DGCX® 东莞市成希电子有限公司
DONGGUAN CHENG XI ELECTRONICS CO.,LTD.

RoHS & REACH compliant

产品规格承认书

客户名称：	
品　　名：	热敏电阻
型号规格：	NTC 100K B=3950 ±1% 漆包铜线长25mm 浸锡2.0mm
产品编码:	MF52B104F3950L025-20
客户料号：	
承认书编号:	CX-NTC-250329-02
发行日期：	2025-11-18

东莞市成希电子有限公司			客户承认		
拟订	审核	核准	承认	审核	核准
傅映霞 2025-11-18	李丹 2025-11-18	徐滢涛 2025-11-18			

东莞市成希电子有限公司 DGCX 工程承认章

修订记录清单 (REVISED RECORD LIST)

版本(Rev.)	修定内容(Revised Content)	日期(Date)
1.0	新规格书制定(New Specifications)	2025-03-25

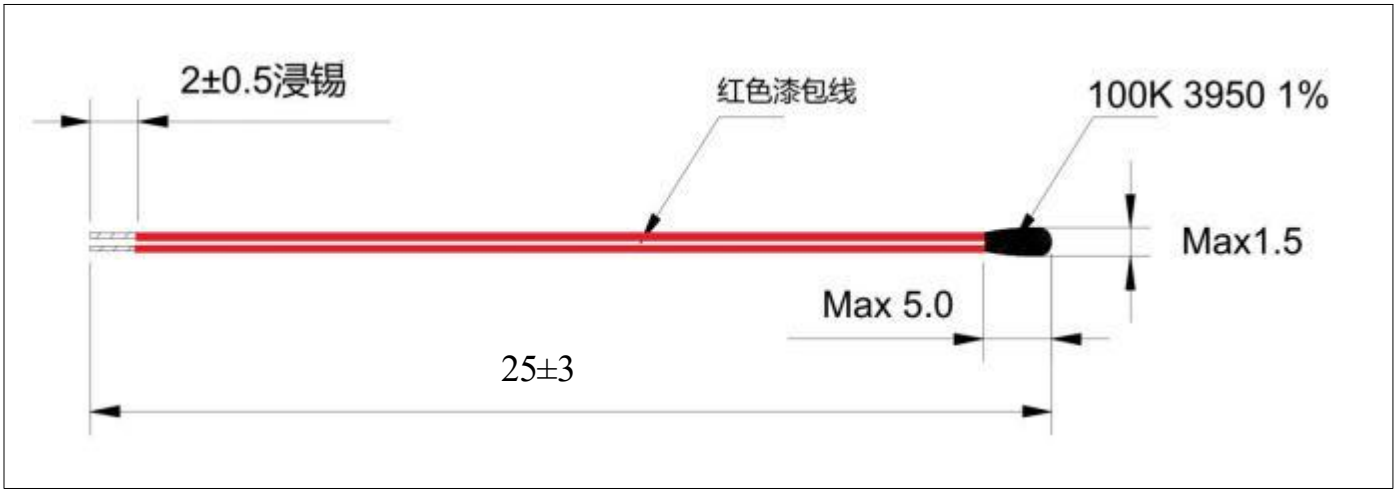
1. 电气性能(Electrical Characteristic)

No.	项目 Item	符号 Symbol	测试条件 Test conditions	单位 Unit	性能要求 Requirements
1.1	25℃的零功率电阻值 Zero Power Resistance at 25 ℃	R25℃	Ta=25±0.01℃ Test Power≤0. 1mW	KΩ	100KΩ± 1%
1.2	B 值 B- value	B25/50	B=[(Ta×Tb)/(Tb-Ta)]×ln(Ra/Rb) Ta=25±0.01℃Tb=50℃±0.01℃	K	3950± 1%
1.3	耗散系数 Thermal dissipation Coefficient	δ	静止空气中 In still air	mW/℃	≥2
1.4	时间常数 Thermal time constant	τ	静止空气中 In still air	sec	≤7
1.5	绝缘电阻 Insulation resistance	/	100V/DC 1min	MΩ	≥ 100
1.6	温度范围 temperature	/	/	℃	-40℃～ 200℃
1.7	工作温度范围 Operating temperature range	/	/	℃	-40℃～ 200℃
1.8	最大额定功率 Maximum rated power	Pmax	/	mW	50
21 10	阻值误差&B 值误差 Resistance tolerance& B- value tolerance	/	/	/	见附表 See attached table

2. 可靠性测试(Reliability Tests)

No.	项目 Item	试验标准	试验条件及方法 Test conditions and methods	性能要求 Requirements
2.1	引出端强度 Terminal strength	IEC60068-2-21	固定电阻端，拉力：5± 1 N ，时 间：10± 1 秒 Fixed resistor end, Pull strength：5 ± 1 N ， time：10±1 sec	无可见性损伤 No obvious damage R25 ΔR/R≤±2%
2.2	可焊性 Solderability	IEC60068-2-20	温度 245±5℃时间 2-3 秒 temperature：245±5℃ for 2-3sec	着锡面积≥95% Coverage area ≥ 95%.
2.3	稳态湿热 Steady humidity and heat	IEC60068-2-78	温度：40℃±2℃， 湿度：93±2%， 时间：500 小时 Temp：40℃±2℃ ， humidity：93± 2%， Time ： 500hrs	无可见性损伤 No obvious damage R25 ΔR/R≤±2%
2.4	温度快速变化 Rapid changes in temperature	IEC60068-2- 14	-40℃30min→25℃5min→ 105℃ 30min→25℃5min ， 5cycles	无可见性损伤 No obvious damage R25 ΔR/R≤±2%
2.5	高温储存 High temperature storage	IEC60068-2-2	温度: 105℃±5℃ 时间:1000 小时 Temp ： 125℃±5℃, Time :1000hrs	无可见性损伤 No obvious damage R25 ΔR/R≤± 2%
2.6	低温储存 Low temperature storage	IEC60068-2- 1	温度:-40℃时间:1000 小时 Temp ： -40℃, Time :1000hrs	无可见性损伤 No obvious damage R25 ΔR/R≤±2%

3. 产品外形图(Product Drawing)：



4. 材料清单(Material List)：所使用材料均符合RoHS环保指令(All the materials used comply with the RoHS environmental protection directive)。

序号	零件名称Part Name	规格描述Material specifications	备注 Remarks
1	引线 Electronic wire	0.28红色漆包铜线	
2	树脂 Coating material	黑色环氧树脂 Black epxoy resin	
3	芯片 Core element	100K 3950 ±1%	
4	端子 Terminal		
5	胶壳 Housing		
6	探头 Cover Component		
7	套管 Tube		
8	其它 Other		

5. 产品使用条件及注意事项(Product use conditions and the matters needing attention)

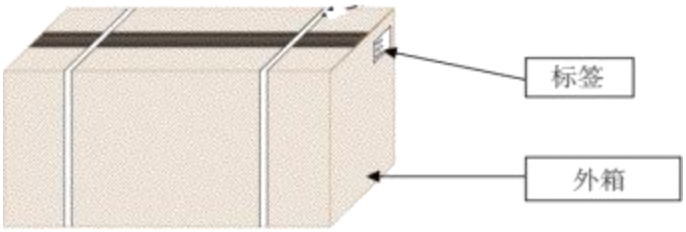
5.1 存储环境要求 Storage environment requirements
5.1.1 储存温度：-10℃~ 40℃； 储存湿度：≤75% RH
(Storage temperature: -10℃~ 40℃;storage humidity: ≤75% RH)；
5.1.2 避免存放在具有腐蚀性物质及气体的环境中、光照及辐射源的环境下
(Avoid storage in the environment of corrosive substances and gas, light and radiation source)；
5.1.3 包装打开后需重新密封保存，贮存期 1 年，超过贮存期，可按本标准规定的项目重新检验，如符合要求仍可使用.
(After the package is opened, it should be re-sealed and stored for one year. If the storage period exceeds, it can be retested according to the items specified in this sheet. If it meets the requirements, it can still be used)。
5.2 运输要求 Transportation requirements
5.2.1 存储或运输过程中，产品叠放高度不超过 4 箱产品
(During storage or transportation, the height of stacked products should not exceed tje height of 4 boxes)；
5.2.2 避免产品在运输过程中强烈碰撞和跌落
(Avoid strong collision and fall during transportation)；
5.2.3 产品运输方式不限，但需要避免雨水、雪、冰雹、海水的直接或间接淋袭

(The transportation method is not limited, but the direct or indirect attack of rain, snow, hail and sea water should be avoided)

6. 安装&使用注意事项 Installation & Use precautions

6.1 本产品的用途：温度测量与控制
(Usage of this product: Temperature measurement and control)；
6.2 本产品适用于常规家用、工业产品上，如果用于特殊设备/装置如：航空航天、深海探测、医疗、军用、新能 源电源、铁道交通、消防、交通信号等设备上，请联系我司人员对相应的要求进行确认
(This product is used for conventional household and industrial products. If used in special equipment/device such as: aerospace, deep sea exploration, medical, military, new energy power supply,railway traffic,fire control, traffic signals and other equipment, please contact our staff to confirm the corresponding requirements)。
6.3 产品使用的最大工作温度，最大功率等，依照规格书要求作业，不可超出规格书范围
(The maximum working temperature, maximum power, etc. of the product shall be operated in accordance with the requirements of the specification, and shall not exceed the scope of the specification)。
6.4 设计使用时，避免过大的电流引起元件自身发热而产生测量误差
(When designing and using, avoid measuring error caused by excessive current)；
6.5 产品外观发现变形、破损时，不建议使用，可能会影响产品电气性能
(If the product is deformed or damaged, do not use it. Otherwise, the electrical performance may be affected)；
6.6 烙铁焊接时，焊接处距包封头部距离至少 2mm，焊接温度应低于 360℃， 焊接时间＜3ses
(When soldering by soldering iron, the distance between the welding place and the coating head should be at least 2mm, the welding temperature should be lower than 360℃, and the welding time should be less than 3sec)；
6.7 如在加工过程中需使用热缩管，热缩管热缩时不可使用电吹风进行吹制，建议热缩工艺，将套好热缩管后的产 品放入恒温烘箱中，按 110℃/10～12min 进行热缩
（ If the heat shrinkable tube is used in the manufacturing process, do not use a hair dryer to shrink the tube. This is a recommended heat shrinkable process that puts the product coveredshrinkable tube into a constant temperature oven, and shrink them at 110℃/10 ~ 12min）；
6.8 一般不建议做注塑加工，因为注塑工艺的高温和高压会直接影响产品性能，本产品如果采用注塑工艺加工，需 与我司确认具体的注塑工艺参数
（Generally, injection molding is not recommended, because the high temperature and high pressure of injection molding process will directly affect the product performance. If the product is processed by injection molding process, it is
necessary to confirm the specific injection molding process parameters with our company）；
6.9 产品核心芯片为陶瓷半导体，在使用过程中避免挤压或对环氧端头物理撞击， 以免造成产品损伤
（The core chip of the product is a ceramic semiconductor. Avoid extrusion or physical impact on the epoxy end in the process of use, so as not to cause product damage）；
6.10 产品引线需剪短加工时，裁剪处距环氧端头距离应不小于 10mm，且裁切时夹紧端头处
（When the product leads need to be cut short, the cutting distance from the epoxy end should be no less than 10mm, and the end should be clamped when cutting）。
6.11 如产品需要引线折弯时，折弯半径应不小于 1mm，折弯角度为 90°， 折弯次数依引线直径大小存在差异，需 与我司确认
（If the product needs lead bending, bending radius should not be less than 1mm, bending angle is 90°. Bending times vary according to the lead diameter and need to be confirmed with our company）；
6.12 本产品采用环氧树脂封装，具有一般的防水性，若使用环境湿度＞80%RH 或长期浸泡水中会导致封装端头渗 水，造成绝缘和阻值性能偏低，如有相关的要求需与我司联系，产品增加防水层保护.
（ This product is encapsulated with epoxy resin, which is generally waterproof. If the ambient humidity is more than 80%RH or the product has long-term immersion in water, water seepage will occur at the end of the epoxy head, resulting in low insulation and resistance performance. If you have relevant requirements, please contact our company and add
waterproof layer to the product）。

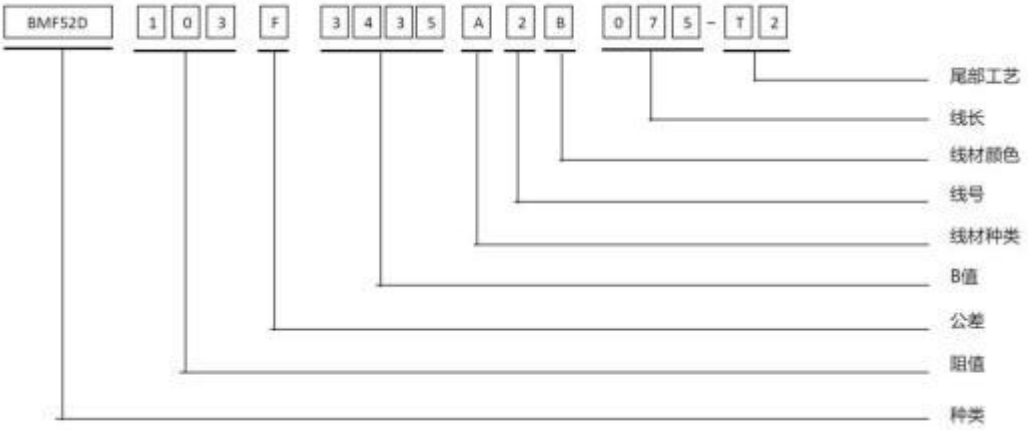
7.包装箱(Outer packing container)



注意： 以上包装为预估包装，正式交货前请允许根据实际数量更改包装要求，不另行通知。

Note: The above packaging is an estimated package, please allow the packaging requirements to change according to the actual quantity before the official delivery without notice.

8. 产品型号说明 Product model specification



9. 电阻阻值特性表 / Resister-Table

104F3950FB　R-T 表

R25=100KΩ±1%，　B(25/50)=3950±1%，　B(25/85)=4010

温度 Temp. (℃)	R 最小值 R_Min (Kohm)	R 中心值 R_Cent (Kohm)	R 最大值 R_Max (Kohm)
--40	3195.141	3448.379	3708.382
--39	3082.915	3224.115	3371.444
--38	2885.803	3015.961	3151.675
--37	2702.631	2822.657	2947.719
--36	2532.323	2643.047	2758.337
--35	2373.891	2476.072	2582.392
--34	2226.432	2320.761	2418.846
--33	2089.115	2176.227	2266.745
--32	1961.178	2041.651	2125.215
--31	1841.921	1916.286	1993.454
--30	1710.699	1799.442	1890.728
--29	1625.547	1689.043	1754.844
--28	1527.516	1586.186	1646.945
--27	1436.079	1490.307	1546.429
--26	1350.747	1400.887	1452.742
--25	1271.075	1317.447	1365.375
--24	1196.649	1239.550	1283.861
--23	1127.089	1166.791	1207.771
--22	1062.048	1098.798	1136.707
--21	1001.201	1035.229	1070.307
--20	948.691	982.489	1025.248
- 19	897.290	926.760	957.102
- 18	847.228	874.546	902.655
- 17	800.275	825.604	851.650
- 16	756.221	779.709	803.847
- 15	714.868	736.653	759.027
- 14	676.035	696.244	716.985
- 13	639.552	658.302	677.534
- 12	605.265	622.663	640.497
- 11	573.028	589.173	605.712
- 10	532.705	557.690	583.031
--9	514.173	528.081	542.312
--8	487.314	500.225	513.427
--7	462.022	474.007	486.255
--6	438.195	449.322	460.685
--5	415.740	426.070	436.614
--4	394.570	404.161	413.944
--3	374.605	383.509	392.586

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温度 Temp. (℃)	R 最小值 R_Min (Kohm)	R 中心值 R_Cent (Kohm)	R 最大值 R_Max (Kohm)
--2	355.768	364.035	372.457
- 1	337.991	345.665	353.479
0	320.206	328.331	336.580
1	305.311	311.923	318.647
2	290.299	296.435	302.671
3	276.116	281.810	287.592
4	262.711	267.993	273.355
5	250.037	254.937	259.907
6	238.050	242.595	247.202
7	226.709	230.923	235.192
8	215.975	219.882	223.838
9	205.812	209.434	213.098
10	196.188	199.544	202.936
11	187.070	190.178	193.319
12	178.429	181.307	184.213
13	170.237	172.901	175.589
14	162.469	164.933	167.418
15	155.100	157.378	159.674
16	148.107	150.213	152.334
17	141.470	143.415	145.372
18	135.167	136.963	138.768
19	129.182	130.838	132.502
20	123.495	125.021	126.554
21	118.091	119.496	120.906
22	112.953	114.246	115.543
23	108.068	109.256	110.447
24	103.421	104.512	105.604
25	99.000	100.000	101.000
26	94.709	95.708	96.707
27	90.628	91.623	92.621
28	86.745	87.736	88.729
29	83.049	84.034	85.022
30	79.531	80.509	81.490
31	76.181	77.151	78.125
32	72.991	73.951	74.916
33	69.951	70.901	71.856
34	67.054	67.993	68.938
35	64.292	65.220	66.154

104F3950FB　R-T 表

R25=100KΩ±1%，　B(25/50)=3950±1%，　B(25/85)=4010

温度 Temp. (℃)	R 最小值 R_Min (Kohm)	R 中心值 R_Cent (Kohm)	R 最大值 R_Max (Kohm)
36	61.659	62.574	63.497
37	59.147	60.050	60.961
38	56.752	57.642	58.540
39	54.465	55.342	56.227
40	52.283	53.146	54.018
41	50.200	51.049	51.908
42	48.211	49.046	49.890
43	46.310	47.131	47.962
44	44.495	45.302	46.118
45	42.760	43.552	44.355
46	41.101	41.879	42.668
47	39.516	40.279	41.054
48	37.999	38.749	39.509
49	36.549	37.284	38.030
50	35.161	35.882	36.614
51	33.836	34.543	35.262
52	32.569	33.262	33.966
53	31.355	32.034	32.725
54	30.193	30.859	31.536
55	29.080	29.732	30.396
56	28.014	28.653	29.303
57	26.992	27.618	28.255
58	26.013	26.626	27.250
59	25.074	25.674	26.286
60	24.174	24.762	25.361
61	23.311	23.886	24.473
62	22.483	23.046	23.620
63	21.689	22.239	22.802
64	20.926	21.465	22.016
65	20.194	20.722	21.261
66	19.492	20.008	20.536
67	18.817	19.322	19.839
68	18.169	18.664	19.169
69	17.547	18.031	18.525
70	16.949	17.422	17.906
71	16.374	16.837	17.311
72	15.822	16.274	16.738
73	15.291	15.734	16.187

104F3950FB　R-T 表

R25=100KΩ±1%，　B(25/50)=3950±1%，　B(25/85)=4010

温度 Temp. (℃)	R 最小值 R_Min (Kohm)	R 中心值 R_Cent (Kohm)	R 最大值 R_Max (Kohm)
74	14.780	15.213	15.657
75	14.289	14.713	15.147
76	13.816	14.231	14.656
77	13.362	13.767	14.183
78	12.924	13.321	13.728
79	12.503	12.891	13.289
80	12.098	12.477	12.867
81	11.709	12.080	12.461
82	11.334	11.697	12.070
83	10.973	11.328	11.693
84	10.626	10.973	11.330
85	10.291	10.630	10.980
86	9.968	10.300	10.642
87	9.657	9.982	10.316
88	9.357	9.675	10.002
89	9.067	9.378	9.699
90	8.788	9.093	9.406
91	8.519	8.817	9.124
92	8.260	8.551	8.852
93	8.009	8.294	8.588
94	7.768	8.046	8.334
95	7.534	7.807	8.089
96	7.309	7.576	7.852
97	7.092	7.353	7.623
98	6.882	7.137	7.402
99	6.679	6.929	7.188
100	6.483	6.728	6.981
101	6.294	6.533	6.781
102	6.111	6.345	6.588
103	5.934	6.164	6.401
104	5.764	5.988	6.221
105	5.599	5.818	6.046
106	5.439	5.654	5.877
107	5.284	5.495	5.713
108	5.135	5.341	5.555
109	4.991	5.193	5.402
110	4.851	5.049	5.254
111	4.716	4.909	5.110

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温度 Temp. (℃)	R 最小值 R_Min (Kohm)	R 中心值 R_Cent (Kohm)	R 最大值 R_Max (Kohm)
112	4.585	4.774	4.971
113	4.458	4.644	4.836
114	4.336	4.517	4.706
115	4.217	4.395	4.580
116	4.102	4.276	4.457
117	3.991	4.161	4.339
118	3.883	4.050	4.224
119	3.779	3.942	4.113
120	3.678	3.838	4.005
121	3.580	3.737	3.900
122	3.485	3.638	3.799
123	3.393	3.543	3.700
124	3.303	3.451	3.605
125	3.217	3.361	3.512