编码(Coding)：JK/JXE260416001

南京时恒电子科技有限公司

Nanjing Shiheng Electronics Co.,Ltd.

产品承认书

APPROVAL SHEET

客户名称 CUSTOMER：	
产品名称 PART NAME：	MF58 玻壳式 NTC 热敏电阻器 MF58 Series Glass shell NTC Thermistor
产品型号 PART NUMBER：	MF58 104F3950
版次 REV.NO:	C0
日期 DATE:	2026-04-16

南京时恒电子科技有限公司
NANJING SHIHENG ELECTRONICS CO.,LTD.
地址：南京市江宁区湖熟镇金阳路 18 号
Address: No.18 Jinyang Road Hushu Town Jiangning District Nanjing China
邮编 Postcode：211121
TEL: 025-52121868
Http: //www.shiheng.com.cn E-MAIL: sales@shiheng.com.cn

变更登记表

REVISED RECORD SHEET

版次 REV. NO	变更日期 REV.DATE	变更内容 CHANGE CONTENT	申请人 APPLICANT	批准人 APPROVED
A0	2015/10/11	版本制定。 Version formulation	鞠晓丽	李少媛
B0	2022/4/1	更新规格书版本格式，增加版次管控，细化规格纸。 Update for version form of data sheet, add to management and control for number of edition, refine to PN and draw.	吴迎丽	李少媛
C0	2025/12/01	去掉：产品图纸此一页的变更履历表 Remove: Change history table on this page of the product drawing	刘星月	李少媛

1、产品型号说明 Product model specification

MF58 104 F 3950
① ② ③ ④

① MF58：玻壳式 NTC 热敏电阻器系列（Glass shell NTC Thermistor Series）

② 104：25℃的零功率电阻值 100kΩ（Zero Power Resistance at 25℃ is 100kΩ）

③ F：阻值精度代码 F-±1% G-±2% H-±3% J-±5%（Resistance precision code F-±1% G-±2% H-±3% J-±5%）

④ 3950：$B_{25/50}$ 值 3950K（$B_{25/50}$:3950K）

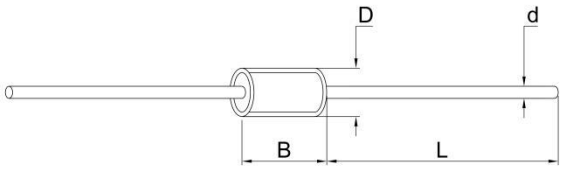
2、电气性能 Electrical characteristics

No.	项目 Item	符号 Symbol	测试条件 Test conditions	单位 Unit	性能要求 Requirements
2.1	25℃的零功率电阻值 Zero Power Resistance at 25℃	R_{25}	Ta=25±0.01℃ (Test Power≤0.1mW)	kΩ	100kΩ±1%
2.2	B 值 B-value	$B_{25/50}$	$B=[(T_a\times T_b)/(T_b-T_a)]\times \ln(R_a/R_b)$ T_a=25±0.01℃ T_b=50±0.01℃	K	3950K±1%
2.3	耗散系数 Thermal dissipation Coefficient	δ	静止空气中 In still air	mW/℃	约 1.8
2.4	时间常数 Thermal time constant	τ	静止空气中 In still air	sec	约 12
2.5	工作温度范围 Operating temperature range	/	/	℃	-55 ~ +250
2.6	最大额定功率 Maximum rated power	Pmax	/	mW	10
2.7	阻温特性 R&T-table	/	/	/	见附表 I See attached table I
2.8	阻值误差&温度误差 Resistance tolerance& Temperature tolerance	/	/	/	见附表 II See attached table II

3、产品图纸 Product drawing

产品图纸 Product drawing		客户确认 Customer confirm	客户名称 Customer:			
			确认 Confirm		日期 DATE	
产品型号 MODEL NO.	MF58 104F3950		审核 Approve:		日期 DATE	

尺寸 Dimensions: （Unit：mm）



型号	D （mm）	d（mm）	B （mm）	L（mm）
MF58	1.8±0.2	0.5±0.05	3.7±0.3	28±1

技术要求 Technical requirements:

1) 零功率阻值：R_{25}：100kΩ±1% (Zero Power Resistance: R_{25}：100kΩ±1%)；
2) $B_{25/50}$ 数值：3950K±1% (B-value:$B_{25/50}$: 3950K±1%)；
3) 引线：ϕ0.5 镀锡铜包钢线（Φ0.5tinned copper-weld steel wire)
4) 符合 RoHS 环保要求 (Meet environmental protection requirements:RoHS)。

材料规格 Material specifications

No.	名称 Name	材料规格 Material specifications	数量 Quantity	备注 note
1	核心元件 Core element	热敏电阻芯片 100kΩ	1	
2	包封类 Coating material	玻壳	1	
3	电极 Electrode	镀锡电极	2	
4	引线 Lead	铁镍合金	2	

4、可靠性 Reliability

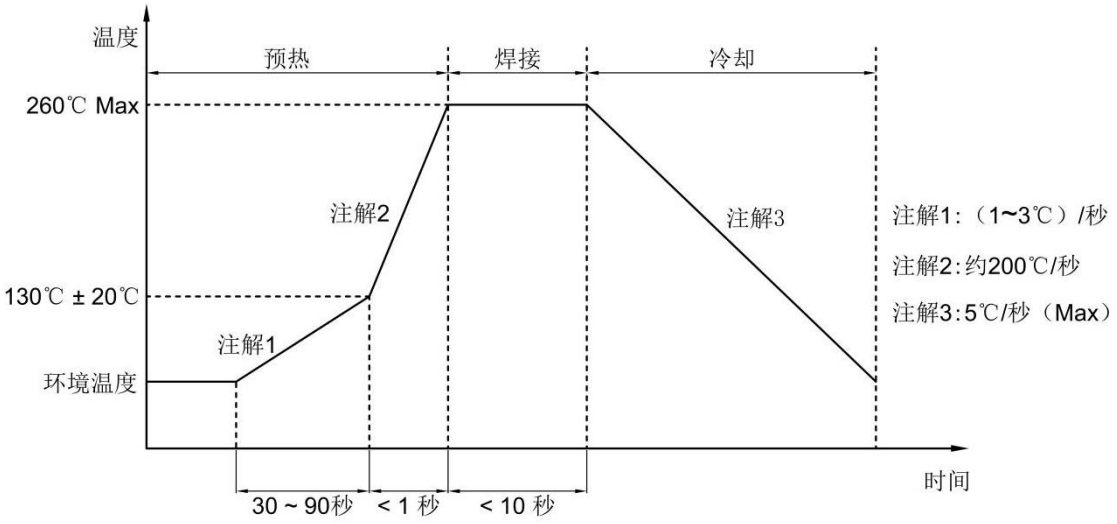
No.	项目 Test Item	试验标准 Test Standard	试验条件及方法 Test Conditions / Methods	性能要求 Acceptance Criteria
4.1	引出端强度 Tensile Strength of Terminals	IEC60068-2-21	固定电阻端，拉力：10N±1 N，时间：10±1 秒 Keep the unit fixed, apply 10 ± 1 N for 10 ± 1 seconds.	无可见性损伤 No Visible damage|Δ R_{25}/R_{25}|≤2%
4.2	可焊性 Solder ability	IEC60068-2-20	温度：245°C±5°C，时间：2-3 秒 Temperature: 245°C ± 5°C for 2 ~ 3 seconds.	着锡面积≥95% Coverage area≥95%
4.3	耐焊接热 Resistance to Soldering Heat	IEC60068-2-20	锡锅温度：260°C±5°C,浸入深度距电阻体 6mm，时间：5±1 秒 Temperature of solder bath: 260°C ± 5°C, insertion depth: 6 mm from resistor body, duration: 5 ± 1 seconds.	无可见性损伤 No Visible damage $\|\Delta R_{25}/R_{25}\|$≤2%
4.4	稳态湿热 Damp heat, Steady State	IEC60068-2-78	温度：40°C±2°C,湿度：93%RH±2%RH,时间：500h Temperature: 40°C ± 2°C, 93% RH ± 2% RH, 500 hrs.	无可见性损伤 No Visible damage $\|\Delta R_{25}/R_{25}\|$≤2%
4.5	温度快速变化 Rapid changes of temperature	IEC60068-2-14	以下条件重复 5 个周期 The conditions shown below shall be repeated 5 cycles.	无可见性损伤 No Visible damage $\|\Delta R_{25}/R_{25}\|$≤2%

步骤 Step	温度 Temperature (°C)	周期 Period (minutes)
1	-55±5	30±3
2	Room Temperature (室温)	5±3
3	250±5	30±3
4	Room Temperature (室温)	5±3

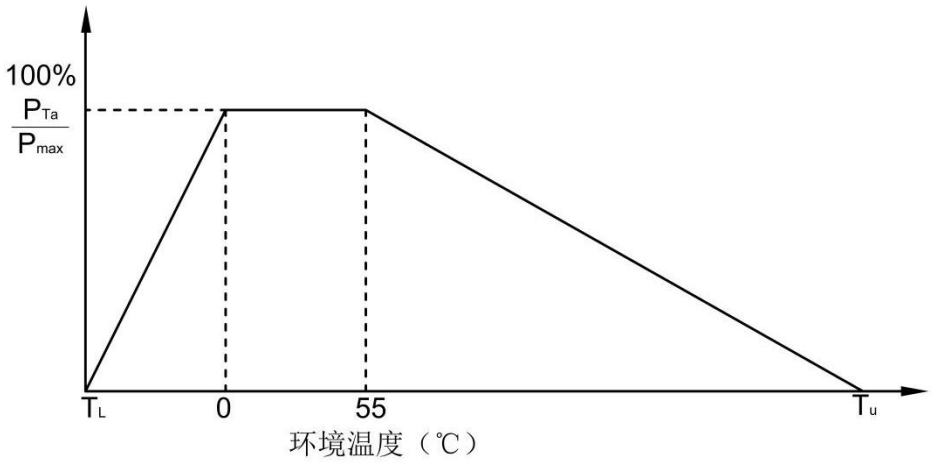
4.6	高温储存 High temperature storage	IEC60068-2-2	温度：250°C±2°C，时间：1000h Temperature: 250°C ± 2°C, Duration: 1000 hrs.	无可见性损伤 No Visible damage $\|\Delta R_{25}/R_{25}\|$≤2%
4.7	低温储存 Low temperature storage	IEC60068-2-1	温度：-55°C±2°C，时间：1000h Temperature: –55°C ± 2°C, Duration: 1000 hrs.	无可见性损伤 No Visible damage $\|\Delta R_{25}/R_{25}\|$≤2%

▲注： 1）稳态湿热及温度快速变化试验结束后，样品需在常温环境下静置 2 小时后再做性能测试；
▲Note：1）After the test of steady-state humid heat and rapid temperature change, the sample should be kept for 2 hours at room temperature before performance test;
2）高温存储结束后，需随测试环境自然恢复至常温，再取出做性能测试。
2）After the test of high-temperature storage is complete, and then take it out for performance test when the test environment naturally regain to normal temperature.

5、推荐波峰焊曲线 Recommended wave soldering profile



6、降功耗曲线 Power derating curve



例如： 环境温度（T_a）=85°C

最高工作温度（T_U）=250°C

P_{Ta}=（T_U-T_a)/(T_U-55)*P_{max}=84.6%P_{max}

环境温度（T_a）= -10°C

最低工作温度（T_L）= -55°C

P_{Ta}=（T_L-T_a)/(T_L-0)*P_{max}=81.8%P_{max}

7、产品包装 Product packaging

7.1 包装方式 Packing Type

☑ 散装方式 Bulk Type ☐编编带方式 Reel Type

7.2 包装规格 Packing specification

No.	包装规格 Packing specification	包装材料、尺寸 Packing material, size	产品数量 Quantity
1	包装袋 Packing bag	自封口袋(self sealing bag) W×H＝125mm×90mm	500/包
2	编编带包装盒 Reel Packing box	265mm*80mm*75mm	5000/盒

8、存储&运输要求 Storage & Transportation requirements

8.1 存储环境要求；Storage environment requirements；
8.1.1 储存温度：-10℃～ +40℃；储存湿度：≤75% RH；
Storage temperature: -10℃～ +40℃; storage humidity: ≤75% RH；
8.1.2 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；
8.1.3 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；
8.2 运输要求；Transportation requirements；
8.2.1 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 the height of 4 boxes；
8.2.2 避免产品在运输过程中强烈碰撞和跌落；
Avoid strong collision and fall during transportation；
8.2.3 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.

9、安装&使用注意事项 Installation & Use precautions

9.1 本产品的用途：温度测量与控制；
Usage of this product: Temperature measurement and control；
9.2 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；
9.3 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；
9.4 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；
9.5 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；
9.6 烙铁焊接时，焊接处距玻壳距离至少 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 glass shell should be at least 2mm, the welding temperature should be lower than 360℃, and the welding time should be less than 3sec；
9.7 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 covered shrinkable tube into a constant temperature oven, and shrink them at 110℃/10 ~ 12min；
9.8 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；

9.9 产品核心芯片为陶瓷半导体，在使用过程中避免挤压或对玻壳物理撞击，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 glass shell in the process of use, so as not to cause product damage;

9.10 若引线弯曲时，弯曲点应距玻壳端 2mm 以上，以免造成玻壳损伤；

In case of lead bending,the dot of bending should be above 2mm from glass shell to avoid of damaging for glass shell.

10、产品认证 Product certification

No.	项目 Projects	产品认证 Product certification
10.1	质量管理体系认证 Quality Management System Certification	ISO9001:2015
		IATF16949：2016
10.2	环境管理体系认证 Environmental Management System Certification	ISO14001:2015
10.3	知识产权管理体系认证 Intellectual Property Management System Certification	GB/T29490-2013
10.4	环保检测报告 Environmental test report	RoHS 2.0
10.5	UL/cUL 认证（E240991） UL/cUL certificate（E240991）	
10.6	CQC 认证（CQC09001033986） CQC certificate（CQC09001033986）	
10.7	TUV 认证（R50245892） TUV certificate（R50245892）	

附表 I Attachment I

南京时恒电子科技有限公司

R_{25}=100kΩ 精度:±1%　　$B_{25/50}$=3950K 精度:±1%（P182-6B2）

温度(°C)	电阻(kΩ)			电阻精度(%)		温度精度(°C)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
-40	2840.49	2971	3101.5	4.392	-4.392	0.658	-0.658
-39	2687.04	2808.85	2930.66	4.336	-4.336	0.653	-0.653
-38	2536.86	2650.25	2763.64	4.278	-4.278	0.648	-0.648
-37	2391.5	2496.84	2602.17	4.218	-4.218	0.643	-0.643
-36	2252.03	2349.73	2447.43	4.157	-4.157	0.639	-0.639
-35	2119.13	2209.64	2300.16	4.096	-4.096	0.634	-0.634
-34	1993.16	2076.95	2160.75	4.034	-4.034	0.629	-0.629
-33	1874.27	1951.8	2029.33	3.972	-3.972	0.624	-0.624
-32	1762.44	1834.15	1905.87	3.91	-3.91	0.619	-0.619
-31	1657.5	1723.83	1790.16	3.847	-3.847	0.614	-0.614
-30	1559.22	1620.57	1681.93	3.786	-3.786	0.609	-0.609
-29	1467.29	1524.05	1580.82	3.724	-3.724	0.604	-0.604
-28	1381.38	1433.91	1486.45	3.663	-3.663	0.599	-0.599
-27	1301.14	1349.78	1398.41	3.603	-3.603	0.594	-0.594
-26	1226.22	1271.26	1316.31	3.543	-3.543	0.589	-0.589
-25	1156.26	1198	1239.73	3.483	-3.483	0.583	-0.583
-24	1090.92	1129.61	1168.3	3.424	-3.424	0.578	-0.578
-23	1029.87	1065.75	1101.63	3.366	-3.366	0.573	-0.573
-22	972.806	1006.1	1039.39	3.309	-3.309	0.567	-0.567
-21	919.43	950.336	981.242	3.252	-3.252	0.561	-0.561
-20	869.472	898.174	926.876	3.195	-3.195	0.556	-0.556
-19	822.68	849.346	876.013	3.139	-3.139	0.55	-0.55
-18	778.818	803.604	828.39	3.084	-3.084	0.544	-0.544
-17	737.672	760.718	783.763	3.029	-3.029	0.538	-0.538
-16	699.043	720.477	741.912	2.975	-2.975	0.532	-0.532
-15	662.746	682.689	702.631	2.921	-2.921	0.526	-0.526
-14	628.615	647.175	665.734	2.867	-2.867	0.52	-0.52

-13	596.496	613.772	631.048	2.814	-2.814	0.514	-0.514
-12	566.246	582.331	598.416	2.762	-2.762	0.508	-0.508
-11	537.737	552.716	567.694	2.709	-2.709	0.501	-0.501
-10	510.85	524.8	538.749	2.658	-2.658	0.495	-0.495
-9	485.475	498.468	511.461	2.606	-2.606	0.488	-0.488
-8	461.512	473.615	485.718	2.555	-2.555	0.482	-0.482
-7	438.869	450.143	461.417	2.504	-2.504	0.475	-0.475
-6	417.461	427.964	438.466	2.454	-2.454	0.468	-0.468
-5	397.211	406.994	416.777	2.403	-2.403	0.462	-0.462
-4	378.045	387.158	396.271	2.353	-2.353	0.455	-0.455
-3	359.897	368.385	376.873	2.304	-2.304	0.448	-0.448
-2	342.707	350.612	358.517	2.254	-2.254	0.441	-0.441
-1	326.416	333.777	341.138	2.205	-2.205	0.434	-0.434
0	308.893	315.68	322.466	2.149	-2.149	0.428	-0.428
1	296.326	302.706	309.086	2.107	-2.107	0.419	-0.419
2	282.432	288.37	294.308	2.059	-2.059	0.412	-0.412
3	269.247	274.773	280.298	2.01	-2.01	0.405	-0.405
4	256.732	261.872	267.012	1.962	-1.962	0.397	-0.397
5	244.85	249.63	254.41	1.914	-1.914	0.39	-0.39
6	233.565	238.009	242.453	1.867	-1.867	0.383	-0.383
7	222.845	226.976	231.106	1.819	-1.819	0.375	-0.375
8	212.66	216.498	220.335	1.772	-1.772	0.367	-0.367
9	202.981	206.545	210.109	1.725	-1.725	0.36	-0.36
10	192.029	195.29	198.55	1.669	-1.669	0.355	-0.355
11	185.035	188.105	191.175	1.631	-1.631	0.344	-0.344
12	176.719	179.566	182.413	1.585	-1.585	0.336	-0.336
13	168.81	171.449	174.088	1.539	-1.539	0.328	-0.328
14	161.287	163.732	166.176	1.493	-1.493	0.32	-0.32
15	154.13	156.394	158.657	1.447	-1.447	0.312	-0.312
16	147.321	149.415	151.509	1.401	-1.401	0.304	-0.304
17	140.84	142.776	144.712	1.356	-1.356	0.296	-0.296
18	134.672	136.461	138.25	1.31	-1.31	0.288	-0.288
19	128.8	130.451	132.103	1.265	-1.265	0.279	-0.279
20	123.21	124.733	126.256	1.221	-1.221	0.271	-0.271

21	117.886	119.289	120.693	1.176	-1.176	0.263	-0.263
22	112.816	114.107	115.399	1.131	-1.131	0.254	-0.254
23	107.986	109.173	110.361	1.087	-1.087	0.246	-0.246
24	103.384	104.475	105.565	1.043	-1.043	0.237	-0.237
25	99	100	101	1	-1	0.229	-0.229
26	94.737	95.736	96.735	1.043	-1.043	0.24	-0.24
27	90.678	91.674	92.671	1.086	-1.086	0.251	-0.251
28	86.811	87.803	88.796	1.13	-1.13	0.263	-0.263
29	83.127	84.114	85.101	1.172	-1.172	0.274	-0.274
30	79.617	80.597	81.576	1.215	-1.215	0.286	-0.286
31	76.271	77.243	78.215	1.258	-1.258	0.298	-0.298
32	73.082	74.045	75.008	1.3	-1.3	0.31	-0.31
33	70.041	70.994	71.947	1.342	-1.342	0.321	-0.321
34	67.141	68.083	69.026	1.384	-1.384	0.333	-0.333
35	64.375	65.306	66.237	1.426	-1.426	0.345	-0.345
36	61.736	62.655	63.575	1.467	-1.467	0.358	-0.358
37	59.217	60.125	61.032	1.508	-1.508	0.37	-0.37
38	56.814	57.708	58.603	1.549	-1.549	0.382	-0.382
39	54.52	55.401	56.282	1.59	-1.59	0.394	-0.394
40	52.329	53.196	54.064	1.631	-1.631	0.407	-0.407
41	50.236	51.09	51.944	1.671	-1.671	0.419	-0.419
42	48.238	49.078	49.918	1.711	-1.711	0.432	-0.432
43	46.328	47.154	47.98	1.751	-1.751	0.444	-0.444
44	44.503	45.315	46.127	1.791	-1.791	0.457	-0.457
45	42.759	43.556	44.354	1.831	-1.831	0.47	-0.47
46	41.091	41.874	42.657	1.87	-1.87	0.483	-0.483
47	39.496	40.264	41.033	1.909	-1.909	0.495	-0.495
48	37.97	38.724	39.479	1.948	-1.948	0.508	-0.508
49	36.51	37.251	37.991	1.987	-1.987	0.521	-0.521
50	35.113	35.84	36.566	2.026	-2.026	0.535	-0.535
51	33.776	34.488	35.2	2.064	-2.064	0.548	-0.548
52	32.496	33.194	33.892	2.102	-2.102	0.561	-0.561
53	31.271	31.955	32.639	2.14	-2.14	0.574	-0.574
54	30.097	30.767	31.437	2.178	-2.178	0.588	-0.588

55	28.972	29.629	30.285	2.216	-2.216	0.601	-0.601
56	27.894	28.537	29.181	2.254	-2.254	0.615	-0.615
57	26.861	27.491	28.121	2.291	-2.291	0.628	-0.628
58	25.871	26.488	27.105	2.328	-2.328	0.642	-0.642
59	24.922	25.525	26.129	2.365	-2.365	0.656	-0.656
60	24.011	24.602	25.193	2.402	-2.402	0.67	-0.67
61	23.138	23.716	24.295	2.439	-2.439	0.683	-0.683
62	22.3	22.866	23.432	2.475	-2.475	0.697	-0.697
63	21.495	22.049	22.603	2.512	-2.512	0.711	-0.711
64	20.724	21.265	21.807	2.548	-2.548	0.725	-0.725
65	19.982	20.513	21.043	2.584	-2.584	0.74	-0.74
66	19.271	19.789	20.308	2.62	-2.62	0.754	-0.754
67	18.588	19.095	19.602	2.655	-2.655	0.768	-0.768
68	17.931	18.427	18.923	2.691	-2.691	0.782	-0.782
69	17.3	17.785	18.27	2.727	-2.727	0.797	-0.797
70	16.694	17.168	17.643	2.762	-2.762	0.811	-0.811
71	16.112	16.575	17.039	2.797	-2.797	0.826	-0.826
72	15.552	16.005	16.458	2.832	-2.832	0.841	-0.841
73	15.013	15.456	15.9	2.867	-2.867	0.855	-0.855
74	14.495	14.929	15.362	2.902	-2.902	0.87	-0.87
75	13.997	14.421	14.844	2.936	-2.936	0.885	-0.885
76	13.518	13.932	14.346	2.971	-2.971	0.9	-0.9
77	13.057	13.462	13.867	3.005	-3.005	0.915	-0.915
78	12.614	13.009	13.405	3.039	-3.039	0.93	-0.93
79	12.187	12.573	12.96	3.073	-3.073	0.945	-0.945
80	11.776	12.154	12.531	3.107	-3.107	0.96	-0.96
81	11.38	11.749	12.119	3.141	-3.141	0.975	-0.975
82	10.999	11.36	11.721	3.175	-3.175	0.991	-0.991
83	10.632	10.985	11.337	3.209	-3.209	1.006	-1.006
84	10.279	10.624	10.968	3.242	-3.242	1.022	-1.022
85	9.703	10.035	10.366	3.299	-3.299	1.034	-1.034
86	9.611	9.94	10.268	3.309	-3.309	1.053	-1.053
87	9.295	9.616	9.937	3.342	-3.342	1.068	-1.068
88	8.99	9.304	9.618	3.375	-3.375	1.084	-1.084

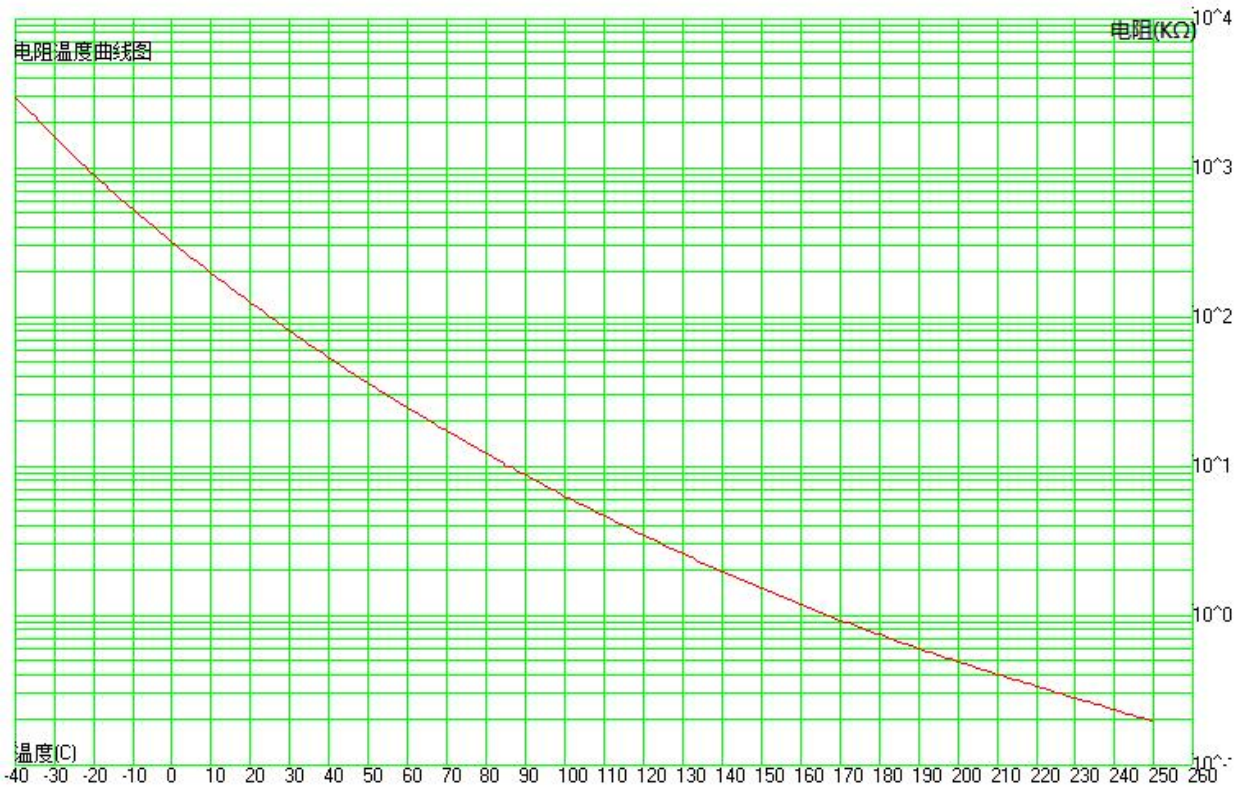
89	8.696	9.003	9.31	3.408	-3.408	1.1	-1.1
90	8.413	8.713	9.013	3.44	-3.44	1.116	-1.116
91	8.141	8.434	8.727	3.473	-3.473	1.132	-1.132
92	7.878	8.164	8.45	3.505	-3.505	1.148	-1.148
93	7.624	7.904	8.183	3.538	-3.538	1.164	-1.164
94	7.379	7.653	7.926	3.57	-3.57	1.18	-1.18
95	7.143	7.41	7.677	3.602	-3.602	1.196	-1.196
96	6.916	7.176	7.437	3.634	-3.634	1.212	-1.212
97	6.696	6.951	7.206	3.666	-3.666	1.229	-1.229
98	6.484	6.733	6.982	3.698	-3.698	1.245	-1.245
99	6.28	6.523	6.766	3.73	-3.73	1.262	-1.262
100	5.939	6.173	6.406	3.785	-3.785	1.275	-1.275
101	5.892	6.124	6.356	3.793	-3.793	1.295	-1.295
102	5.708	5.935	6.162	3.825	-3.825	1.312	-1.312
103	5.53	5.752	5.974	3.856	-3.856	1.328	-1.328
104	5.359	5.576	5.793	3.887	-3.887	1.345	-1.345
105	5.193	5.405	5.617	3.918	-3.918	1.362	-1.362
106	5.034	5.241	5.448	3.949	-3.949	1.379	-1.379
107	4.879	5.082	5.284	3.98	-3.98	1.396	-1.396
108	4.73	4.928	5.126	4.011	-4.011	1.413	-1.413
109	4.586	4.779	4.973	4.041	-4.041	1.431	-1.431
110	4.447	4.636	4.825	4.072	-4.072	1.448	-1.448
111	4.313	4.497	4.682	4.102	-4.102	1.465	-1.465
112	4.183	4.363	4.544	4.132	-4.132	1.483	-1.483
113	4.057	4.234	4.41	4.162	-4.162	1.5	-1.5
114	3.936	4.109	4.281	4.193	-4.193	1.518	-1.518
115	3.819	3.987	4.156	4.222	-4.222	1.535	-1.535
116	3.706	3.87	4.035	4.252	-4.252	1.553	-1.553
117	3.596	3.757	3.918	4.282	-4.282	1.571	-1.571
118	3.49	3.648	3.805	4.312	-4.312	1.589	-1.589
119	3.388	3.542	3.696	4.341	-4.341	1.606	-1.606
120	3.289	3.439	3.59	4.37	-4.37	1.624	-1.624
121	3.193	3.34	3.487	4.4	-4.4	1.642	-1.642
122	3.101	3.245	3.388	4.429	-4.429	1.661	-1.661

123	3.011	3.152	3.292	4.458	-4.458	1.679	-1.679
124	2.925	3.062	3.2	4.487	-4.487	1.697	-1.697
125	2.841	2.976	3.11	4.515	-4.515	1.715	-1.715
126	2.76	2.892	3.023	4.544	-4.544	1.734	-1.734
127	2.682	2.81	2.939	4.573	-4.573	1.752	-1.752
128	2.606	2.732	2.857	4.601	-4.601	1.771	-1.771
129	2.533	2.656	2.778	4.629	-4.629	1.789	-1.789
130	2.462	2.582	2.702	4.657	-4.657	1.808	-1.808
131	2.393	2.51	2.628	4.686	-4.686	1.827	-1.827
132	2.326	2.441	2.557	4.713	-4.713	1.846	-1.846
133	2.262	2.375	2.487	4.741	-4.741	1.865	-1.865
134	2.2	2.31	2.42	4.769	-4.769	1.884	-1.884
135	2.139	2.247	2.355	4.796	-4.796	1.903	-1.903
136	2.081	2.186	2.292	4.824	-4.824	1.922	-1.922
137	2.024	2.127	2.231	4.851	-4.851	1.941	-1.941
138	1.969	2.07	2.172	4.878	-4.878	1.96	-1.96
139	1.916	2.015	2.114	4.905	-4.905	1.98	-1.98
140	1.865	1.962	2.059	4.932	-4.932	1.999	-1.999
141	1.815	1.91	2.005	4.959	-4.959	2.019	-2.019
142	1.767	1.86	1.952	4.986	-4.986	2.038	-2.038
143	1.72	1.811	1.902	5.012	-5.012	2.058	-2.058
144	1.675	1.764	1.853	5.039	-5.039	2.078	-2.078
145	1.631	1.718	1.805	5.065	-5.065	2.097	-2.097
146	1.589	1.674	1.759	5.091	-5.091	2.117	-2.117
147	1.547	1.631	1.714	5.117	-5.117	2.137	-2.137
148	1.507	1.589	1.671	5.143	-5.143	2.157	-2.157
149	1.469	1.549	1.629	5.169	-5.169	2.177	-2.177
150	1.431	1.51	1.588	5.195	-5.195	2.198	-2.198
151	1.395	1.471	1.548	5.22	-5.22	2.218	-2.218
152	1.359	1.435	1.51	5.246	-5.246	2.238	-2.238
153	1.325	1.399	1.473	5.271	-5.271	2.259	-2.259
154	1.292	1.364	1.436	5.296	-5.296	2.279	-2.279
155	1.26	1.33	1.401	5.321	-5.321	2.3	-2.3
156	1.228	1.298	1.367	5.346	-5.346	2.32	-2.32

157	1.198	1.266	1.334	5.371	-5.371	2.341	-2.341
158	1.169	1.235	1.302	5.395	-5.395	2.362	-2.362
159	1.14	1.205	1.271	5.42	-5.42	2.382	-2.382
160	1.112	1.176	1.241	5.444	-5.444	2.403	-2.403
161	1.085	1.148	1.211	5.468	-5.468	2.424	-2.424
162	1.059	1.121	1.183	5.493	-5.493	2.445	-2.445
163	1.034	1.094	1.155	5.517	-5.517	2.467	-2.467
164	1.009	1.069	1.128	5.54	-5.54	2.488	-2.488
165	0.985	1.044	1.102	5.564	-5.564	2.509	-2.509
166	0.962	1.019	1.076	5.588	-5.588	2.53	-2.53
167	0.94	0.996	1.051	5.611	-5.611	2.552	-2.552
168	0.918	0.973	1.027	5.635	-5.635	2.573	-2.573
169	0.896	0.95	1.004	5.658	-5.658	2.595	-2.595
170	0.876	0.929	0.981	5.681	-5.681	2.617	-2.617
171	0.856	0.907	0.959	5.704	-5.704	2.638	-2.638
172	0.836	0.887	0.938	5.727	-5.727	2.66	-2.66
173	0.817	0.867	0.917	5.75	-5.75	2.682	-2.682
174	0.799	0.848	0.897	5.772	-5.772	2.704	-2.704
175	0.781	0.829	0.877	5.795	-5.795	2.726	-2.726
176	0.763	0.81	0.858	5.817	-5.817	2.748	-2.748
177	0.746	0.793	0.839	5.84	-5.84	2.77	-2.77
178	0.73	0.775	0.821	5.862	-5.862	2.793	-2.793
179	0.714	0.758	0.803	5.884	-5.884	2.815	-2.815
180	0.698	0.742	0.786	5.906	-5.906	2.837	-2.837
181	0.683	0.726	0.769	5.927	-5.927	2.86	-2.86
182	0.668	0.71	0.753	5.949	-5.949	2.882	-2.882
183	0.654	0.695	0.737	5.971	-5.971	2.905	-2.905
184	0.64	0.68	0.721	5.992	-5.992	2.928	-2.928
185	0.626	0.666	0.706	6.014	-6.014	2.95	-2.95
186	0.613	0.652	0.691	6.035	-6.035	2.973	-2.973
187	0.6	0.638	0.677	6.056	-6.056	2.996	-2.996
188	0.587	0.625	0.663	6.077	-6.077	3.019	-3.019
189	0.575	0.612	0.65	6.098	-6.098	3.042	-3.042
190	0.563	0.6	0.636	6.119	-6.119	3.065	-3.065

191	0.551	0.587	0.623	6.14	-6.14	3.089	-3.089
192	0.54	0.575	0.611	6.16	-6.16	3.112	-3.112
193	0.529	0.564	0.598	6.181	-6.181	3.135	-3.135
194	0.518	0.552	0.587	6.201	-6.201	3.159	-3.159
195	0.507	0.541	0.575	6.222	-6.222	3.182	-3.182
196	0.497	0.53	0.563	6.242	-6.242	3.206	-3.206
197	0.487	0.52	0.552	6.262	-6.262	3.229	-3.229
198	0.477	0.509	0.541	6.282	-6.282	3.253	-3.253
199	0.468	0.499	0.531	6.302	-6.302	3.277	-3.277
200	0.459	0.49	0.52	6.322	-6.322	3.301	-3.301
201	0.449	0.48	0.51	6.342	-6.342	3.325	-3.325
202	0.441	0.471	0.501	6.361	-6.361	3.349	-3.349
203	0.432	0.461	0.491	6.381	-6.381	3.373	-3.373
204	0.423	0.452	0.481	6.401	-6.401	3.397	-3.397
205	0.415	0.444	0.472	6.42	-6.42	3.421	-3.421
206	0.407	0.435	0.463	6.44	-6.44	3.446	-3.446
207	0.399	0.427	0.455	6.459	-6.459	3.47	-3.47
208	0.392	0.419	0.446	6.478	-6.478	3.494	-3.494
209	0.384	0.411	0.438	6.497	-6.497	3.519	-3.519
210	0.377	0.403	0.429	6.516	-6.516	3.544	-3.544
211	0.37	0.395	0.421	6.535	-6.535	3.568	-3.568
212	0.363	0.388	0.414	6.554	-6.554	3.593	-3.593
213	0.356	0.381	0.406	6.573	-6.573	3.618	-3.618
214	0.349	0.374	0.398	6.592	-6.592	3.643	-3.643
215	0.342	0.367	0.391	6.611	-6.611	3.668	-3.668
216	0.336	0.36	0.384	6.63	-6.63	3.693	-3.693
217	0.33	0.353	0.377	6.648	-6.648	3.718	-3.718
218	0.324	0.347	0.37	6.667	-6.667	3.743	-3.743
219	0.318	0.34	0.363	6.686	-6.686	3.768	-3.768
220	0.312	0.334	0.357	6.704	-6.704	3.793	-3.793
221	0.306	0.328	0.35	6.723	-6.723	3.819	-3.819
222	0.3	0.322	0.344	6.741	-6.741	3.844	-3.844
223	0.295	0.316	0.338	6.76	-6.76	3.87	-3.87
224	0.289	0.31	0.331	6.778	-6.778	3.895	-3.895

225	0.284	0.305	0.325	6.796	-6.796	3.921	-3.921
226	0.279	0.299	0.32	6.815	-6.815	3.947	-3.947
227	0.274	0.294	0.314	6.833	-6.833	3.972	-3.972
228	0.269	0.288	0.308	6.851	-6.851	3.998	-3.998
229	0.264	0.283	0.303	6.869	-6.869	4.024	-4.024
230	0.259	0.278	0.297	6.888	-6.888	4.05	-4.05
231	0.254	0.273	0.292	6.906	-6.906	4.076	-4.076
232	0.25	0.268	0.287	6.924	-6.924	4.102	-4.102
233	0.245	0.263	0.282	6.942	-6.942	4.128	-4.128
234	0.241	0.259	0.277	6.96	-6.96	4.155	-4.155
235	0.236	0.254	0.272	6.978	-6.978	4.181	-4.181
236	0.232	0.25	0.267	6.996	-6.996	4.207	-4.207
237	0.228	0.245	0.262	7.014	-7.014	4.234	-4.234
238	0.224	0.241	0.258	7.033	-7.033	4.26	-4.26
239	0.22	0.236	0.253	7.051	-7.051	4.287	-4.287
240	0.216	0.232	0.249	7.069	-7.069	4.314	-4.314
241	0.212	0.228	0.244	7.087	-7.087	4.34	-4.34
242	0.208	0.224	0.24	7.105	-7.105	4.367	-4.367
243	0.204	0.22	0.235	7.123	-7.123	4.394	-4.394
244	0.2	0.216	0.231	7.141	-7.141	4.421	-4.421
245	0.197	0.212	0.227	7.159	-7.159	4.448	-4.448
246	0.193	0.208	0.223	7.178	-7.178	4.475	-4.475
247	0.19	0.204	0.219	7.196	-7.196	4.502	-4.502
248	0.186	0.201	0.215	7.214	-7.214	4.529	-4.529
249	0.183	0.197	0.211	7.232	-7.232	4.556	-4.556
250	0.179	0.194	0.208	7.251	-7.251	4.583	-4.583


电阻温度曲线图
电阻(KΩ)
10^4
10^3
10^2
10^1
10^0
温度(C)
-40 -30 -20 -10 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 190 200 210 220 230 240 250 260

附表 II Attachment II

