编码(Coding)：JK/JXD260729004

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：	MF52 测温型 NTC 热敏电阻器 MF52 Series Temp Measurement NTC Thermistor
产品型号 PART NUMBER：	MF52A 104H3950(A1)
版次 REV.NO:	C0
日期 DATE:	2026-07-29

南京时恒电子科技有限公司
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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	更新规格书版本格式，去掉：产品图纸此一页的变更履历表。 Update for version form of data sheet, 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

MF52	A	104	H	3950	(A1)
①	②	③	④	⑤	⑥

① MF52：测温型 NTC 热敏电阻器系列 (Series Temp Measurement NTC Thermistor)

② A：指引线为镀锡线 (Refers to tinned lead)

③ 104：25℃的零功率电阻值 100kΩ (Zero Power Resistance at 25℃is 100kΩ)

④ H：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%)

⑤ 3950：$B_{25/50}$ 值 3950K ($B_{25/50}$:3950K)

⑥ (A1)：线材规格：引线外径Φ0.3mm (Wire dimension: The outer diameter of lead wire is Φ0.3mm)

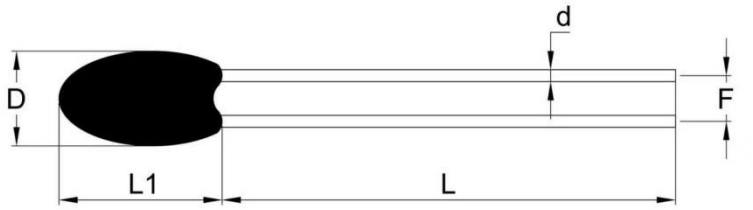
2、电气性能 Electrical Characteristics

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℃ (测试功率≤0.1mW 油槽中测试) (Test Power≤0.1mW，In the oil tank)	kΩ	100kΩ±3%
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%
2.5	耗散系数 Thermal dissipation Coefficient	δ	静止空气中 In still air	mW/℃	约 2
2.6	时间常数 Thermal time constant	τ	静止空气中 In still air	sec	约 12
2.8	绝缘电阻 Insulation resistance	/	100V/DC 1min	MΩ	≥100
2.9	工作温度范围 Operating temperature range	/	/	℃	-55 ~ 125
2.10	最大额定功率 Maximum rated power	Pmax	/	mW	50
2.11	阻温特性 R&T-table	/	/	/	见附表 I See attached table I
2.12	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.	MF52A 104H3950(A1)		审核 Approve:		日期 DATE	

尺寸 Dimensions: （Unit：mm）



DMax	L1Max	LMin	d±0.05	F±0.5
2.5	4.0	25	0.3	1.7

技术要求 Technical requirements:

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

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 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 $\|\Delta R_{25}/R_{25}\| \leqslant 2\%$
4.2	可焊性 Solder ability	IEC60068-2-20	温度：245±5°C，时间：2-3 秒 temperature: 245±5°C, for 2-3 sec	着锡面积≥95% Coverage area≥95%
4.3	耐焊接热 Withstand weiling temp	IEC60068-2-20	锡锅温度：260±5°C，浸入深度距电阻体 6mm，时间 5±1 秒 Temperature of tin pot: 260±5°C, insert deepth from body of resistance 6mm, time 5±1 senconds	无可见性损伤 No obvious damage $\|\Delta R_{25}/R_{25}\| \leqslant 2\%$
4.4	稳态湿热 Steady humidity and heat	IEC60068-2-78	温度：40°C±2°C，湿度：93±2%，时间：500 小时 Temp: 40°C±2°C, humidity: 93±2%, Time: 500 hrs	无可见性损伤 No obvious damage $\|\Delta R_{25}/R_{25}\| \leqslant 2\%$
4.5	温度快速变化 Rapid changes in temperature	IEC60068-2-14	-55°C 30min→25°C 5min→125°C 30min→25°C 5min, 5 cycles	无可见性损伤 No obvious damage $\|\Delta R_{25}/R_{25}\| \leqslant 2\%$
4.6	高温储存 High temperature storage	IEC60068-2-2	温度：125°C±5°C 时间：1000 小时 Temp: 125°C±5°C, Time: 1000 hrs	无可见性损伤 No obvious damage $\|\Delta R_{25}/R_{25}\| \leqslant 2\%$
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: 1000 hrs	无可见性损伤 No obvious damage $\|\Delta R_{25}/R_{25}\| \leqslant 2\%$

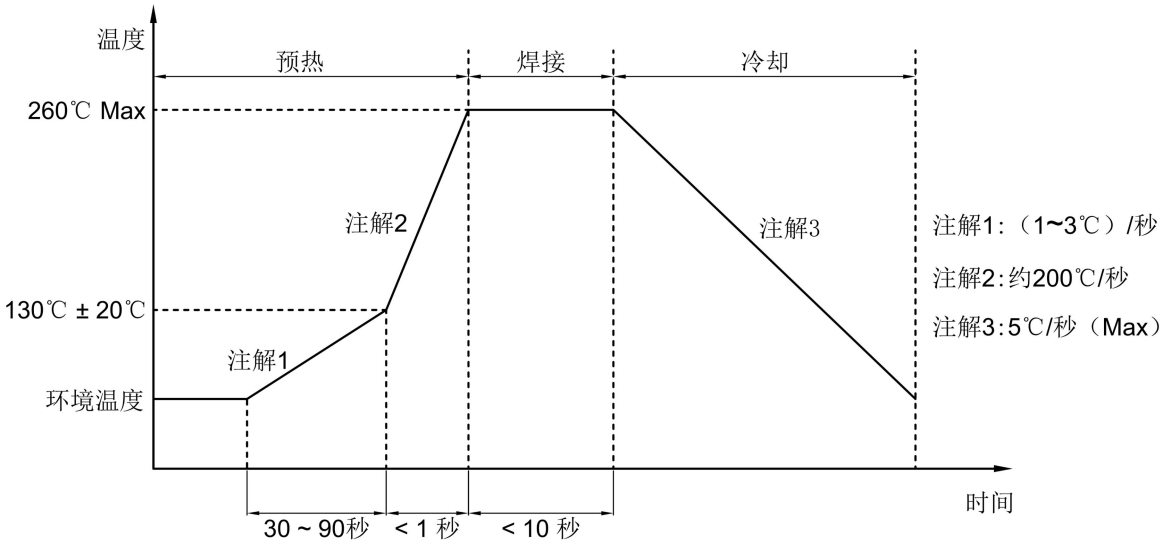
▲注： 1）稳态湿热及温度快速变化试验结束后，样品需在常温环境下静置 2 小时后再做性能测试；

▲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；

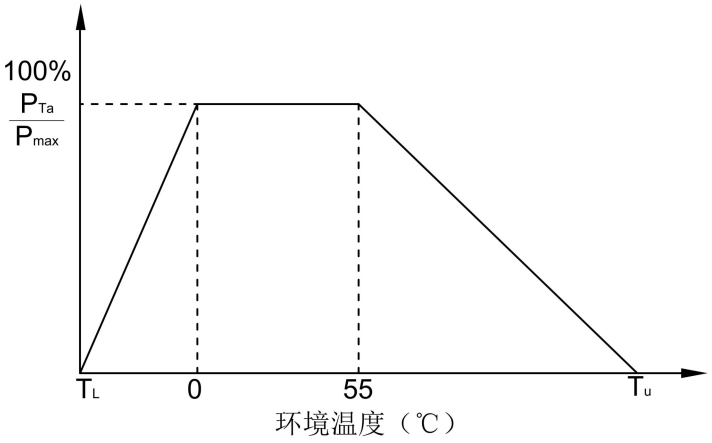
2）高温存储结束后，需随测试环境自然恢复至常温，再取出做性能测试。

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）=90℃
最大工作温度(T_u)=125℃
For example:
Ambient temperature（T_a）=90℃
Maximum operating temperature（T_u）=125℃

$$P_{Ta} = \frac{T_u - T_a}{T_u - 55} \times P_{max} = 50\%P_{max}$$

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=11cm×12cm	
2	编编带包装盒 reel packing box	包装盒 packing box W×G×H=335mm×240mm×50mm	

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

8.1 本产品的用途：温度测量与控制；
Usage of this product: Temperature measurement and control；
8.2 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；
8.3 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 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;
8.4 储存温度：-10℃～40℃；储存湿度：≤75% RH；
Storage temperature: -10℃～ 40℃; storage humidity: ≤75% RH；
8.5 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；
8.6 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；
8.7 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；
8.8 对于 MF52A、B、C、D 等型号的测温型 NTC 热敏电阻器，其均为径向引出线结构，不得将其两引线拉成 180°轴向使用；
For the MF52A, B, C, D Type NTC thermistors, they are all radial lead-out structure, shall not be used to pull its two leads into 180°axial；
8.9 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。

8、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	知识产权管理体系认证 Intellectual Property Management System Certification	GB/T29490-2013
8.4	环保检测报告 Environmental test report	RoHS 2.0
8.5	CQC 认证（CQC07001019009） CQC certificate（CQC07001019009）	
8.6	TUV 认证（R50245892） TUV certificate（R50245892）	
8.7	UL/cUL 认证（E240991） UL/cUL certificate（E240991）	

附表 I Attachment I

南京时恒阻温特性表 SHIHENG R-T Table

R_{25}=100kΩ 精度:±3%　$B_{25/50}$=3950K 精度:±1%（P209-15A）

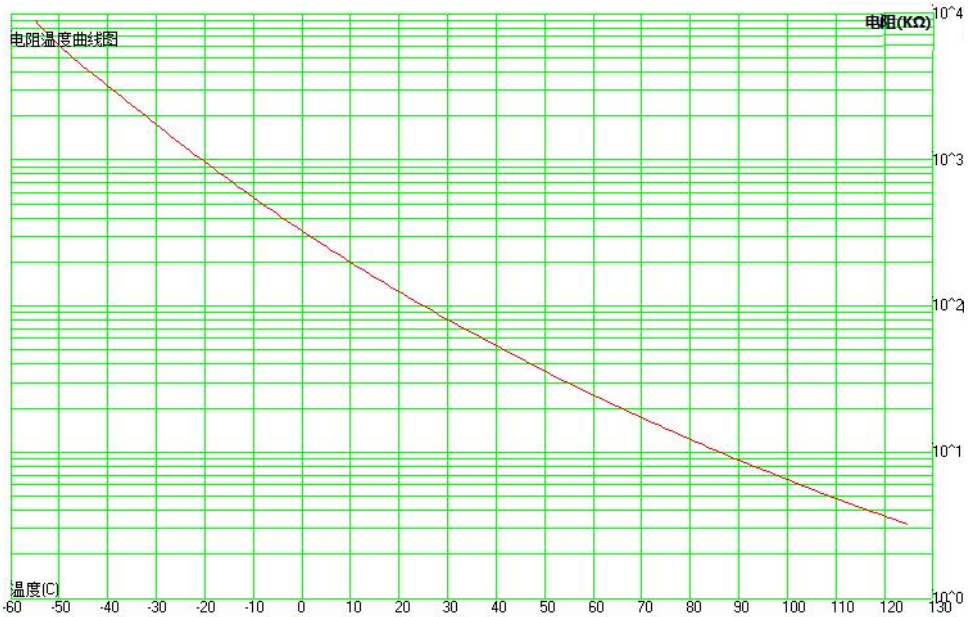
温度(℃)	电阻(kΩ)			电阻精度(%)		温度精度(℃)	
	最小值	中心值	最大值	△R	-△R	△T	-△T
-55	8314.54	8989	9663.45	7.503	-7.503	0.976	-0.976
-54	7631.38	8242.68	8853.98	7.416	-7.416	0.976	-0.976
-53	7036.1	7592.96	8149.83	7.333	-7.333	0.975	-0.975
-52	6511.94	7021.38	7530.82	7.255	-7.255	0.974	-0.974
-51	6046.04	6513.75	6981.46	7.18	-7.18	0.973	-0.973
-50	5628.39	6059.06	6489.73	7.107	-7.107	0.972	-0.972
-49	5251.15	5648.68	6046.2	7.037	-7.037	0.97	-0.97
-48	4908.12	5275.8	5643.48	6.969	-6.969	0.968	-0.968
-47	4594.39	4935.02	5275.64	6.902	-6.902	0.966	-0.966
-46	4306	4621.99	4937.98	6.836	-6.836	0.964	-0.964
-45	4039.77	4333.22	4626.66	6.771	-6.771	0.962	-0.962
-44	3793.1	4065.84	4338.58	6.708	-6.708	0.96	-0.96
-43	3563.85	3817.52	4071.19	6.644	-6.644	0.957	-0.957
-42	3350.25	3586.31	3822.38	6.582	-6.582	0.955	-0.955
-41	3150.82	3370.6	3590.37	6.52	-6.52	0.952	-0.952
-40	2964.33	3169	3373.66	6.458	-6.458	0.949	-0.949
-39	2789.68	2980.33	3170.99	6.397	-6.397	0.947	-0.947
-38	2625.97	2803.6	2981.23	6.335	-6.335	0.944	-0.944
-37	2472.38	2637.91	2803.43	6.274	-6.274	0.941	-0.941
-36	2328.21	2482.47	2636.73	6.213	-6.213	0.938	-0.938
-35	2192.81	2336.58	2480.36	6.153	-6.153	0.935	-0.935
-34	2065.6	2199.62	2333.64	6.092	-6.092	0.932	-0.932
-33	1946.08	2071.02	2195.95	6.032	-6.032	0.929	-0.929
-32	1833.76	1950.23	2066.71	5.972	-5.972	0.926	-0.926
-31	1728.19	1836.79	1945.38	5.912	-5.912	0.923	-0.923
-30	1628.97	1730.23	1831.49	5.852	-5.852	0.92	-0.92
-29	1535.71	1630.15	1724.58	5.792	-5.792	0.917	-0.917
-28	1448.06	1536.14	1624.21	5.733	-5.733	0.914	-0.914
-27	1365.68	1447.84	1529.99	5.674	-5.674	0.911	-0.911
-26	1288.26	1364.9	1441.54	5.614	-5.614	0.908	-0.908
-25	1215.49	1287	1358.5	5.556	-5.556	0.905	-0.905
-24	1147.09	1213.82	1280.55	5.497	-5.497	0.901	-0.901
-23	1082.81	1145.09	1207.38	5.439	-5.439	0.898	-0.898
-22	1022.39	1080.53	1138.68	5.381	-5.381	0.895	-0.895

-21	965.598	1019.89	1074.18	5.323	-5.323	0.891	-0.891
-20	912.208	962.912	1013.61	5.265	-5.265	0.888	-0.888
-19	862.014	909.379	956.744	5.208	-5.208	0.884	-0.884
-18	814.819	859.074	903.33	5.151	-5.151	0.881	-0.881
-17	770.437	811.797	853.158	5.094	-5.094	0.877	-0.877
-16	728.695	767.359	806.023	5.038	-5.038	0.874	-0.874
-15	689.429	725.581	761.733	4.982	-4.982	0.87	-0.87
-14	652.484	686.296	720.109	4.926	-4.926	0.867	-0.867
-13	617.716	649.348	680.981	4.871	-4.871	0.863	-0.863
-12	584.989	614.59	644.191	4.816	-4.816	0.859	-0.859
-11	554.176	581.883	609.591	4.761	-4.761	0.855	-0.855
-10	525.158	551.1	577.041	4.707	-4.707	0.851	-0.851
-9	497.822	522.117	546.413	4.653	-4.653	0.848	-0.848
-8	472.065	494.824	517.583	4.599	-4.599	0.844	-0.844
-7	447.787	469.113	490.439	4.546	-4.546	0.84	-0.84
-6	424.897	444.886	464.875	4.493	-4.493	0.836	-0.836
-5	403.309	422.05	440.79	4.44	-4.44	0.832	-0.832
-4	382.943	400.518	418.092	4.387	-4.387	0.827	-0.827
-3	363.724	380.209	396.694	4.335	-4.335	0.823	-0.823
-2	345.58	361.048	376.515	4.284	-4.284	0.819	-0.819
-1	328.446	342.963	357.48	4.232	-4.232	0.815	-0.815
0	312.897	326.56	340.222	4.183	-4.183	0.809	-0.809
1	296.968	309.764	322.56	4.13	-4.13	0.806	-0.806
2	282.511	294.529	306.547	4.08	-4.08	0.801	-0.801
3	268.841	280.131	291.421	4.03	-4.03	0.797	-0.797
4	255.911	266.52	277.129	3.98	-3.98	0.792	-0.792
5	243.677	253.647	263.618	3.93	-3.93	0.787	-0.787
6	232.097	241.47	250.843	3.881	-3.881	0.783	-0.783
7	221.132	229.946	238.759	3.832	-3.832	0.778	-0.778
8	210.748	219.036	227.325	3.784	-3.784	0.773	-0.773
9	200.909	208.706	216.502	3.735	-3.735	0.768	-0.768
10	191.584	198.92	206.255	3.687	-3.687	0.763	-0.763
11	182.743	189.647	196.55	3.64	-3.64	0.758	-0.758
12	174.359	180.857	187.354	3.592	-3.592	0.753	-0.753
13	166.406	172.523	178.639	3.545	-3.545	0.748	-0.748
14	158.859	164.618	170.377	3.498	-3.498	0.743	-0.743
15	151.695	157.118	162.542	3.451	-3.451	0.738	-0.738
16	144.892	150	155.109	3.405	-3.405	0.733	-0.733
17	138.431	143.243	148.055	3.359	-3.359	0.727	-0.727
18	132.293	136.827	141.36	3.313	-3.313	0.722	-0.722

19	126.459	130.731	135.004	3.267	-3.267	0.716	-0.716
20	120.913	124.94	128.966	3.222	-3.222	0.711	-0.711
21	115.64	119.435	123.23	3.177	-3.177	0.706	-0.706
22	110.624	114.202	117.779	3.132	-3.132	0.7	-0.7
23	105.852	109.225	112.598	3.088	-3.088	0.695	-0.695
24	101.31	104.491	107.671	3.043	-3.043	0.69	-0.69
25	97	100	103	3	-3	0.685	-0.685
26	92.786	95.699	98.612	3.043	-3.043	0.694	-0.694
27	88.788	91.617	94.446	3.087	-3.087	0.71	-0.71
28	84.984	87.731	90.477	3.13	-3.13	0.724	-0.724
29	81.361	84.028	86.696	3.174	-3.174	0.739	-0.739
30	77.912	80.501	83.091	3.216	-3.216	0.754	-0.754
31	74.626	77.14	79.654	3.259	-3.259	0.768	-0.768
32	71.495	73.936	76.377	3.301	-3.301	0.783	-0.783
33	68.511	70.881	73.251	3.344	-3.344	0.798	-0.798
34	65.666	67.968	70.269	3.386	-3.386	0.813	-0.813
35	62.954	65.188	67.423	3.427	-3.427	0.828	-0.828
36	60.367	62.537	64.706	3.469	-3.469	0.843	-0.843
37	57.899	60.006	62.112	3.51	-3.51	0.858	-0.858
38	55.544	57.59	59.635	3.551	-3.551	0.873	-0.873
39	53.297	55.283	57.269	3.592	-3.592	0.888	-0.888
40	51.152	53.08	55.009	3.633	-3.633	0.903	-0.903
41	49.103	50.976	52.849	3.673	-3.673	0.919	-0.919
42	47.146	48.965	50.784	3.714	-3.714	0.934	-0.934
43	45.277	47.044	48.81	3.754	-3.754	0.95	-0.95
44	43.492	45.207	46.922	3.794	-3.794	0.965	-0.965
45	41.785	43.451	45.116	3.833	-3.833	0.981	-0.981
46	40.153	41.771	43.389	3.873	-3.873	0.997	-0.997
47	38.593	40.165	41.736	3.912	-3.912	1.013	-1.013
48	37.102	38.628	40.154	3.951	-3.951	1.029	-1.029
49	35.674	37.157	38.64	3.99	-3.99	1.045	-1.045
50	34.309	35.75	37.19	4.028	-4.028	1.061	-1.061
51	33.003	34.402	35.801	4.067	-4.067	1.077	-1.077
52	31.752	33.112	34.471	4.105	-4.105	1.093	-1.093
53	30.555	31.876	33.197	4.143	-4.143	1.11	-1.11
54	29.409	30.692	31.975	4.181	-4.181	1.126	-1.126
55	28.311	29.558	30.805	4.219	-4.219	1.142	-1.142
56	27.259	28.471	29.683	4.256	-4.256	1.159	-1.159
57	26.251	27.429	28.607	4.293	-4.293	1.176	-1.176
58	25.285	26.43	27.575	4.33	-4.33	1.192	-1.192

59	24.36	25.472	26.585	4.367	-4.367	1.209	-1.209
60	23.472	24.554	25.635	4.404	-4.404	1.226	-1.226
61	22.621	23.672	24.724	4.441	-4.441	1.243	-1.243
62	21.805	22.827	23.849	4.477	-4.477	1.26	-1.26
63	21.022	22.016	23.009	4.513	-4.513	1.277	-1.277
64	20.271	21.237	22.203	4.549	-4.549	1.295	-1.295
65	19.55	20.489	21.429	4.585	-4.585	1.312	-1.312
66	18.858	19.771	20.685	4.621	-4.621	1.329	-1.329
67	18.193	19.082	19.971	4.656	-4.656	1.347	-1.347
68	17.555	18.42	19.284	4.692	-4.692	1.364	-1.364
69	16.943	17.784	18.624	4.727	-4.727	1.382	-1.382
70	16.354	17.172	17.99	4.762	-4.762	1.399	-1.399
71	15.789	16.585	17.38	4.797	-4.797	1.417	-1.417
72	15.246	16.02	16.794	4.831	-4.831	1.435	-1.435
73	14.724	15.477	16.23	4.866	-4.866	1.453	-1.453
74	14.222	14.955	15.688	4.9	-4.9	1.471	-1.471
75	13.739	14.453	15.166	4.934	-4.934	1.489	-1.489
76	13.276	13.97	14.664	4.968	-4.968	1.507	-1.507
77	12.829	13.505	14.181	5.002	-5.002	1.526	-1.526
78	12.4	13.058	13.716	5.036	-5.036	1.544	-1.544
79	11.987	12.628	13.268	5.07	-5.07	1.562	-1.562
80	11.59	12.213	12.837	5.103	-5.103	1.581	-1.581
81	11.208	11.815	12.421	5.136	-5.136	1.599	-1.599
82	10.84	11.431	12.021	5.169	-5.169	1.618	-1.618
83	10.485	11.061	11.636	5.202	-5.202	1.637	-1.637
84	10.144	10.705	11.265	5.235	-5.235	1.655	-1.655
85	9.816	10.362	10.907	5.267	-5.267	1.674	-1.674
86	9.499	10.031	10.563	5.3	-5.3	1.693	-1.693
87	9.194	9.712	10.23	5.332	-5.332	1.712	-1.712
88	8.901	9.405	9.91	5.364	-5.364	1.731	-1.731
89	8.618	9.11	9.601	5.396	-5.396	1.751	-1.751
90	8.345	8.824	9.303	5.428	-5.428	1.77	-1.77
91	8.082	8.549	9.016	5.46	-5.46	1.789	-1.789
92	7.829	8.284	8.739	5.491	-5.491	1.809	-1.809
93	7.585	8.028	8.472	5.523	-5.523	1.828	-1.828
94	7.349	7.782	8.214	5.554	-5.554	1.848	-1.848
95	7.122	7.544	7.965	5.585	-5.585	1.868	-1.868
96	6.903	7.314	7.725	5.616	-5.616	1.887	-1.887
97	6.692	7.093	7.493	5.647	-5.647	1.907	-1.907
98	6.488	6.879	7.27	5.678	-5.678	1.927	-1.927

99	6.292	6.673	7.054	5.708	-5.708	1.947	-1.947
100	6.102	6.474	6.845	5.738	-5.738	1.967	-1.967
101	5.919	6.281	6.644	5.769	-5.769	1.988	-1.988
102	5.742	6.096	6.449	5.799	-5.799	2.008	-2.008
103	5.572	5.916	6.261	5.828	-5.828	2.028	-2.028
104	5.407	5.743	6.08	5.858	-5.858	2.049	-2.049
105	5.248	5.576	5.905	5.888	-5.888	2.069	-2.069
106	5.094	5.415	5.735	5.917	-5.917	2.09	-2.09
107	4.946	5.259	5.572	5.946	-5.946	2.111	-2.111
108	4.803	5.108	5.414	5.975	-5.975	2.131	-2.131
109	4.665	4.963	5.261	6.004	-6.004	2.152	-2.152
110	4.531	4.822	5.113	6.033	-6.033	2.173	-2.173
111	4.402	4.687	4.971	6.062	-6.062	2.194	-2.194
112	4.278	4.555	4.833	6.09	-6.09	2.216	-2.216
113	4.157	4.428	4.699	6.118	-6.118	2.237	-2.237
114	4.041	4.306	4.57	6.147	-6.147	2.258	-2.258
115	3.929	4.187	4.446	6.175	-6.175	2.28	-2.28
116	3.82	4.073	4.325	6.202	-6.202	2.301	-2.301
117	3.715	3.962	4.209	6.23	-6.23	2.323	-2.323
118	3.614	3.855	4.096	6.257	-6.257	2.345	-2.345
119	3.516	3.751	3.987	6.285	-6.285	2.367	-2.367
120	3.421	3.651	3.882	6.312	-6.312	2.388	-2.388
121	3.329	3.555	3.78	6.339	-6.339	2.41	-2.41
122	3.241	3.461	3.681	6.365	-6.365	2.433	-2.433
123	3.155	3.371	3.586	6.392	-6.392	2.455	-2.455
124	3.072	3.283	3.494	6.418	-6.418	2.477	-2.477
125	2.992	3.199	3.405	6.444	-6.444	2.5	-2.5



附表 II Attachment II

