编码(Coding)：JK/JXD260729002

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 503J3950(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	503	J	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)

③ 503：25℃的零功率电阻值 50kΩ (Zero Power Resistance at 25℃is 50kΩ)

④ J：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)

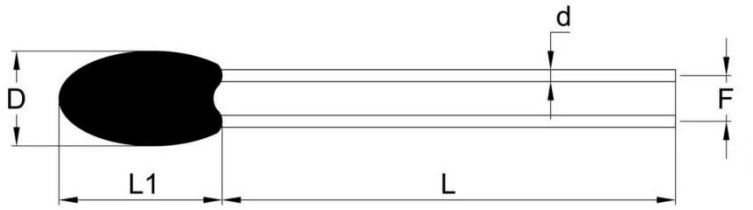
2、电气性能 Electrical Characteristics

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	50kΩ ±5%
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 503J3950(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}：50kΩ±5% (Zero Power Resistance: R_{25}：50kΩ±5%)；
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℃，时间：2-3 秒 temperature: 245±5℃, 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℃，浸入深度距电阻体 6mm，时间 5±1 秒 Temperature of tin pot: 260±5℃, 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℃±2℃，湿度：93±2%，时间：500 小时 Temp: 40℃±2℃, 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℃ 30min→25℃ 5min→125℃ 30min→25℃ 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℃±5℃ 时间：1000 小时 Temp: 125℃±5℃, 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℃，时间：1000 小时 Temp: -55℃, Time: 1000 hrs	无可见性损伤 No obvious damage $\|\Delta R_{25}/R_{25}\|\leqslant 2\%$

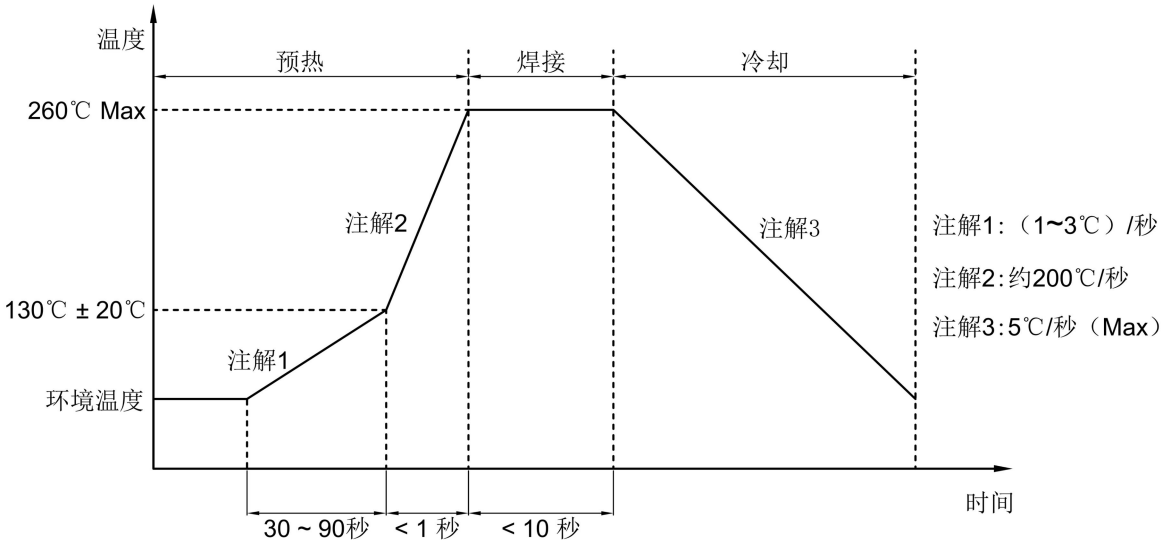
▲注： 1）稳态湿热及温度快速变化试验结束后，样品需在常温环境下静置 2 小时后再做性能测试；

▲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；

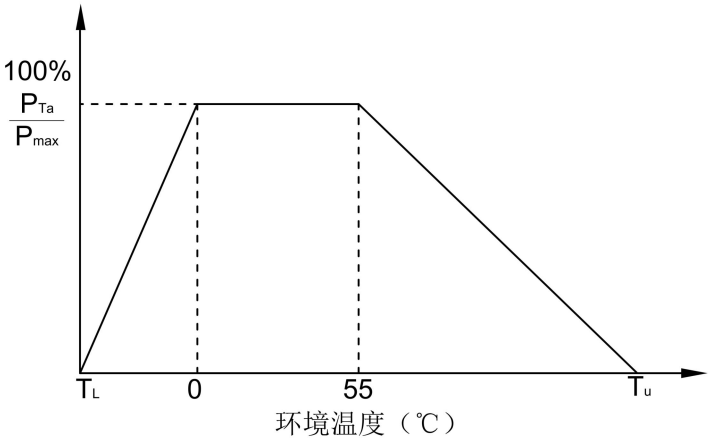
2）高温存储结束后，需随测试环境自然恢复至常温，再取出做性能测试。

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

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R_{25}=50kΩ 精度:±5% $B_{25/50}$=3950K 精度:±1% (P182-6B)

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	3705.1	4090	4474.89	9.41	-9.41	1.25	-1.25
-54	3407.15	3757.56	4107.97	9.325	-9.325	1.253	-1.253
-53	3147.6	3468.24	3788.88	9.245	-9.245	1.256	-1.256
-52	2918.95	3213.59	3508.24	9.168	-9.168	1.257	-1.257
-51	2715.47	2987.17	3258.86	9.095	-9.095	1.259	-1.259
-50	2532.74	2783.99	3035.24	9.024	-9.024	1.26	-1.26
-49	2367.31	2600.19	2833.07	8.956	-8.956	1.261	-1.261
-48	2216.48	2432.74	2649	8.889	-8.889	1.261	-1.261
-47	2078.13	2279.26	2480.39	8.824	-8.824	1.261	-1.261
-46	1950.57	2137.85	2325.12	8.759	-8.759	1.261	-1.261
-45	1832.44	2006.98	2181.52	8.696	-8.696	1.261	-1.261
-44	1722.65	1885.44	2048.23	8.633	-8.633	1.261	-1.261
-43	1620.31	1772.23	1924.14	8.571	-8.571	1.261	-1.261
-42	1524.69	1666.52	1808.34	8.51	-8.51	1.26	-1.26
-41	1435.18	1567.63	1700.08	8.448	-8.448	1.26	-1.26
-40	1351.27	1475	1598.72	8.387	-8.387	1.259	-1.259
-39	1272.53	1388.12	1503.71	8.327	-8.327	1.259	-1.259
-38	1198.58	1306.58	1414.59	8.266	-8.266	1.258	-1.258
-37	1129.08	1230.02	1330.95	8.205	-8.205	1.258	-1.258
-36	1063.76	1158.09	1252.42	8.145	-8.145	1.257	-1.257
-35	1002.34	1090.51	1178.68	8.085	-8.085	1.257	-1.257
-34	944.59	1027	1109.42	8.025	-8.025	1.256	-1.256
-33	890.286	967.336	1044.38	7.965	-7.965	1.256	-1.256
-32	839.227	911.266	983.304	7.905	-7.905	1.255	-1.255
-31	791.224	858.586	925.948	7.845	-7.845	1.255	-1.255
-30	746.099	809.097	872.095	7.786	-7.786	1.254	-1.254
-29	703.685	762.611	821.538	7.726	-7.726	1.254	-1.254
-28	663.824	718.952	774.08	7.667	-7.667	1.253	-1.253
-27	626.365	677.951	729.537	7.609	-7.609	1.252	-1.252

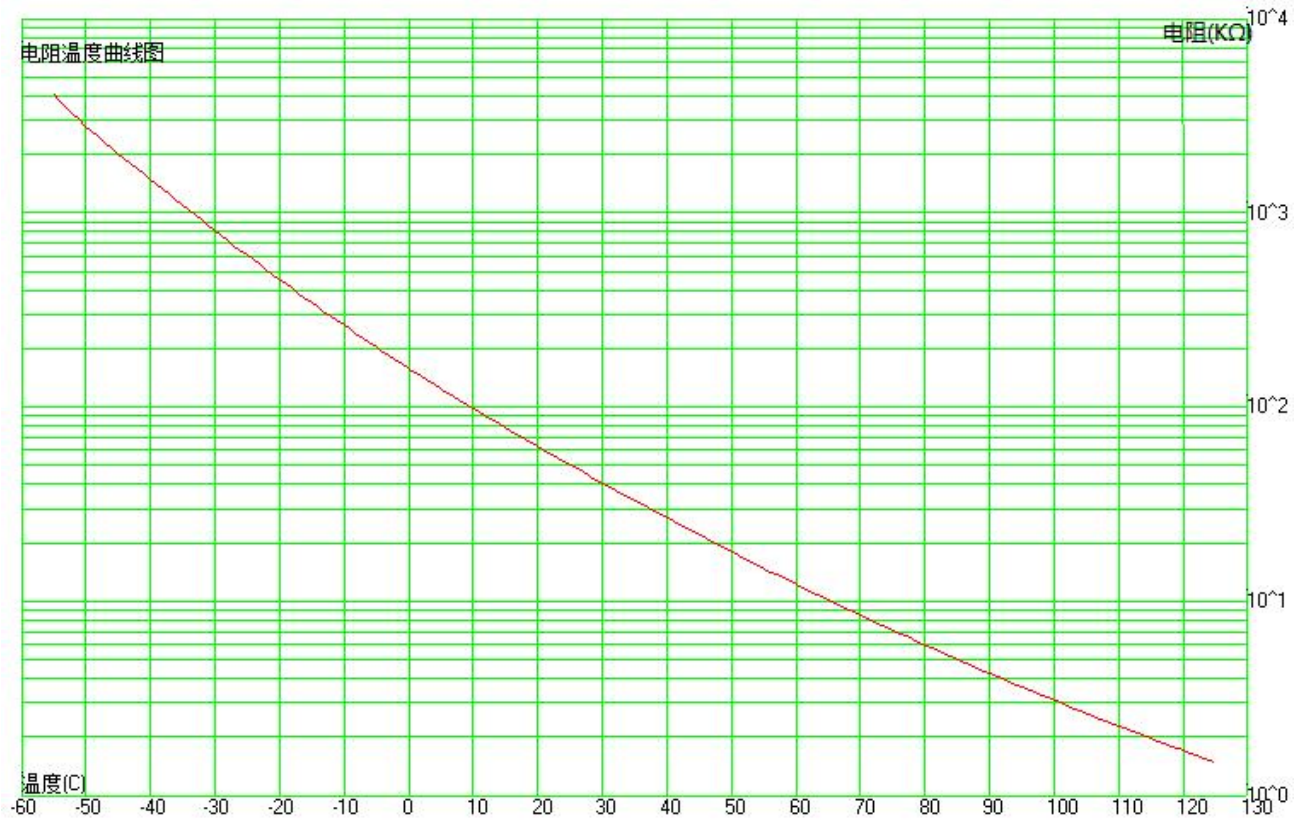
-26	591.169	639.45	687.732	7.55	-7.55	1.252	-1.252
-25	558.099	603.3	648.5	7.492	-7.492	1.251	-1.251
-24	527.029	569.356	611.683	7.434	-7.434	1.251	-1.251
-23	497.838	537.485	577.133	7.376	-7.376	1.25	-1.25
-22	470.411	507.56	544.709	7.319	-7.319	1.25	-1.25
-21	444.64	479.459	514.278	7.262	-7.262	1.249	-1.249
-20	420.423	453.069	485.714	7.205	-7.205	1.249	-1.249
-19	397.664	428.282	458.9	7.149	-7.149	1.248	-1.248
-18	376.271	404.998	433.725	7.093	-7.093	1.247	-1.247
-17	356.158	383.12	410.082	7.037	-7.037	1.247	-1.247
-16	337.245	362.56	387.875	6.982	-6.982	1.246	-1.246
-15	319.456	343.233	367.01	6.927	-6.927	1.245	-1.245
-14	302.719	325.06	347.402	6.872	-6.872	1.244	-1.244
-13	286.968	307.968	328.968	6.818	-6.818	1.243	-1.243
-12	272.139	291.886	311.633	6.765	-6.765	1.242	-1.242
-11	258.175	276.75	295.325	6.711	-6.711	1.241	-1.241
-10	245.02	262.5	279.979	6.658	-6.658	1.24	-1.24
-9	232.622	249.077	265.532	6.606	-6.606	1.239	-1.239
-8	220.934	236.43	251.926	6.554	-6.554	1.238	-1.238
-7	209.91	224.509	239.107	6.502	-6.502	1.236	-1.236
-6	199.509	213.267	227.025	6.451	-6.451	1.235	-1.235
-5	189.691	202.661	215.632	6.4	-6.4	1.233	-1.233
-4	180.42	192.652	204.884	6.349	-6.349	1.232	-1.232
-3	171.661	183.201	194.741	6.299	-6.299	1.23	-1.23
-2	163.384	174.274	185.164	6.249	-6.249	1.228	-1.228
-1	155.557	165.838	176.119	6.199	-6.199	1.227	-1.227
0	148.197	157.91	167.622	6.15	-6.15	1.224	-1.224
1	141.147	150.318	159.489	6.101	-6.101	1.223	-1.223
2	134.514	143.179	151.845	6.052	-6.052	1.221	-1.221
3	128.231	136.422	144.613	6.004	-6.004	1.218	-1.218
4	122.279	130.023	137.767	5.955	-5.955	1.216	-1.216
5	116.636	123.959	131.283	5.908	-5.908	1.214	-1.214
6	111.285	118.213	125.141	5.86	-5.86	1.211	-1.211
7	106.208	112.764	119.319	5.813	-5.813	1.208	-1.208
8	101.39	107.595	113.799	5.766	-5.766	1.206	-1.206
9	96.816	102.69	108.564	5.719	-5.719	1.203	-1.203

10	92.472	98.034	103.595	5.673	-5.673	1.2	-1.2
11	88.344	93.612	98.879	5.627	-5.627	1.197	-1.197
12	84.42	89.411	94.401	5.581	-5.581	1.193	-1.193
13	80.69	85.419	90.147	5.535	-5.535	1.19	-1.19
14	77.142	81.623	86.105	5.49	-5.49	1.186	-1.186
15	73.766	78.014	82.262	5.444	-5.444	1.182	-1.182
16	70.553	74.581	78.608	5.399	-5.399	1.178	-1.178
17	67.495	71.314	75.133	5.355	-5.355	1.174	-1.174
18	64.582	68.204	71.826	5.31	-5.31	1.169	-1.169
19	61.807	65.243	68.678	5.266	-5.266	1.163	-1.163
20	59.163	62.422	65.682	5.221	-5.221	1.156	-1.156
21	56.643	59.736	62.829	5.177	-5.177	1.148	-1.148
22	54.24	57.175	60.111	5.134	-5.134	1.136	-1.136
23	51.949	54.735	57.521	5.09	-5.09	1.117	-1.117
24	49.763	52.408	55.053	5.047	-5.047	1.069	-1.069
25	47.5	50	52.5	5	-5	1.066	-1.066
26	45.65	48.073	50.496	5.039	-5.039	1.286	-1.286
27	43.713	46.054	48.394	5.082	-5.082	1.244	-1.244
28	41.865	44.127	46.388	5.124	-5.124	1.242	-1.242
29	40.102	42.288	44.473	5.167	-5.167	1.25	-1.25
30	38.42	40.532	42.643	5.209	-5.209	1.261	-1.261
31	36.814	38.855	40.896	5.252	-5.252	1.274	-1.274
32	35.282	37.254	39.226	5.294	-5.294	1.289	-1.289
33	33.818	35.724	37.631	5.336	-5.336	1.303	-1.303
34	32.42	34.263	36.106	5.377	-5.377	1.319	-1.319
35	31.086	32.867	34.648	5.419	-5.419	1.335	-1.335
36	29.81	31.532	33.254	5.461	-5.461	1.351	-1.351
37	28.592	30.257	31.922	5.502	-5.502	1.367	-1.367
38	27.428	29.037	30.647	5.543	-5.543	1.383	-1.383
39	26.315	27.872	29.428	5.584	-5.584	1.4	-1.4
40	25.251	26.757	28.262	5.625	-5.625	1.417	-1.417
41	24.235	25.69	27.146	5.666	-5.666	1.434	-1.434
42	23.262	24.67	26.078	5.706	-5.706	1.451	-1.451
43	22.332	23.694	25.056	5.746	-5.746	1.468	-1.468
44	21.443	22.76	24.077	5.787	-5.787	1.486	-1.486
45	20.592	21.867	23.141	5.827	-5.827	1.503	-1.503

46	19.779	21.011	22.244	5.867	-5.867	1.521	-1.521
47	19	20.193	21.385	5.906	-5.906	1.539	-1.539
48	18.255	19.409	20.563	5.946	-5.946	1.556	-1.556
49	17.541	18.658	19.775	5.985	-5.985	1.574	-1.574
50	16.859	17.94	19.02	6.025	-6.025	1.592	-1.592
51	16.205	17.251	18.297	6.064	-6.064	1.61	-1.61
52	15.579	16.592	17.605	6.103	-6.103	1.629	-1.629
53	14.98	15.96	16.941	6.142	-6.142	1.647	-1.647
54	14.406	15.355	16.304	6.18	-6.18	1.666	-1.666
55	13.856	14.775	15.694	6.219	-6.219	1.684	-1.684
56	13.33	14.219	15.109	6.257	-6.257	1.703	-1.703
57	12.825	13.687	14.549	6.296	-6.296	1.722	-1.722
58	12.342	13.176	14.011	6.334	-6.334	1.74	-1.74
59	11.878	12.687	13.495	6.371	-6.371	1.759	-1.759
60	11.434	12.217	13	6.409	-6.409	1.778	-1.778
61	11.009	11.767	12.526	6.447	-6.447	1.798	-1.798
62	10.6	11.336	12.071	6.484	-6.484	1.817	-1.817
63	10.209	10.921	11.634	6.521	-6.521	1.836	-1.836
64	9.834	10.524	11.214	6.558	-6.558	1.856	-1.856
65	9.474	10.143	10.812	6.595	-6.595	1.875	-1.875
66	9.129	9.777	10.426	6.632	-6.632	1.895	-1.895
67	8.797	9.426	10.055	6.669	-6.669	1.915	-1.915
68	8.48	9.089	9.699	6.705	-6.705	1.935	-1.935
69	8.175	8.766	9.357	6.741	-6.741	1.955	-1.955
70	7.882	8.455	9.028	6.778	-6.778	1.975	-1.975
71	7.601	8.157	8.713	6.814	-6.814	1.995	-1.995
72	7.331	7.871	8.41	6.849	-6.849	2.015	-2.015
73	7.072	7.595	8.118	6.885	-6.885	2.036	-2.036
74	6.824	7.331	7.838	6.92	-6.92	2.056	-2.056
75	6.585	7.077	7.569	6.956	-6.956	2.077	-2.077
76	6.355	6.833	7.311	6.991	-6.991	2.098	-2.098
77	6.135	6.599	7.062	7.026	-7.026	2.118	-2.118
78	5.923	6.373	6.823	7.061	-7.061	2.139	-2.139
79	5.72	6.156	6.593	7.095	-7.095	2.16	-2.16
80	5.524	5.948	6.372	7.13	-7.13	2.181	-2.181
81	5.336	5.748	6.159	7.164	-7.164	2.203	-2.203

82	5.155	5.555	5.955	7.198	-7.198	2.224	-2.224
83	4.981	5.37	5.758	7.232	-7.232	2.245	-2.245
84	4.814	5.191	5.568	7.266	-7.266	2.267	-2.267
85	4.653	5.02	5.386	7.3	-7.3	2.289	-2.289
86	4.498	4.854	5.21	7.333	-7.333	2.31	-2.31
87	4.349	4.695	5.041	7.366	-7.366	2.332	-2.332
88	4.206	4.542	4.878	7.4	-7.4	2.354	-2.354
89	4.068	4.395	4.722	7.433	-7.433	2.376	-2.376
90	3.935	4.253	4.571	7.466	-7.466	2.398	-2.398
91	3.808	4.116	4.425	7.498	-7.498	2.42	-2.42
92	3.685	3.985	4.285	7.531	-7.531	2.443	-2.443
93	3.566	3.858	4.15	7.563	-7.563	2.465	-2.465
94	3.452	3.736	4.019	7.595	-7.595	2.488	-2.488
95	3.342	3.618	3.894	7.628	-7.628	2.51	-2.51
96	3.236	3.504	3.773	7.659	-7.659	2.533	-2.533
97	3.134	3.395	3.656	7.691	-7.691	2.556	-2.556
98	3.035	3.289	3.543	7.723	-7.723	2.579	-2.579
99	2.94	3.188	3.435	7.754	-7.754	2.602	-2.602
100	2.849	3.09	3.33	7.786	-7.786	2.625	-2.625
101	2.761	2.995	3.229	7.817	-7.817	2.648	-2.648
102	2.676	2.904	3.131	7.848	-7.848	2.671	-2.671
103	2.594	2.815	3.037	7.879	-7.879	2.695	-2.695
104	2.514	2.73	2.946	7.909	-7.909	2.718	-2.718
105	2.438	2.648	2.859	7.94	-7.94	2.742	-2.742
106	2.364	2.569	2.774	7.97	-7.97	2.766	-2.766
107	2.293	2.493	2.692	8.001	-8.001	2.789	-2.789
108	2.224	2.419	2.613	8.031	-8.031	2.813	-2.813
109	2.158	2.347	2.537	8.061	-8.061	2.837	-2.837
110	2.094	2.278	2.463	8.091	-8.091	2.861	-2.861
111	2.032	2.212	2.391	8.12	-8.12	2.885	-2.885
112	1.972	2.147	2.323	8.15	-8.15	2.91	-2.91
113	1.915	2.085	2.256	8.179	-8.179	2.934	-2.934
114	1.859	2.025	2.192	8.209	-8.209	2.959	-2.959
115	1.805	1.967	2.129	8.238	-8.238	2.983	-2.983
116	1.753	1.911	2.069	8.267	-8.267	3.008	-3.008
117	1.703	1.857	2.011	8.296	-8.296	3.033	-3.033

118	1.654	1.804	1.954	8.325	-8.325	3.057	-3.057
119	1.607	1.753	1.9	8.353	-8.353	3.082	-3.082
120	1.561	1.704	1.847	8.382	-8.382	3.107	-3.107
121	1.517	1.657	1.796	8.41	-8.41	3.133	-3.133
122	1.475	1.611	1.747	8.438	-8.438	3.158	-3.158
123	1.434	1.566	1.699	8.466	-8.466	3.183	-3.183
124	1.394	1.523	1.653	8.494	-8.494	3.208	-3.208
125	1.355	1.482	1.608	8.522	-8.522	3.234	-3.234



附表 II Attachment II

