



南京时恒电子科技有限公司
Nanjing Shiheng Electronics Co.,Ltd.

规格承认书

APPROVAL SHEET

客户名称 CUSTOMER : _____
产品名称 PART NAME : MF58 玻壳型 NTC 热敏电阻器
MF58 Glass shell NTC Thermistor
产品规格 PART NUMBER : MF58- 104F3950
产品编号 PRODUCTCODE: _____
版次 REV.NO: B0
日期 DATE: 2022-8-10

确认

CONFIRM

客户 CLIENT		供货商/制造商 MANUFACTOR	
品保部 Quality Dep.		规格书制作 Design	吴迎丽
制造部 Production Dep.		业务部审核 Checked by sales	
工程部 Engineering Dep.		技术部审核 Checked by R&D	程鹏
		品质部审核 Checked by QA	李少媛

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 号邮编 Postcode: 211121

Address: No.18 Jinyang Road Hushu Town Jiangning District Nanjing China

TEL: 025-52121868

Http: //www.shiheng.com.cn

E-MAIL:sales@shiheng.com.cn



变更记录表

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 datasheet, add to management and control for number of edition, refine to PN and draw.	王月婷	李少媛

1、产品型号说明 Product model specification

MF58 **104** **F** **3950**


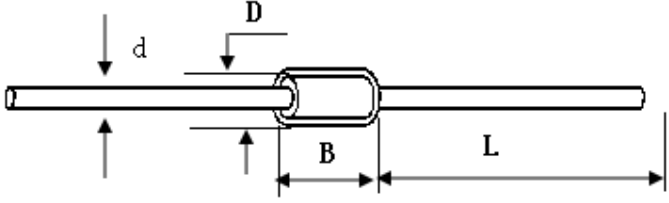
① ② ③ ④

- ① MF58: 玻壳型 NTC 热敏电阻器系列 (Series Glass shell NTC Thermistor)
- 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: B25/50 值 3950K (B25/50:3950K)

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℃}	T _a =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	3950±1%
2.3	耗散系数 Thermal dissipation Coefficient	δ	静止空气中 In still air	mW/ ℃	≥ 2
2.4	时间常数 Thermal time constant	τ	静止空气中 In still air	sec	≤ 20
2.5	耐电压 withstand voltage	/	1500V/AC 1min	/	无击穿或飞弧 No breakthrough and flash over
2.6	绝缘电阻 Insulation resistance	/	500V/DC 1min	MΩ	≥500
2.7	工作温度范围 Operating temperature range	/	/	℃	-55℃~ 250℃
2.8	最大额定功率 Maximum rated power	P _{max}	/	mW	50
2.9	阻温特性 R&T-table	/	/	/	见附表 I See attached table I
2.10	阻值误差&B 值误差 Resistance tolerance& B-value 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)						
						
$D \pm 0.2$		$B \pm 0.3$		$L \pm 1.0$		
1.8		3.7		28		
$d \pm 0.05$		$d \pm 0.05$				
0.5		0.5				
技术要求 Technical requirements:						
1) 零功率阻值: R25: $100K\Omega \pm 1\%$ (Zero Power Resistance: R25: $100K\Omega \pm 1\%$); 2) B25/50 数值: $3950K \pm 1\%$ (B-value: B25/50: $3950K \pm 1\%$); 3) 引线: $\phi 0.5$ 镀锡铜包钢线 ($\Phi 0.5$ tinned copper-weld steel wire); 4) 封装: 玻壳封装 (Glass shell package); 5) 符合 RoHS 环保要求 (Meet environmental protection requirements: RoHS)。						
更新履历 Revised record sheet						
版本 REV. NO	更新时间 REV. DATE	更新内容 Change content			申请人 Applicant	批准人 Approved
A0	2015. 4. 10	版本制定。 Version formulation			王月婷	李少媛
B0	2022. 4. 1	更新规格书版本格式, 增加版次管控 Update for version form of datasheet, add to management and control for number of edition			王月婷	李少媛

4、可靠性 Reliability

No.	项目 Item	试验标准	试验条件及方法 Test conditions and methods	性能要求 Requirements
4.1	引出端强度 Terminal strength	IEC60068-2-21	固定电阻端, 拉力: 10 ± 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 $R_{25} \Delta R/R \leq \pm 2\%$
4.2	可焊性 Solderability	IEC60068-2-20	温度 $245 \pm 5^\circ\text{C}$ 时间 2-3 秒 temperature : $245 \pm 5^\circ\text{C}$ for 2-3sec	着锡面积 $\geq 95\%$ Coverage area $\geq 95\%$.
4.3	耐焊接热 Withstand weiling temp	IEC60068-2-20	锡锅温度: $260 \pm 5^\circ\text{C}$, 浸入深度距电阻体 6mm, 时间 5 ± 1 秒 Temperature of tin pot: $260 \pm 5^\circ\text{C}$, insert depth from body of resistance 6mm, time 5 ± 1 seconds	$R_{25} \Delta R/R \leq \pm 2\%$
4.4	稳态湿热 Steady humidity and heat	IEC60068-2-78	温度: $40^\circ\text{C} \pm 2^\circ\text{C}$, 湿度: $93 \pm 2\%$, 时间: 500 小时 Temp: $40^\circ\text{C} \pm 2^\circ\text{C}$, humidity: $93 \pm 2\%$, Time : 500hrs	$R_{25} \Delta R/R \leq \pm 2\%$
4.5	温度快速变化 Rapid changes in temperature	IEC60068-2-14	-55°C 30min \rightarrow 25°C 5min \rightarrow 250°C 30min \rightarrow 25°C 5min, 5cycles	$R_{25} \Delta R/R \leq \pm 2\%$
4.6	高温储存 High temperature storage	IEC60068-2-2	温度: $250^\circ\text{C} \pm 5^\circ\text{C}$ 时间: 1000 小时 Temp : $250^\circ\text{C} \pm 5^\circ\text{C}$, Time : 1000hrs	$R_{25} \Delta R/R \leq \pm 2\%$
4.7	低温储存 Low temperature storage	IEC60068-2-1	温度: -55°C 时间: 1000 小时 Temp : -55°C , Time : 1000hrs	$R_{25} \Delta R/R \leq \pm 2\%$

▲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) 高温存储及低温存储结束后, 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 - and low-temperature storage is complete, and then take it out for performance test when the test environment naturally regain to normal temperature.

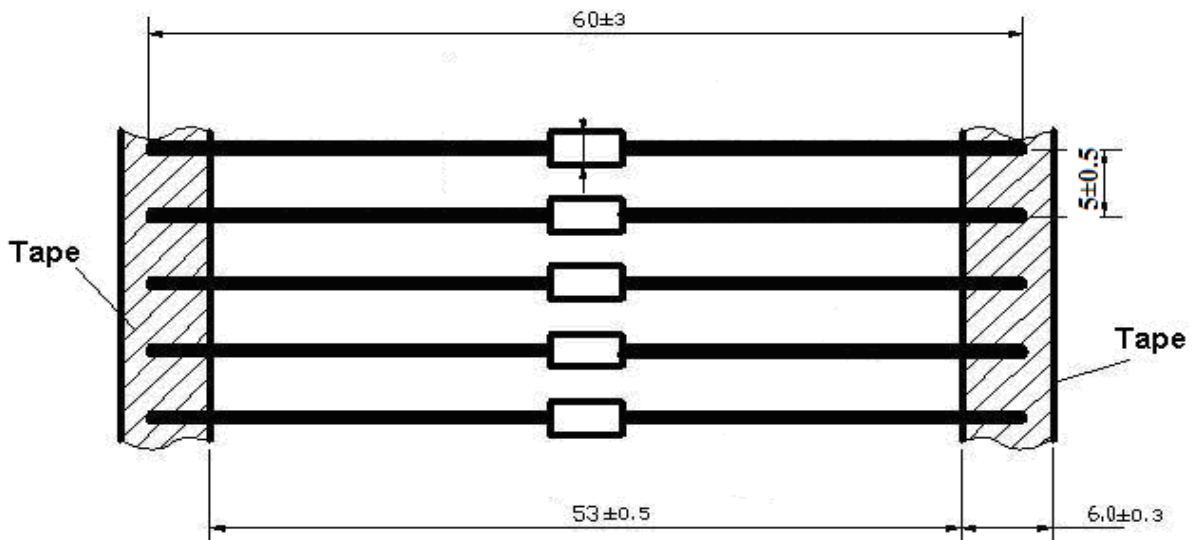
5、产品包装 Product packaging

5.1 包装方式 Packing Type

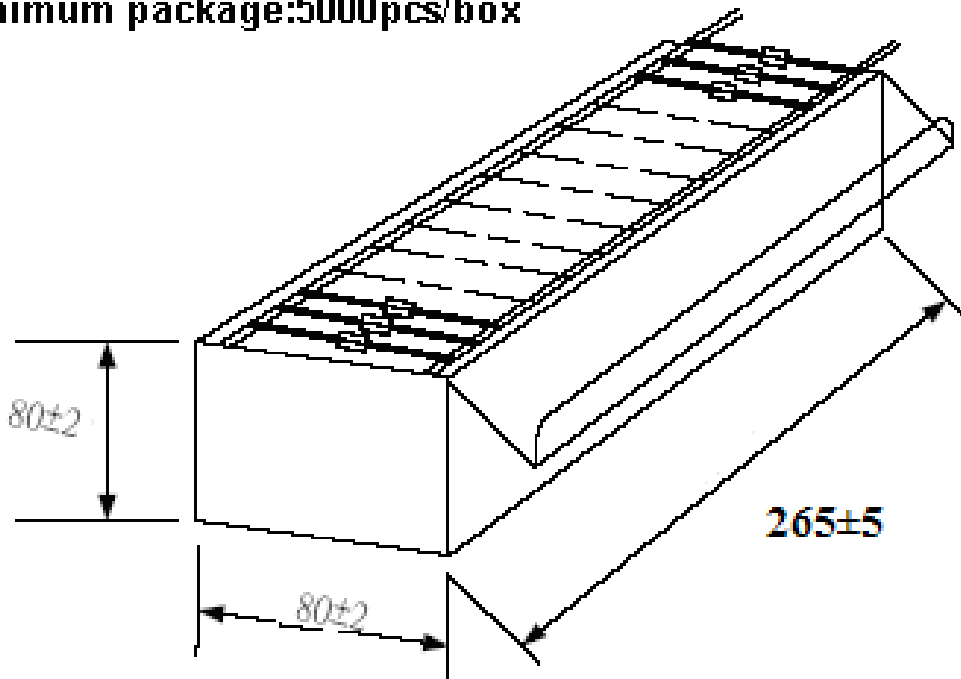
散装方式 Bulk Type 编带方式 Reel Type

5.2 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
2	编带包装盒 Reel Packing box	265mm*80mm*75mm	5000



minimum package:5000pcs/box



编带方式 Reel Type

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；application:test and control for temperature

6.2 避免过大的电流引起元件自身发热而产生测量误差；

To avoid of testing tolerance caused by huge current upon the self-heat of component.

6.3 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 welded by soldering iron,weld spot should be 2mm at least from head,weld temperature should be under 360℃,time<3ses

6.4 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.

6.5 储存温度：-10℃ ~ 40℃；储存湿度：≤75% RH；

storage temp:-10℃ ~ 40℃；storage humidity:≤75% RH

6.6 避免存放在具有腐蚀性气体及光照的环境下；To avoid of leaving with such environment as corrosive gases and illumination

6.6 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；

The packing need to be resealed since opened,storage period 1 year.once valid,it should be retest according to regulated of criterion and can be still used if meet the requirement.

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；

In case of useing heat-shrink tube,hair drier is prohibited.we suggest that put the product with heat shrink into constant-temperature box and heat shrink under 110℃/10-12min

7、产品认证 Product certification

No.	项目 Projects	产品认证 Product certification
8.1	质量管理体系认证 Quality Management System Certification	ISO9001:2015
		IATF16949: 2016
8.2	环境管理体系认证 Environmental Management System Certification	ISO14001:2015
8.3	环保检测报告 Environmental test report	RoHS 2.0
8.4	CQC 认证 CQC certificate	
8.5	UL 认证 UL certificate	E240991
8.6	TUV 认证 UL certificate	R50245892
8.7	苏省高新技术产品认证 High-tech product certificate in Jiangsu Province	
8.8	产品通过 AEC-Q200 测试 Passed by AECQ-200	

附表 I (Attachment I)

南京时恒阻温特性表 SHIHENG R-T Table

R25=100KΩ 精度:±1% B25/50=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
-55	6652.890	7011.860	7389.460	5.385	-5.119	0.741	-0.705
-54	6331.970	6670.290	7025.990	5.332	-5.072	0.737	-0.701
-53	6017.190	6335.440	6669.840	5.278	-5.023	0.732	-0.697
-52	5709.960	6008.770	6322.580	5.222	-4.972	0.728	-0.693
-51	5411.410	5691.510	5985.510	5.165	-4.921	0.723	-0.689
-50	5122.500	5384.660	5659.680	5.107	-4.868	0.719	-0.685
-49	4843.950	5088.980	5345.870	5.047	-4.814	0.714	-0.681
-48	4576.290	4805.020	5044.680	4.987	-4.760	0.710	-0.677
-47	4319.890	4533.160	4756.490	4.926	-4.704	0.705	-0.673
-46	4074.950	4273.610	4481.510	4.864	-4.648	0.700	-0.669
-45	3841.550	4026.430	4219.790	4.802	-4.591	0.696	-0.665
-44	3619.650	3791.580	3971.270	4.739	-4.534	0.691	-0.661
-43	3409.120	3568.880	3735.760	4.675	-4.476	0.686	-0.657
-42	3209.730	3358.100	3512.990	4.612	-4.418	0.681	-0.653
-41	3021.200	3158.930	3302.610	4.548	-4.359	0.676	-0.648
-40	2843.200	2971.000	3104.220	4.484	-4.301	0.672	-0.644
-39	2675.360	2793.890	2917.380	4.419	-4.242	0.667	-0.640
-38	2517.270	2627.180	2741.610	4.355	-4.183	0.662	-0.635
-37	2368.510	2470.400	2576.420	4.291	-4.124	0.657	-0.631
-36	2228.640	2323.090	2421.300	4.227	-4.065	0.652	-0.627
-35	2097.240	2184.770	2275.740	4.163	-4.006	0.646	-0.622

-34	1973.850	2054.980	2139.230	4.099	-3.947	0.641	-0.618
-33	1858.060	1933.240	2011.270	4.036	-3.889	0.636	-0.613
-32	1749.430	1819.110	1891.380	3.972	-3.830	0.631	-0.608
-31	1647.550	1712.140	1779.080	3.909	-3.772	0.626	-0.604
-30	1552.030	1611.900	1673.910	3.847	-3.714	0.620	-0.599
-29	1462.480	1517.980	1575.430	3.784	-3.656	0.615	-0.594
-28	1378.530	1430.000	1483.230	3.722	-3.598	0.609	-0.589
-27	1299.840	1347.570	1396.910	3.661	-3.541	0.604	-0.584
-26	1226.080	1270.350	1316.080	3.600	-3.484	0.598	-0.579
-25	1156.930	1198.000	1240.400	3.539	-3.428	0.593	-0.574
-24	1092.090	1130.190	1169.520	3.479	-3.371	0.587	-0.569
-23	1031.280	1066.650	1103.120	3.419	-3.315	0.581	-0.564
-22	974.244	1007.070	1040.910	3.359	-3.260	0.575	-0.558
-21	920.729	951.217	982.616	3.300	-3.205	0.570	-0.553
-20	870.505	898.820	927.963	3.242	-3.150	0.564	-0.548
-19	823.354	849.657	876.713	3.184	-3.095	0.558	-0.542
-18	779.074	803.514	828.638	3.126	-3.041	0.552	-0.537
-17	737.476	760.189	783.524	3.069	-2.987	0.546	-0.531
-16	698.381	719.495	741.172	3.012	-2.934	0.539	-0.525
-15	661.626	681.256	701.399	2.956	-2.881	0.533	-0.520
-14	627.056	645.311	664.030	2.900	-2.828	0.527	-0.514
-13	594.528	611.507	628.907	2.845	-2.776	0.521	-0.508
-12	563.908	579.703	595.880	2.790	-2.724	0.514	-0.502
-11	535.073	549.768	564.810	2.736	-2.672	0.508	-0.496
-10	507.905	521.579	535.568	2.682	-2.621	0.501	-0.490
-9	482.298	495.024	508.035	2.628	-2.570	0.495	-0.484
-8	458.150	469.995	482.099	2.575	-2.520	0.488	-0.477

-7	435.370	446.396	457.656	2.522	-2.470	0.481	-0.471
-6	413.869	424.134	434.609	2.469	-2.420	0.474	-0.465
-5	393.567	403.123	412.870	2.417	-2.370	0.467	-0.458
-4	374.389	383.286	392.355	2.366	-2.321	0.461	-0.452
-3	356.264	364.548	372.987	2.314	-2.272	0.454	-0.445
-2	339.128	346.840	354.693	2.263	-2.223	0.446	-0.439
-1	322.919	330.099	337.406	2.213	-2.175	0.439	-0.432
0	308.951	315.680	322.523	2.167	-2.131	0.431	-0.424
1	293.060	299.283	305.608	2.113	-2.079	0.425	-0.418
2	279.308	285.101	290.985	2.063	-2.031	0.418	-0.411
3	266.279	271.671	277.144	2.014	-1.984	0.410	-0.404
4	253.930	258.947	264.037	1.965	-1.937	0.403	-0.397
5	242.221	246.889	251.622	1.916	-1.890	0.395	-0.390
6	231.114	235.457	239.856	1.868	-1.844	0.388	-0.383
7	220.575	224.614	228.703	1.820	-1.797	0.380	-0.375
8	210.571	214.326	218.125	1.772	-1.751	0.372	-0.368
9	201.071	204.561	208.090	1.725	-1.706	0.365	-0.360
10	192.047	195.290	198.567	1.678	-1.660	0.357	-0.353
11	183.472	186.484	189.526	1.631	-1.615	0.349	-0.345
12	175.321	178.117	180.940	1.584	-1.569	0.341	-0.338
13	167.571	170.165	172.783	1.538	-1.524	0.333	-0.330
14	160.199	162.605	165.032	1.492	-1.480	0.325	-0.322
15	153.185	155.416	157.664	1.446	-1.435	0.317	-0.314
16	146.510	148.577	150.658	1.400	-1.391	0.308	-0.306
17	140.155	142.068	143.994	1.355	-1.347	0.300	-0.298
18	134.103	135.874	137.654	1.310	-1.303	0.292	-0.290
19	128.339	129.976	131.620	1.265	-1.259	0.283	-0.282

20	122.847	124.358	125.876	1.220	-1.215	0.275	-0.274
21	117.613	119.008	120.407	1.175	-1.172	0.266	-0.265
22	112.623	113.909	115.198	1.131	-1.128	0.258	-0.257
23	107.865	109.049	110.235	1.087	-1.085	0.249	-0.248
24	103.328	104.417	105.507	1.043	-1.042	0.240	-0.240
25	99.000	100.000	101.000	1.000	-1.000	0.232	-0.232
26	94.788	95.786	96.786	1.043	-1.042	0.243	-0.243
27	90.772	91.767	92.765	1.086	-1.085	0.254	-0.254
28	86.941	87.932	88.926	1.129	-1.127	0.266	-0.265
29	83.287	84.272	85.261	1.172	-1.169	0.277	-0.277
30	79.800	80.779	81.761	1.215	-1.211	0.289	-0.288
31	76.473	77.443	78.418	1.258	-1.252	0.301	-0.299
32	73.297	74.258	75.224	1.301	-1.294	0.313	-0.311
33	70.264	71.215	72.172	1.343	-1.335	0.325	-0.323
34	67.368	68.309	69.255	1.385	-1.376	0.337	-0.334
35	64.603	65.532	66.467	1.427	-1.417	0.349	-0.346
36	61.961	62.878	63.802	1.469	-1.458	0.361	-0.358
37	59.437	60.341	61.253	1.511	-1.498	0.373	-0.370
38	57.024	57.916	58.815	1.553	-1.539	0.385	-0.382
39	54.719	55.597	56.484	1.594	-1.579	0.398	-0.394
40	52.515	53.380	54.253	1.635	-1.619	0.410	-0.406
41	50.408	51.259	52.119	1.677	-1.659	0.423	-0.418
42	48.394	49.230	50.076	1.718	-1.699	0.435	-0.430
43	46.467	47.289	48.121	1.759	-1.738	0.448	-0.443
44	44.624	45.432	46.250	1.799	-1.777	0.461	-0.455
45	42.861	43.654	44.458	1.840	-1.817	0.473	-0.467
46	41.174	41.952	42.742	1.881	-1.856	0.486	-0.480

47	39.559	40.323	41.098	1.921	-1.895	0.499	-0.492
48	38.014	38.764	39.524	1.961	-1.933	0.512	-0.505
49	36.535	37.270	38.016	2.001	-1.972	0.525	-0.518
50	35.119	35.840	36.571	2.041	-2.010	0.539	-0.530
51	33.763	34.469	35.187	2.081	-2.048	0.552	-0.543
52	32.464	33.156	33.860	2.121	-2.086	0.565	-0.556
53	31.221	31.898	32.588	2.160	-2.124	0.579	-0.569
54	30.029	30.693	31.368	2.200	-2.162	0.592	-0.582
55	28.888	29.538	30.199	2.239	-2.199	0.606	-0.595
56	27.794	28.430	29.078	2.278	-2.237	0.619	-0.608
57	26.746	27.368	28.002	2.317	-2.274	0.633	-0.622
58	25.741	26.350	26.971	2.356	-2.311	0.647	-0.635
59	24.778	25.374	25.981	2.394	-2.348	0.661	-0.648
60	23.855	24.437	25.032	2.433	-2.385	0.675	-0.662
61	22.969	23.539	24.121	2.471	-2.421	0.689	-0.675
62	22.120	22.678	23.247	2.509	-2.458	0.703	-0.689
63	21.306	21.851	22.408	2.547	-2.494	0.717	-0.702
64	20.525	21.057	21.602	2.585	-2.530	0.731	-0.716
65	19.775	20.296	20.828	2.623	-2.566	0.746	-0.730
66	19.056	19.565	20.086	2.661	-2.601	0.760	-0.743
67	18.366	18.863	19.372	2.698	-2.637	0.775	-0.757
68	17.703	18.189	18.687	2.736	-2.672	0.789	-0.771
69	17.067	17.542	18.029	2.773	-2.708	0.804	-0.785
70	16.457	16.921	17.397	2.810	-2.743	0.819	-0.799
71	15.871	16.324	16.789	2.847	-2.778	0.834	-0.813
72	15.308	15.751	16.205	2.884	-2.812	0.849	-0.828
73	14.767	15.200	15.644	2.920	-2.847	0.864	-0.842

74	14.248	14.671	15.104	2.957	-2.881	0.879	-0.856
75	13.749	14.162	14.586	2.993	-2.916	0.894	-0.871
76	13.269	13.673	14.087	3.029	-2.950	0.909	-0.885
77	12.809	13.203	13.608	3.065	-2.984	0.924	-0.900
78	12.366	12.751	13.146	3.101	-3.018	0.940	-0.914
79	11.940	12.316	12.703	3.137	-3.051	0.955	-0.929
80	11.531	11.898	12.276	3.173	-3.085	0.971	-0.944
81	11.138	11.496	11.865	3.208	-3.118	0.986	-0.958
82	10.759	11.109	11.470	3.243	-3.151	1.002	-0.973
83	10.395	10.737	11.089	3.279	-3.184	1.018	-0.988
84	10.045	10.379	10.723	3.314	-3.217	1.033	-1.003
85	9.708	10.035	10.371	3.348	-3.250	1.049	-1.018
86	9.384	9.703	10.031	3.383	-3.282	1.065	-1.034
87	9.072	9.383	9.704	3.418	-3.315	1.081	-1.049
88	8.772	9.076	9.389	3.452	-3.347	1.098	-1.064
89	8.483	8.780	9.086	3.487	-3.379	1.114	-1.079
90	8.205	8.495	8.794	3.521	-3.411	1.130	-1.095
91	7.937	8.220	8.513	3.555	-3.442	1.147	-1.110
92	7.679	7.956	8.241	3.589	-3.474	1.163	-1.126
93	7.431	7.701	7.980	3.622	-3.505	1.180	-1.141
94	7.192	7.455	7.728	3.656	-3.537	1.196	-1.157
95	6.961	7.219	7.485	3.689	-3.568	1.213	-1.173
96	6.739	6.990	7.251	3.723	-3.599	1.230	-1.189
97	6.525	6.770	7.025	3.756	-3.630	1.247	-1.205
98	6.318	6.558	6.807	3.789	-3.660	1.263	-1.221
99	6.119	6.354	6.597	3.822	-3.691	1.281	-1.237
100	5.943	6.173	6.410	3.852	-3.719	1.298	-1.253

101	5.743	5.966	6.198	3.887	-3.751	1.315	-1.269
102	5.564	5.783	6.010	3.920	-3.781	1.332	-1.285
103	5.392	5.606	5.827	3.952	-3.811	1.349	-1.301
104	5.226	5.435	5.652	3.984	-3.841	1.367	-1.318
105	5.066	5.270	5.482	4.016	-3.871	1.384	-1.334
106	4.911	5.111	5.318	4.048	-3.900	1.402	-1.351
107	4.762	4.957	5.159	4.080	-3.929	1.420	-1.367
108	4.618	4.809	5.007	4.111	-3.959	1.437	-1.384
109	4.479	4.666	4.859	4.143	-3.988	1.455	-1.401
110	4.345	4.527	4.716	4.174	-4.017	1.473	-1.417
111	4.216	4.394	4.578	4.206	-4.045	1.491	-1.434
112	4.091	4.264	4.445	4.237	-4.074	1.509	-1.451
113	3.970	4.140	4.316	4.268	-4.102	1.527	-1.468
114	3.853	4.019	4.192	4.298	-4.131	1.545	-1.485
115	3.740	3.903	4.072	4.329	-4.159	1.564	-1.502
116	3.631	3.790	3.955	4.360	-4.187	1.582	-1.519
117	3.526	3.681	3.843	4.390	-4.215	1.600	-1.536
118	3.424	3.576	3.734	4.420	-4.243	1.619	-1.554
119	3.326	3.474	3.629	4.450	-4.270	1.637	-1.571
120	3.230	3.376	3.527	4.480	-4.298	1.656	-1.589
121	3.138	3.280	3.428	4.510	-4.325	1.675	-1.606
122	3.049	3.188	3.333	4.540	-4.353	1.694	-1.624
123	2.963	3.099	3.241	4.570	-4.380	1.713	-1.641
124	2.880	3.013	3.151	4.599	-4.407	1.732	-1.659
125	2.799	2.929	3.065	4.629	-4.433	1.751	-1.677
126	2.721	2.849	2.981	4.658	-4.460	1.770	-1.695
127	2.646	2.770	2.900	4.687	-4.487	1.789	-1.712

128	2.573	2.695	2.822	4.716	-4.513	1.808	-1.730
129	2.502	2.621	2.746	4.745	-4.540	1.828	-1.748
130	2.434	2.550	2.672	4.774	-4.566	1.847	-1.767
131	2.367	2.481	2.601	4.802	-4.592	1.867	-1.785
132	2.303	2.415	2.532	4.831	-4.618	1.886	-1.803
133	2.241	2.350	2.464	4.859	-4.644	1.906	-1.821
134	2.181	2.288	2.400	4.888	-4.669	1.926	-1.840
135	2.122	2.227	2.337	4.916	-4.695	1.946	-1.858
136	2.066	2.168	2.276	4.944	-4.720	1.965	-1.877
137	2.011	2.111	2.216	4.972	-4.746	1.985	-1.895
138	1.958	2.056	2.159	5.000	-4.771	2.006	-1.914
139	1.907	2.003	2.103	5.027	-4.796	2.026	-1.933
140	1.857	1.951	2.049	5.055	-4.821	2.046	-1.951
141	1.808	1.900	1.997	5.082	-4.846	2.066	-1.970
142	1.761	1.852	1.946	5.110	-4.871	2.087	-1.989
143	1.716	1.804	1.897	5.137	-4.895	2.107	-2.008
144	1.672	1.758	1.849	5.164	-4.920	2.128	-2.027
145	1.629	1.714	1.803	5.191	-4.944	2.148	-2.046
146	1.587	1.670	1.757	5.218	-4.969	2.169	-2.065
147	1.547	1.628	1.714	5.245	-4.993	2.190	-2.085
148	1.508	1.588	1.671	5.271	-5.017	2.211	-2.104
149	1.470	1.548	1.630	5.298	-5.041	2.231	-2.123
150	1.433	1.510	1.590	5.325	-5.065	2.252	-2.143
151	1.397	1.472	1.551	5.351	-5.089	2.274	-2.162
152	1.362	1.436	1.513	5.377	-5.112	2.295	-2.182
153	1.329	1.401	1.476	5.403	-5.136	2.316	-2.201
154	1.296	1.367	1.441	5.429	-5.159	2.337	-2.221

155	1.264	1.333	1.406	5.455	-5.183	2.359	-2.241
156	1.233	1.301	1.372	5.481	-5.206	2.380	-2.261
157	1.203	1.270	1.340	5.507	-5.229	2.402	-2.280
158	1.174	1.239	1.308	5.532	-5.252	2.423	-2.300
159	1.146	1.210	1.277	5.558	-5.275	2.445	-2.320
160	1.118	1.181	1.247	5.583	-5.298	2.467	-2.341
161	1.091	1.153	1.218	5.609	-5.320	2.489	-2.361
162	1.065	1.126	1.189	5.634	-5.343	2.511	-2.381
163	1.040	1.099	1.161	5.659	-5.365	2.533	-2.401
164	1.016	1.073	1.134	5.684	-5.388	2.555	-2.422
165	0.992	1.048	1.108	5.709	-5.410	2.577	-2.442
166	0.968	1.024	1.083	5.734	-5.432	2.599	-2.463
167	0.946	1.000	1.058	5.759	-5.454	2.622	-2.483
168	0.924	0.977	1.034	5.783	-5.476	2.644	-2.504
169	0.902	0.955	1.010	5.808	-5.498	2.666	-2.524
170	0.882	0.933	0.988	5.832	-5.520	2.689	-2.545
171	0.861	0.912	0.965	5.857	-5.542	2.712	-2.566
172	0.842	0.891	0.944	5.881	-5.564	2.734	-2.587
173	0.822	0.871	0.923	5.905	-5.585	2.757	-2.608
174	0.804	0.852	0.902	5.929	-5.607	2.780	-2.629
175	0.786	0.832	0.882	5.953	-5.628	2.803	-2.650
176	0.768	0.814	0.863	5.977	-5.649	2.826	-2.671
177	0.751	0.796	0.844	6.001	-5.670	2.849	-2.692
178	0.734	0.778	0.825	6.024	-5.691	2.872	-2.714
179	0.718	0.761	0.807	6.048	-5.712	2.896	-2.735
180	0.702	0.744	0.790	6.071	-5.733	2.919	-2.756
181	0.686	0.728	0.773	6.095	-5.754	2.942	-2.778

182	0.671	0.712	0.756	6.118	-5.775	2.966	-2.799
183	0.656	0.697	0.740	6.141	-5.795	2.989	-2.821
184	0.642	0.682	0.724	6.165	-5.816	3.013	-2.843
185	0.628	0.667	0.708	6.188	-5.836	3.037	-2.864
186	0.615	0.653	0.693	6.211	-5.857	3.061	-2.886
187	0.601	0.639	0.679	6.233	-5.877	3.084	-2.908
188	0.588	0.625	0.665	6.256	-5.897	3.108	-2.930
189	0.576	0.612	0.651	6.279	-5.917	3.132	-2.952
190	0.564	0.599	0.637	6.302	-5.937	3.157	-2.974
191	0.552	0.587	0.624	6.324	-5.957	3.181	-2.996
192	0.540	0.574	0.611	6.347	-5.977	3.205	-3.018
193	0.529	0.562	0.598	6.369	-5.997	3.229	-3.041
194	0.518	0.551	0.586	6.391	-6.017	3.254	-3.063
195	0.507	0.539	0.574	6.413	-6.036	3.278	-3.086
196	0.496	0.528	0.562	6.436	-6.056	3.303	-3.108
197	0.486	0.517	0.551	6.458	-6.075	3.328	-3.131
198	0.476	0.507	0.540	6.480	-6.095	3.352	-3.153
199	0.466	0.497	0.529	6.501	-6.114	3.377	-3.176
200	0.457	0.487	0.518	6.523	-6.133	3.402	-3.199
201	0.447	0.477	0.508	6.545	-6.152	3.427	-3.221
202	0.438	0.467	0.498	6.566	-6.171	3.452	-3.244
203	0.429	0.458	0.488	6.588	-6.190	3.477	-3.267
204	0.421	0.449	0.478	6.609	-6.209	3.502	-3.290
205	0.412	0.440	0.469	6.631	-6.228	3.528	-3.313
206	0.404	0.431	0.460	6.652	-6.246	3.553	-3.336
207	0.396	0.423	0.451	6.673	-6.265	3.578	-3.360
208	0.388	0.414	0.442	6.694	-6.284	3.604	-3.383

209	0.381	0.406	0.433	6.715	-6.302	3.630	-3.406
210	0.373	0.398	0.425	6.736	-6.321	3.655	-3.430
211	0.366	0.391	0.417	6.757	-6.339	3.681	-3.453
212	0.359	0.383	0.409	6.778	-6.357	3.707	-3.477
213	0.352	0.376	0.401	6.799	-6.375	3.733	-3.500
214	0.345	0.368	0.394	6.819	-6.393	3.759	-3.524
215	0.338	0.361	0.386	6.840	-6.411	3.785	-3.548
216	0.332	0.355	0.379	6.860	-6.429	3.811	-3.571
217	0.325	0.348	0.372	6.881	-6.447	3.837	-3.595
218	0.319	0.341	0.365	6.901	-6.465	3.863	-3.619
219	0.313	0.335	0.358	6.921	-6.482	3.890	-3.643
220	0.307	0.329	0.351	6.941	-6.500	3.916	-3.667
221	0.301	0.323	0.345	6.961	-6.518	3.943	-3.691
222	0.296	0.317	0.339	6.981	-6.535	3.969	-3.716
223	0.290	0.311	0.332	7.001	-6.552	3.996	-3.740
224	0.285	0.305	0.326	7.021	-6.570	4.023	-3.764
225	0.280	0.299	0.321	7.041	-6.587	4.050	-3.789
226	0.274	0.294	0.315	7.061	-6.604	4.077	-3.813
227	0.269	0.289	0.309	7.080	-6.621	4.104	-3.838
228	0.265	0.283	0.304	7.100	-6.638	4.131	-3.862
229	0.260	0.278	0.298	7.119	-6.655	4.158	-3.887
230	0.255	0.273	0.293	7.138	-6.672	4.185	-3.912
231	0.250	0.268	0.288	7.158	-6.689	4.212	-3.936
232	0.246	0.264	0.283	7.177	-6.705	4.240	-3.961
233	0.242	0.259	0.278	7.196	-6.722	4.267	-3.986
234	0.237	0.254	0.273	7.215	-6.739	4.295	-4.011
235	0.233	0.250	0.268	7.234	-6.755	4.322	-4.036

236	0.229	0.246	0.263	7.253	-6.771	4.350	-4.062
237	0.225	0.241	0.259	7.271	-6.788	4.378	-4.087
238	0.221	0.237	0.254	7.290	-6.804	4.406	-4.112
239	0.217	0.233	0.250	7.309	-6.820	4.434	-4.137
240	0.213	0.229	0.246	7.327	-6.836	4.462	-4.163
241	0.210	0.225	0.242	7.346	-6.852	4.490	-4.188
242	0.206	0.221	0.238	7.364	-6.868	4.518	-4.214
243	0.203	0.218	0.234	7.382	-6.884	4.546	-4.239
244	0.199	0.214	0.230	7.401	-6.900	4.575	-4.265
245	0.196	0.210	0.226	7.419	-6.916	4.603	-4.291
246	0.192	0.207	0.222	7.437	-6.931	4.632	-4.317
247	0.189	0.203	0.219	7.455	-6.947	4.660	-4.343
248	0.186	0.200	0.215	7.473	-6.962	4.689	-4.369
249	0.183	0.197	0.211	7.490	-6.978	4.717	-4.395
250	0.180	0.194	0.208	7.508	-6.993	4.746	-4.421

附表 II (Attachment II)

南京时恒电阻误差曲线图
Nanjing The curve of resistance tolerance