

Cheemi Technology Co., Ltd

规格承认书

APPROVAL SHEET

客户名称 CUSTOMER :

产品名称 PART NAME :

产品规格 PART NUMBER :

产品编号 PRODUCTCODE:

版次 REV.NO:

日期 DATE:

CMNTCA 测温型 NTC 热敏电阻器

CMNTCA Series Temp Measurement NTC Thermistor

CMNTCA-104F425003W

B0

2023-8-11

确认

CONFIRM

客户 CLIENT		供货商/制造商 MANUFACTOR	
品保部 Quality Dep.		规格书制作 Design	刘星月
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

变更记录表

REVISED RECORD SHEET

[illegible]

1、产品型号说明 Product model specification

CMNTC A 104 F 4250 03W
 ① ② ③ ④ ⑤ ⑥

- ① CMNTC: 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 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%)
- ⑤ 4250: B25/50 值 4250K (B25/50:4250K)
- ⑥ 03W: 线材规格: 引线外径 Φ0.3mm (Wire dimension: The outer diameter of lead wire is Φ0.3mm)

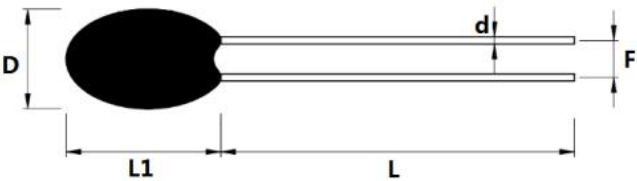
2、电气性能 Electrical Characteristics

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℃}	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	4250±1%
2.3	耗散系数 Thermal dissipation Coefficient	δ	静止空气中 In still air	mW/℃	约 2
2.4	时间常数 Thermal time constant	τ	静止空气中 In still air	sec	约 7
2.5	绝缘电阻 Insulation resistance	/	100V/DC 1min	MΩ	≥100
2.6	工作温度范围 Operating temperature range	/	/	℃	-55℃ ~ 125℃
2.7	最大额定功率 Maximum rated power	P _{max}	/	mW	50
2.8	阻温特性 R&T-table	/	/	/	见附表 I See attached table I
2.9	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.	CMNTCA 104F425003W		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: R25: 100K Ω $\pm$ 1% (Zero Power Resistance: R25: 100K Ω $\pm$ 1%);
- 2) B25/50 数值: 4250K $\pm$ 1% (B-value: B25/50: 4250K $\pm$ 1%);
- 3) 线材: Φ 0.3 镀锡铜包钢线 (Φ 0.3 tinned copper-weld steel wire);
- 4) 封装: 黑色改性环氧树脂包封 (Black function improvement Epoxy resin);
- 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
B0		版本发行	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: 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} \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	$ \Delta R_{25}/R_{25} \leq \pm 2\%$
4.3	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	$ \Delta R_{25}/R_{25} \leq \pm 2\%$
4.4	温度快速变化 Rapid changes in temperature	IEC60068-2-14	-55°C 30min $\rightarrow$ 25°C 5min $\rightarrow$ 125°C 30min $\rightarrow$ 25°C 5min, 5cycles	$ \Delta R_{25}/R_{25} \leq \pm 2\%$
4.5	高温储存 High temperature storage	IEC60068-2-2	温度: $125^\circ\text{C} \pm 5^\circ\text{C}$ 时间: 1000 小时 Temp : $125^\circ\text{C} \pm 5^\circ\text{C}$, Time : 1000hrs	$ \Delta R_{25}/R_{25} \leq \pm 2\%$
4.6	低温储存 Low temperature storage	IEC60068-2-1	温度: -55°C 时间: 1000 小时 Temp : -55°C , Time : 1000hrs	$ \Delta R_{25}/R_{25} \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) $W \times H = 11\text{mm} \times 12\text{mm}$	

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 储存温度：-10℃ ~ 40℃；储存湿度：≤75% RH；storage temp:-10℃ ~ 40℃；storage humidity:≤75% RH

6.5 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

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 (CQC07001019008) CQC certificate (CQC07001019008)	
8.5	江苏省高新技术产品认证 High-tech product certificate in Jiangsu Province	
8.6	UL 认证 (E240993) UL certificate (E240993)	
8.7	TUV 认证 (R50245893) TUV certificate (R50245893)	

附表 I (Attachment I)

Cheemi Technology Co., Ltd (Resistance Thermometer)							
R25=100K Ω 精度: $\pm 1\%$				B25/50=4250K 精度: $\pm 1\%$ (P195)			
温度($^{\circ}\text{C}$)	电阻(K Ω)			电阻精度(%)		温度精度($^{\circ}\text{C}$)	
	最小值	中心值	最大值	ΔR	$-\Delta R$	ΔT	$-\Delta T$
-55	9709.07	10289	10868.9	5.636	-5.636	0.712	-0.712
-54	8975.47	9503.57	10031.6	5.556	-5.556	0.708	-0.708
-53	8320.78	8803.21	9285.65	5.48	-5.48	0.704	-0.704
-52	7731.6	8173.45	8615.29	5.405	-5.405	0.701	-0.701
-51	7197.5	7603	8008.5	5.333	-5.333	0.697	-0.697
-50	6710.29	7083.03	7455.78	5.262	-5.262	0.693	-0.693
-49	6263.51	6606.58	6949.64	5.192	-5.192	0.689	-0.689
-48	5852.01	6168.06	6484.11	5.123	-5.123	0.685	-0.685
-47	5471.61	5762.99	6054.36	5.055	-5.055	0.681	-0.681
-46	5118.94	5387.71	5656.48	4.988	-4.988	0.676	-0.676
-45	4791.22	5039.23	5287.24	4.921	-4.921	0.672	-0.672
-44	4486.12	4715.04	4943.95	4.855	-4.855	0.668	-0.668
-43	4201.68	4413.01	4624.34	4.788	-4.788	0.663	-0.663
-42	3936.23	4131.34	4326.46	4.722	-4.722	0.659	-0.659
-41	3688.32	3868.47	4048.62	4.656	-4.656	0.654	-0.654
-40	3456.65	3623	3789.34	4.591	-4.591	0.65	-0.65
-39	3240.1	3393.7	3547.29	4.525	-4.525	0.645	-0.645
-38	3037.64	3179.46	3321.29	4.46	-4.46	0.64	-0.64
-37	2848.33	2979.28	3110.24	4.395	-4.395	0.635	-0.635
-36	2671.31	2792.23	2913.15	4.33	-4.33	0.631	-0.631
-35	2505.79	2617.45	2729.11	4.265	-4.265	0.626	-0.626
-34	2351.03	2454.14	2557.25	4.201	-4.201	0.621	-0.621
-33	2206.34	2301.56	2396.78	4.137	-4.137	0.616	-0.616
-32	2071.08	2159.02	2246.96	4.073	-4.073	0.611	-0.611

-31	1944.63	2025.86	2107.08	4.009	-4.009	0.606	-0.606
-30	1826.43	1901.46	1976.49	3.946	-3.946	0.6	-0.6
-29	1715.93	1785.26	1854.58	3.882	-3.882	0.595	-0.595
-28	1612.65	1676.7	1740.75	3.82	-3.82	0.59	-0.59
-27	1516.09	1575.29	1634.48	3.757	-3.757	0.585	-0.585
-26	1425.82	1480.53	1535.25	3.695	-3.695	0.579	-0.579
-25	1341.41	1392	1442.58	3.633	-3.633	0.574	-0.574
-24	1262.48	1309.25	1356.03	3.572	-3.572	0.568	-0.568
-23	1188.65	1231.91	1275.17	3.511	-3.511	0.563	-0.563
-22	1119.57	1159.6	1199.62	3.451	-3.451	0.557	-0.557
-21	1054.94	1091.97	1129	3.391	-3.391	0.551	-0.551
-20	994.446	1028.71	1062.98	3.331	-3.331	0.546	-0.546
-19	937.8	969.523	1001.24	3.272	-3.272	0.54	-0.54
-18	884.744	914.117	943.489	3.213	-3.213	0.534	-0.534
-17	835.034	862.235	889.437	3.154	-3.154	0.528	-0.528
-16	788.44	813.637	838.833	3.096	-3.096	0.522	-0.522
-15	744.752	768.095	791.438	3.039	-3.039	0.516	-0.516
-14	703.77	725.401	747.031	2.981	-2.981	0.51	-0.51
-13	665.312	685.359	705.406	2.925	-2.925	0.503	-0.503
-12	629.205	647.788	666.371	2.868	-2.868	0.497	-0.497
-11	595.292	612.52	629.749	2.812	-2.812	0.491	-0.491
-10	563.425	579.4	595.374	2.757	-2.757	0.484	-0.484
-9	533.467	548.28	563.094	2.701	-2.701	0.478	-0.478
-8	505.29	519.029	532.767	2.646	-2.646	0.471	-0.471
-7	478.777	491.519	504.262	2.592	-2.592	0.465	-0.465
-6	453.817	465.637	477.457	2.538	-2.538	0.458	-0.458
-5	430.31	441.274	452.238	2.484	-2.484	0.451	-0.451
-4	408.16	418.33	428.501	2.431	-2.431	0.444	-0.444
-3	387.279	396.714	406.148	2.378	-2.378	0.437	-0.437

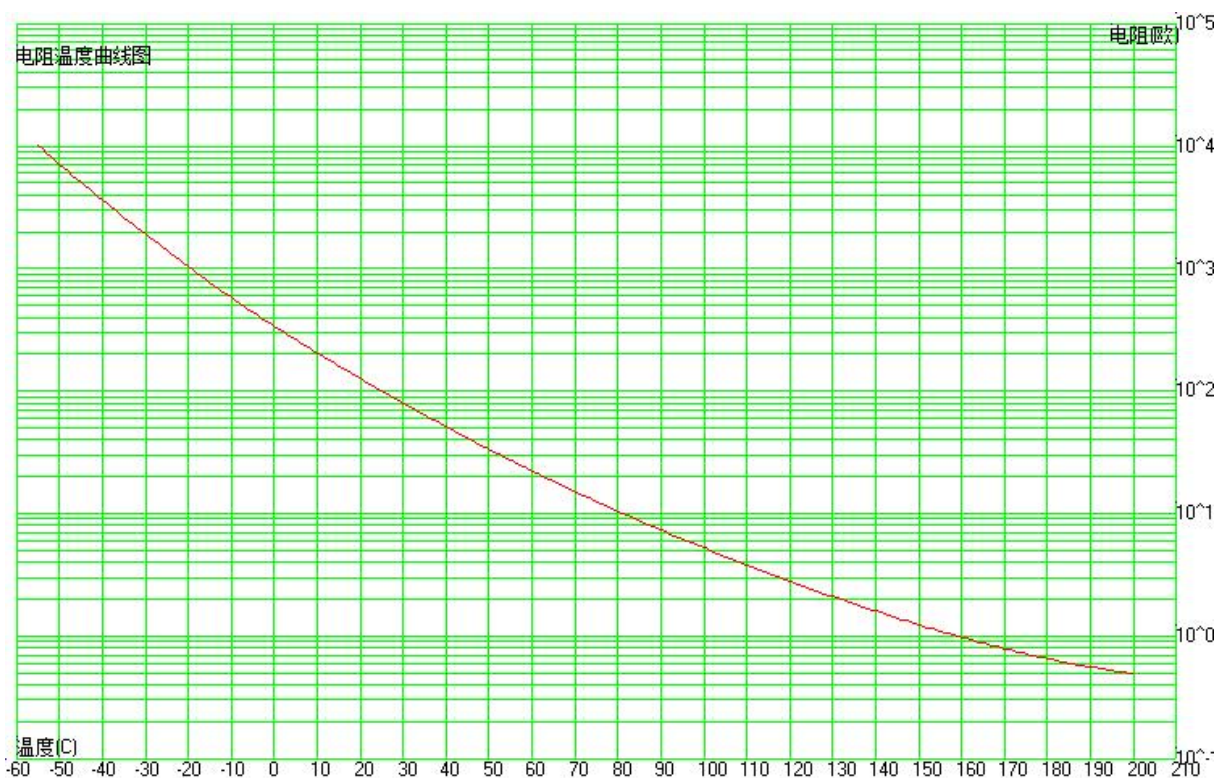
-2	367.586	376.338	385.089	2.325	-2.325	0.43	-0.43
-1	349.006	357.123	365.241	2.273	-2.273	0.423	-0.423
0	330.116	337.6	345.083	2.216	-2.216	0.417	-0.417
1	314.905	321.887	328.869	2.169	-2.169	0.409	-0.409
2	299.258	305.732	312.206	2.117	-2.117	0.402	-0.402
3	284.47	290.472	296.474	2.066	-2.066	0.394	-0.394
4	270.487	276.051	281.615	2.015	-2.015	0.387	-0.387
5	257.262	262.418	267.574	1.964	-1.964	0.379	-0.379
6	244.748	249.525	254.302	1.914	-1.914	0.372	-0.372
7	232.902	237.326	241.751	1.864	-1.864	0.364	-0.364
8	221.685	225.782	229.878	1.814	-1.814	0.357	-0.357
9	211.06	214.851	218.643	1.764	-1.764	0.349	-0.349
10	200.991	204.5	208.008	1.715	-1.715	0.341	-0.341
11	191.448	194.692	197.936	1.666	-1.666	0.333	-0.333
12	182.399	185.398	188.396	1.617	-1.617	0.325	-0.325
13	173.817	176.587	179.357	1.568	-1.568	0.317	-0.317
14	165.674	168.231	170.789	1.52	-1.52	0.309	-0.309
15	157.946	160.306	162.665	1.471	-1.471	0.301	-0.301
16	150.61	152.786	154.961	1.423	-1.423	0.293	-0.293
17	143.645	145.649	147.653	1.376	-1.376	0.284	-0.284
18	137.029	138.873	140.718	1.328	-1.328	0.276	-0.276
19	130.743	132.44	134.136	1.28	-1.28	0.268	-0.268
20	124.771	126.329	127.888	1.233	-1.233	0.259	-0.259
21	119.094	120.524	121.954	1.186	-1.186	0.25	-0.25
22	113.697	115.008	116.319	1.139	-1.139	0.242	-0.242
23	108.565	109.765	110.965	1.093	-1.093	0.233	-0.233
24	103.684	104.781	105.878	1.046	-1.046	0.223	-0.223
25	99	100	101	1	-1	0.214	-0.214
26	94.536	95.535	96.534	1.045	-1.045	0.229	-0.229

27	90.251	91.247	92.243	1.091	-1.091	0.239	-0.239
28	86.177	87.168	88.16	1.137	-1.137	0.25	-0.25
29	82.302	83.287	84.272	1.182	-1.182	0.262	-0.262
30	78.615	79.593	80.57	1.228	-1.228	0.273	-0.273
31	75.107	76.076	77.045	1.273	-1.273	0.285	-0.285
32	71.769	72.728	73.687	1.318	-1.318	0.296	-0.296
33	68.592	69.54	70.488	1.363	-1.363	0.308	-0.308
34	65.567	66.503	67.44	1.407	-1.407	0.32	-0.32
35	62.687	63.611	64.535	1.452	-1.452	0.331	-0.331
36	59.944	60.855	61.766	1.496	-1.496	0.343	-0.343
37	57.332	58.229	59.126	1.54	-1.54	0.355	-0.355
38	54.844	55.727	56.61	1.584	-1.584	0.367	-0.367
39	52.473	53.341	54.21	1.628	-1.628	0.379	-0.379
40	50.213	51.067	51.921	1.672	-1.672	0.391	-0.391
41	48.06	48.899	49.738	1.715	-1.715	0.404	-0.404
42	46.008	46.831	47.655	1.758	-1.758	0.416	-0.416
43	44.051	44.859	45.667	1.801	-1.801	0.428	-0.428
44	42.185	42.978	43.771	1.844	-1.844	0.441	-0.441
45	40.406	41.183	41.96	1.887	-1.887	0.453	-0.453
46	38.709	39.471	40.232	1.929	-1.929	0.466	-0.466
47	37.09	37.836	38.582	1.971	-1.971	0.479	-0.479
48	35.545	36.276	37.007	2.014	-2.014	0.492	-0.492
49	34.071	34.787	35.502	2.056	-2.056	0.504	-0.504
50	32.665	33.365	34.064	2.097	-2.097	0.517	-0.517
51	31.322	32.007	32.691	2.139	-2.139	0.53	-0.53
52	30.04	30.709	31.379	2.18	-2.18	0.543	-0.543
53	28.816	29.471	30.125	2.221	-2.221	0.557	-0.557
54	27.647	28.287	28.927	2.262	-2.262	0.57	-0.57
55	26.53	27.156	27.781	2.303	-2.303	0.583	-0.583

56	25.463	26.075	26.686	2.344	-2.344	0.596	-0.596
57	24.444	25.041	25.639	2.384	-2.384	0.61	-0.61
58	23.47	24.053	24.637	2.425	-2.425	0.623	-0.623
59	22.539	23.109	23.679	2.465	-2.465	0.637	-0.637
60	21.649	22.206	22.762	2.504	-2.504	0.651	-0.651
61	20.799	21.342	21.885	2.544	-2.544	0.664	-0.664
62	19.985	20.515	21.045	2.584	-2.584	0.678	-0.678
63	19.207	19.724	20.242	2.623	-2.623	0.692	-0.692
64	18.462	18.967	19.472	2.662	-2.662	0.706	-0.706
65	17.75	18.243	18.736	2.701	-2.701	0.72	-0.72
66	17.069	17.549	18.03	2.74	-2.74	0.734	-0.734
67	16.416	16.886	17.355	2.778	-2.778	0.748	-0.748
68	15.792	16.25	16.708	2.817	-2.817	0.762	-0.762
69	15.194	15.641	16.087	2.855	-2.855	0.777	-0.777
70	14.622	15.057	15.493	2.893	-2.893	0.791	-0.791
71	14.073	14.498	14.923	2.931	-2.931	0.806	-0.806
72	13.548	13.963	14.377	2.969	-2.969	0.82	-0.82
73	13.045	13.449	13.854	3.006	-3.006	0.835	-0.835
74	12.563	12.957	13.352	3.043	-3.043	0.849	-0.849
75	12.101	12.485	12.87	3.08	-3.08	0.864	-0.864
76	11.658	12.033	12.408	3.117	-3.117	0.879	-0.879
77	11.233	11.599	11.965	3.154	-3.154	0.894	-0.894
78	10.826	11.182	11.539	3.191	-3.191	0.909	-0.909
79	10.435	10.783	11.131	3.227	-3.227	0.924	-0.924
80	10.06	10.4	10.739	3.263	-3.263	0.939	-0.939
81	9.7	10.032	10.363	3.299	-3.299	0.954	-0.954
82	9.355	9.678	10.001	3.335	-3.335	0.969	-0.969
83	9.024	9.339	9.654	3.371	-3.371	0.985	-0.985
84	8.706	9.013	9.32	3.406	-3.406	1	-1

85	8.401	8.701	9	3.442	-3.442	1.016	-1.016
86	8.108	8.4	8.692	3.477	-3.477	1.031	-1.031
87	7.826	8.111	8.396	3.512	-3.512	1.047	-1.047
88	7.556	7.834	8.112	3.547	-3.547	1.062	-1.062
89	7.296	7.567	7.838	3.581	-3.581	1.078	-1.078
90	7.046	7.31	7.575	3.616	-3.616	1.094	-1.094
91	6.806	7.064	7.322	3.65	-3.65	1.11	-1.11
92	6.575	6.827	7.078	3.684	-3.684	1.126	-1.126
93	6.353	6.599	6.844	3.718	-3.718	1.142	-1.142
94	6.14	6.379	6.619	3.752	-3.752	1.158	-1.158
95	5.935	6.168	6.402	3.786	-3.786	1.174	-1.174
96	5.737	5.965	6.193	3.819	-3.819	1.191	-1.191
97	5.547	5.769	5.992	3.853	-3.853	1.207	-1.207
98	5.364	5.581	5.798	3.886	-3.886	1.223	-1.223
99	5.188	5.4	5.612	3.919	-3.919	1.24	-1.24
100	5.019	5.226	5.432	3.952	-3.952	1.256	-1.256
101	4.856	5.057	5.259	3.985	-3.985	1.273	-1.273
102	4.699	4.896	5.092	4.017	-4.017	1.29	-1.29
103	4.548	4.74	4.932	4.05	-4.05	1.307	-1.307
104	4.402	4.589	4.777	4.082	-4.082	1.323	-1.323
105	4.262	4.444	4.627	4.114	-4.114	1.34	-1.34
106	4.126	4.305	4.483	4.146	-4.146	1.357	-1.357
107	3.996	4.17	4.345	4.178	-4.178	1.374	-1.374
108	3.87	4.041	4.211	4.209	-4.209	1.392	-1.392
109	3.749	3.915	4.082	4.241	-4.241	1.409	-1.409
110	3.633	3.795	3.957	4.272	-4.272	1.426	-1.426
111	3.52	3.678	3.837	4.303	-4.303	1.443	-1.443
112	3.412	3.566	3.721	4.334	-4.334	1.461	-1.461
113	3.307	3.458	3.609	4.365	-4.365	1.478	-1.478

114	3.206	3.353	3.501	4.396	-4.396	1.496	-1.496
115	3.108	3.252	3.396	4.426	-4.426	1.514	-1.514
116	3.014	3.155	3.296	4.457	-4.457	1.531	-1.531
117	2.924	3.061	3.198	4.487	-4.487	1.549	-1.549
118	2.836	2.97	3.105	4.517	-4.517	1.567	-1.567
119	2.752	2.883	3.014	4.547	-4.547	1.585	-1.585
120	2.67	2.798	2.926	4.577	-4.577	1.603	-1.603
121	2.591	2.716	2.842	4.607	-4.607	1.621	-1.621
122	2.515	2.638	2.76	4.636	-4.636	1.639	-1.639
123	2.442	2.561	2.681	4.665	-4.665	1.657	-1.657
124	2.371	2.488	2.604	4.695	-4.695	1.676	-1.676
125	2.302	2.417	2.531	4.724	-4.724	1.694	-1.694



附表 II (Attachment II)

