806
81	10.6817	11.0301	11.3888
82	10.3211	10.6614	11.0118
83	9.9743	10.3066	10.6489
84	9.6406	9.9652	10.2997
85	9.3197	9.6366	9.9634
86	9.0108	9.3203	9.6396
87	8.7135	9.0158	9.3278
88	8.4273	8.7226	9.0274
89	8.1518	8.4402	8.7380
90	7.8865	8.1682	8.4591
91	7.6310	7.9061	8.1904
92	7.3848	7.6536	7.9314
93	7.1477	7.4103	7.6817
94	6.9193	7.1757	7.4409
95	6.6991	6.9496	7.2088
96	6.4868	6.7316	6.9848
97	6.2822	6.5213	6.7688
98	6.0850	6.3186	6.5604
99	5.8948	6.1230	6.3593
100	5.7113	5.9342	6.1653
101	5.5343	5.7521	5.9780
102	5.3636	5.5764	5.7971
103	5.1988	5.4068	5.6225
104	5.0398	5.2430	5.4539

105	4.8863	5.0849	5.2911
106	4.7382	4.9323	5.1338
107	4.5951	4.7848	4.9818
108	4.4570	4.6424	4.8350
109	4.3236	4.5048	4.6931
110	4.1948	4.3719	4.5560
111	4.0703	4.2434	4.4234
112	3.9500	4.1193	4.2953
113	3.8338	3.9992	4.1714
114	3.7215	3.8832	4.0515
115	3.6129	3.7710	3.9357
116	3.5080	3.6626	3.8236
117	3.4065	3.5576	3.7151
118	3.3084	3.4562	3.6102
119	3.2135	3.3580	3.5086
120	3.1217	3.2630	3.4104