



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-6.8KR-B3950-1%

供应商料号
Part Number _____

日期
Date _____ 2024-08-13

<p>客户承认 Customer Acknowledgement</p>	<p>供应商承认 Supplier Acknowledgement</p> 
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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-6.8KR-B3950-1%

3) RATING

3-1) Rated zero-power resistance R_{25} : 6.8K Ω $\pm 1\%$ (at 25°C)

3-2) B value. $B_{25/50}$: 3,950K $\pm 1\%$

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

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

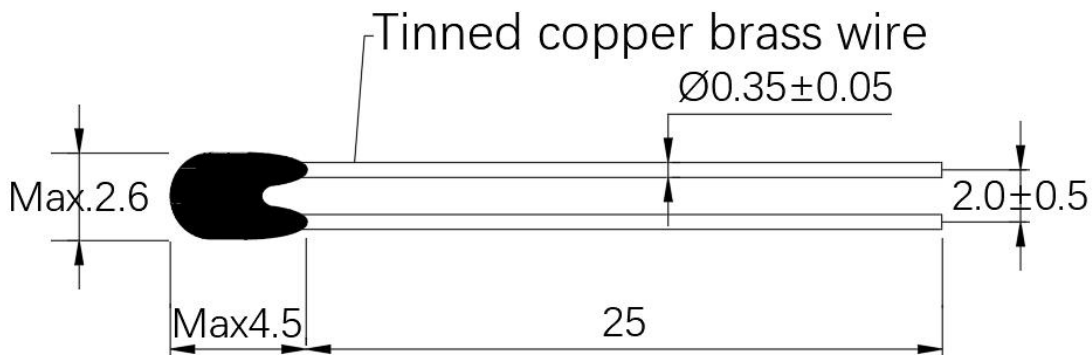
3-4) Thermal time constant. :Approx. 7 s (in air)

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

3-6) Category temperature range : -40 ~ 120 °C

(=Operating temperature range)

4) DIMENSIONS UNIT: [mm]



5) Climatic test

5-1) Dry Heat

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

5-2) Damp heat

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

5-3) Cold

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

5-4) Humidity load

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

5-5) Change of temperature

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

.Room ambient temperature.(Initial value)

.At -30 °C, for 30 minutes.

.Room ambient temperature, for 3 minutes.

.At + 90 °C, 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 $\pm 1\%$ of the initial value.

5-6) High temperature load

After DC 1mA current was applied to the test samples in the temperature of 110 °C for 1,000 hours, the change ratio of the rated zero-power resistance shall be within $\pm 1\%$ 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°C $\pm 10\%$ for 4 ± 0.5 seconds, the change ratio of the rated zero-power resistance shall be within $\pm 1\%$ of the initial value.

7) R-T characteristics

R25=6.8 K Ω $\pm 1\%$

B25/50=3,950K $\pm 1\%$

TEMP (°C)	RESISTANCE (K Ω)		
	MIN.	CENTER.	MAX.
-40	223.2942	233.6702	244.5038
-39	208.9105	218.4710	228.4463
-38	195.5504	204.3631	213.5515
-37	183.1345	191.2609	199.7279
-36	171.5901	179.0864	186.8915
-35	160.8505	167.7681	174.9656
-34	150.8544	157.2401	163.8797
-33	141.5458	147.4426	153.5696
-32	132.8729	138.3200	143.9760
-31	124.7885	129.8218	135.0446
-30	117.2488	121.9013	126.7257
-29	110.2139	114.5156	118.9733
-28	103.6468	107.6254	111.7455
-27	97.5135	101.1943	105.0035
-26	91.7827	95.1890	98.7117
-25	86.4256	89.5786	92.8373
-24	81.4154	84.3347	87.3500
-23	76.7277	79.4313	82.2220
-22	72.3396	74.8441	77.4275
-21	68.2303	70.5508	72.9430
-20	64.3804	66.5309	68.7464
-19	60.7719	62.7654	64.8177

-18	57.3883	59.2365	61.1380
-17	54.2142	55.9280	57.6902
-16	51.2355	52.8249	54.4582
-15	48.4388	49.9132	51.4273
-14	45.8121	47.1800	48.5838
-13	43.3440	44.6132	45.9150
-12	41.0241	42.2019	43.4091
-11	38.8424	39.9356	41.0554
-10	36.7901	37.8048	38.8435
-9	34.8588	35.8006	36.7642
-8	33.0404	33.9148	34.8088
-7	31.3280	32.1397	32.9692
-6	29.7145	30.4682	31.2379
-5	28.1939	28.8936	29.6078
-4	26.7601	27.4098	28.0725
-3	25.4078	26.0111	26.6260
-2	24.1318	24.6920	25.2626
-1	22.9275	23.4476	23.9770
0	21.7904	22.2732	22.7644
1	20.7163	21.1645	21.6203
2	19.7015	20.1176	20.5403
3	18.7424	19.1285	19.5206
4	17.8355	18.1938	18.5575
5	16.9777	17.3102	17.6474
6	16.1662	16.4746	16.7873
7	15.3981	15.6842	15.9740
8	14.6710	14.9362	15.2048
9	13.9823	14.2282	14.4770
10	13.3299	13.5578	13.7882
11	12.7117	12.9228	13.1361
12	12.1256	12.3211	12.5185
13	11.5699	11.7509	11.9335
14	11.0428	11.2103	11.3791
15	10.5427	10.6975	10.8536
16	10.0680	10.2112	10.3553
17	9.6174	9.7496	9.8826
18	9.1894	9.3115	9.4342
19	8.7829	8.8955	9.0086
20	8.3966	8.5004	8.6045
21	8.0294	8.1250	8.2208
22	7.6803	7.7682	7.8564

23	7.3483	7.4291	7.5101
24	7.0325	7.1067	7.1809
25	6.7320	6.8000	6.8680
26	6.4403	6.5082	6.5762
27	6.1628	6.2305	6.2983
28	5.8988	5.9662	6.0338
29	5.6476	5.7145	5.7817
30	5.4083	5.4748	5.5416
31	5.1805	5.2465	5.3127
32	4.9635	5.0288	5.0945
33	4.7568	4.8214	4.8864
34	4.5598	4.6236	4.6879
35	4.3720	4.4350	4.4986
36	4.1929	4.2551	4.3179
37	4.0221	4.0835	4.1454
38	3.8591	3.9197	3.9807
39	3.7036	3.7633	3.8234
40	3.5552	3.6139	3.6732
41	3.4136	3.4713	3.5297
42	3.2783	3.3351	3.3925
43	3.1490	3.2049	3.2614
44	3.0256	3.0804	3.1360
45	2.9076	2.9615	3.0161
46	2.7948	2.8477	2.9013
47	2.6870	2.7389	2.7916
48	2.5839	2.6349	2.6866
49	2.4853	2.5353	2.5860
50	2.3909	2.4400	2.4898
51	2.3006	2.3487	2.3976
52	2.2142	2.2614	2.3093
53	2.1315	2.1777	2.2247
54	2.0523	2.0975	2.1436
55	1.9764	2.0207	2.0659
56	1.9037	1.9472	1.9914
57	1.8341	1.8766	1.9199
58	1.7673	1.8090	1.8514
59	1.7033	1.7441	1.7857
60	1.6420	1.6819	1.7226
61	1.5832	1.6222	1.6621
62	1.5267	1.5650	1.6040
63	1.4726	1.5100	1.5483

64	1.4206	1.4573	1.4947
65	1.3708	1.4066	1.4433
66	1.3229	1.3580	1.3938
67	1.2770	1.3113	1.3464
68	1.2328	1.2664	1.3007
69	1.1904	1.2233	1.2569
70	1.1497	1.1818	1.2147
71	1.1106	1.1420	1.1742
72	1.0730	1.1037	1.1352
73	1.0368	1.0669	1.0977
74	1.0021	1.0315	1.0616
75	0.9686	0.9974	1.0269
76	0.9365	0.9646	0.9935
77	0.9056	0.9331	0.9613
78	0.8758	0.9027	0.9303
79	0.8472	0.8735	0.9005
80	0.8196	0.8453	0.8718
81	0.7931	0.8182	0.8441
82	0.7675	0.7921	0.8175
83	0.7429	0.7670	0.7918
84	0.7192	0.7428	0.7670
85	0.6964	0.7194	0.7431
86	0.6744	0.6969	0.7201
87	0.6532	0.6752	0.6979
88	0.6328	0.6543	0.6765
89	0.6131	0.6342	0.6559
90	0.5941	0.6147	0.6360
91	0.5758	0.5960	0.6168
92	0.5582	0.5779	0.5982
93	0.5411	0.5604	0.5803
94	0.5247	0.5436	0.5630
95	0.5088	0.5273	0.5464
96	0.4935	0.5116	0.5302
97	0.4788	0.4964	0.5147
98	0.4645	0.4818	0.4997
99	0.4507	0.4676	0.4851
100	0.4374	0.4540	0.4711
101	0.4246	0.4408	0.4575
102	0.4122	0.4280	0.4444
103	0.4002	0.4157	0.4318
104	0.3886	0.4038	0.4195

105	0.3774	0.3923	0.4077
106	0.3666	0.3811	0.3962
107	0.3561	0.3704	0.3851
108	0.3460	0.3600	0.3744
109	0.3363	0.3499	0.3640
110	0.3268	0.3401	0.3540
111	0.3176	0.3307	0.3443
112	0.3088	0.3216	0.3349
113	0.3002	0.3127	0.3258
114	0.2919	0.3042	0.3169
115	0.2839	0.2959	0.3084
116	0.2762	0.2879	0.3001
117	0.2686	0.2802	0.2921
118	0.2614	0.2726	0.2844
119	0.2543	0.2654	0.2768
120	0.2475	0.2583	0.2696