

NTC 温度传感器 承认书
NTC SENSOR SPECIFICATION FOR APPROVAL

产品编号 (Product No.)	BMT7646	版本 (Edition)	A0版
设计系列 (Model No.)	BMTNT-103	编制日期 (Com. Date)	2024-11-5
规格型号 (Product Model)	BMTNT103F3950FAL500	修定日期 (Rev. Date)	/

客户名称

customer

四川英杰电气股份有限公司

客户料号

Customer P/N

产品描述

Product Des.

温度传感器

编 制

Editor

Huang Qiuyu

日期

Date

2024-11-5

审 核

Check

Racily Wang

日期

Date

2024-11-5

批 准

Approval

Zenger

日期

Date

2024-11-5

客户确认

Customer Confirm

日期

Date

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REVISED RECORD LIST

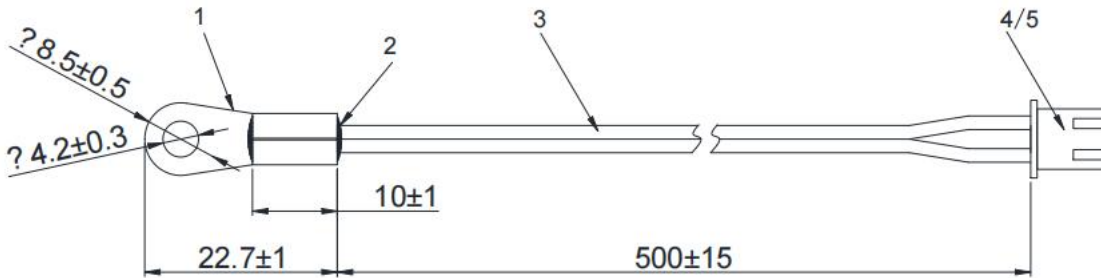
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1. 产品外形图(Product Drawing)

单位(Unit):mm



2. 材料清单(Material List)

序号 (NO.)	零件名称 (Part Name)	规格描述 (Specification Description)	用量 (Q 'TY)	备注 (Remark)
*	电阻 NTC	R25=10K Ω $\pm$ 1% R25/50=3950K $\pm$ 1%	1PCS	
1	环氧 Epoxy	黑色环氧树脂 (Black Epoxy)	/	
2	外壳 Shell	6x10x23镀镍铜壳(孔径4.2, 外径8.5, 总长22.7)	1PCS	
3	线材 Lead wire	AWG26 耐寒黑色线	1PCS	
4	端子	XH-T	2PCS	
5	连接器	XH-2P 白色	1PCS	带锁扣

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3. 电气性能(Electrical Characteristic)

序号 NO.	项目 (Item)	代号 (Symbol)	测试条件 (Test Conditions)	最小值 (Min.)	中心值 (Nor.)	最大值 (Max.)	单位(Unit)
3-1	25℃电阻值 (Resistance At 25℃)	R ₂₅	Ta=25℃ ± 0.05℃ P _T ≤ 0.1mW	9.900	10.000	10.100	K Ω
3-2	50℃电阻值 (Resistance At 50℃)	R ₅₀	Ta=50℃ ± 0.05℃ P _T ≤ 0.1mW	/	3.588	/	K Ω
3-3	B值 (B Value)	B _{25/50}	(1483.396* LnK)	3910.50	3950.00	3989.50	K
3-4	耗散系数 (Thermal Dissipation Constant)	δ	Ta=25℃ (in air)	/	2.0	/	mW/℃
3-5	响应时间-液体中 (Response Time-In liquid)	τ	25℃ → 50℃ T1=25+ (50-25)*63.2%=40.8℃	/	12.0	/	Sec
3-6	绝缘测试 (Insulation test)	/	DC500V	100	/	/	M Ω
3-8	耐压测试 (high-voltage test)	/	AC1500V 3 Sec	/	/	1	mA

4. 最大使用等级 (Ratings)

序号 NO.	项目 (Item)	规格 (Specification)	单位 (Unit)
4-1	成品工作温度范围 (Product Working Temp. Range)	-40 ~ +105	℃
4-2	最大额定工作电流 (Max. Rated operational current)	0.5	mA

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5. 机械性试验 (Mechanical Test)

序号 NO.	项目 (Item)	技术要求 (Pass Criteria)	测试条件 (Test Conditions)
5-1	拉力测试 (Pull Test)	不松脱、不变形 (NO loosening NO deformation)	线材与环氧树脂间的连接强度，拉力 $\geq 9.8N$ (Connection strength between wire and epoxy resin of less than 9.8N)
5-2	自由落体测试 (30mm引线) (Drop Test-30mm Wire)	外观应无明显损伤, 性能测试的要求 (Appearance should be no visible damage, performance test requirements)	1米的高度，让产品做自由落体运动，下落到10mm厚的橡胶板上，5次 (Drop on a 10mm thick wooden board from a height of 1m for 5 times)

6. 可靠性测试 (Reliability Tests)

序号 NO.	项目 (Item)	技术要求 (Pass Criteria)	测试条件 (Test Conditions)
6-1	高温储存 (High Temperature Storage)	$\Delta R/R25 \leq \pm 3\%$ 相对初始值 (Relative to the initial value)	105 $\pm 3^{\circ}C$ ， 1000 $\pm 24h$ 取出产品后在常态下恢复1H (Take out the product under normal recovery after 1H)
6-2	低温储存 (low Temperature Storage)		-30 $\pm 3^{\circ}C$ ， 1000 $\pm 24h$ 取出产品后在常态下恢复1H (Take out the product under normal recovery after 1H)
6-3	恒温恒湿测试 (Humidity test)		40 $\pm 2^{\circ}C$ ， 相对湿度90%~95%的环境中放置500H, 取出充分除去表面水滴并在常态下恢复1H; (40 $\pm 2^{\circ}C$, relative humidity90%~95% of the environment to place 500H, remove sufficient to remove surface water droplets and recovery under normal 1H)
6-4	温度冲击试验 (in air)		顺序: 常温25 $^{\circ}C$ --高温105 $\pm 2^{\circ}C$ 放置30min--室温25 $^{\circ}C$ 放置5min--低温-30 $\pm 2^{\circ}C$ 放置30min--室温25 $^{\circ}C$ 放置5min, 循环5次后, 取出在常温下恢复1H; (Order: room 25 $^{\circ}C$, high temperature to 105 $^{\circ}C \pm 2^{\circ}C$ for 30min -- room 25 $^{\circ}C$ for 5min -- low -30 $^{\circ}C \pm 2^{\circ}C$ for 30min -- room 25 $^{\circ}C$ for 5min, circulation after 5 times, take back 1H at room temperature ;)

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7. 铬铁焊接条件(Soldering Iron setting)

序号 NO.	项目 (Item)	测试条件 (settings /parameters)
7-1	烙铁温度 (Temperature of Soldering Iron-tip)	T≤360℃
7-2	焊接时间 (Soldering Time)	S≤3Sec

8. 产品储存条件(Storage Conditions)

8-1 储存条件(Storage Conditions) :

1. 储存温度(Ambicnt Temperature): -10℃~+40℃
2. 相对湿度(Relative Humidity): ≅75%RH
3. 远离腐蚀和阳光照射 (Keep away from corrosive atmosphere and sunlight)

8-2 储存时间 (Period of Storage): 1 year

产品储存时间超过一年，为确保使用正常且精度不受影响，建议重新检测后投入使用。
Product storage time more than a year, in order to ensure the use of normal and precision is not affected, recommends testing after put into use.

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9. 产品使用条件及注意事项 (Product use conditions and the matters needing attention)

- 9.1 产品使用的最大工作温度，最大功率等，均依照规格书要求作业，不可超出规格书之范围；
(The maximum service temperature of product use, the maximum power to wait, all in accordance with the specification requirements homework, shall not exceed the scope of specification)
- 9.2 产品移动、安装必须轻拿轻放，不可用力拉动；注意保护头部电阻；
(Product mobile, installation must be handled with care not pulling force,attention to protect the head ntc resistance;)
- 9.3 外壳发生变形、氧化等现象时，不要使用，以免影响感温精度；
(Cap occur deformation, oxidation etc. Phenomenon, do not use, so as not to affect the temperature accuracy)
- 9.4 产品外观发现变形、破损时，不可使用，以免影响电性能；
(Product appearance found deformation, breakage, do not use, lest affect performance)
- 9.5 在操作温度范围内，应尽量避免过于激烈的温度变化；
(Avoid from exceeding radical temperature change,which is beyond operation temperature range)
- 9.6 不可施加过度振动的压力；
(Do not add excessive vibration shocking pressure;)
- 9.7 避免过度拉伸, 弯曲导线；
(Avoid from excessive pulling and bending of the lead wire)
- 9.8 不要使用在有腐蚀性气体 (CO2, NH3, Sox, Nox)超出指定的条件。不要使用在电解、盐、酸、碱性和有机溶剂超出指定的条件；
(Do not use in corrosiveness gas atmosphere (CO2, NH3, Sox, Nox) beyond the designated condition.) Do not use at the place where the sensor touches the electrolytic, brine, acid, alkaline and organic solvent beyond the designated condition;)
- 9.9 尽可能避免使用在有水、高湿及其它带腐蚀性的环境中；
(As far as possible avoid using in water, high humidity and other have rot environment.)
- 9.10 通过负温度系数温度传感器的电流会引起组件自身发热而产生测量误差，因此需在使用前将此因素考虑在内。
(Through the negative temperature coefficient temperature sensor current will cause element own fever and produce measurement error, therefore need before use this factor into consideration.)
- 9.11 产品储存时间超过一年，为确保使用正常且精度不受影响，建议重新检测后投入使用；
(Product storage time more than a year, in order to ensure the use of normal and precision is not affected, recommends testing after put into use;)
- 9.12 产品废弃时, 需找专门的回收公司或发回原生产工厂进行处理；
(Waste products, need to find a recycling company specialized or back to the original production plant for processing;)
- 9.13 如果有任何不清楚的地方, 请咨询到我们公司的销售主管或工程师。
(If there is anything remaining unclear, please contact to our company's sales supervisor/engineer.)

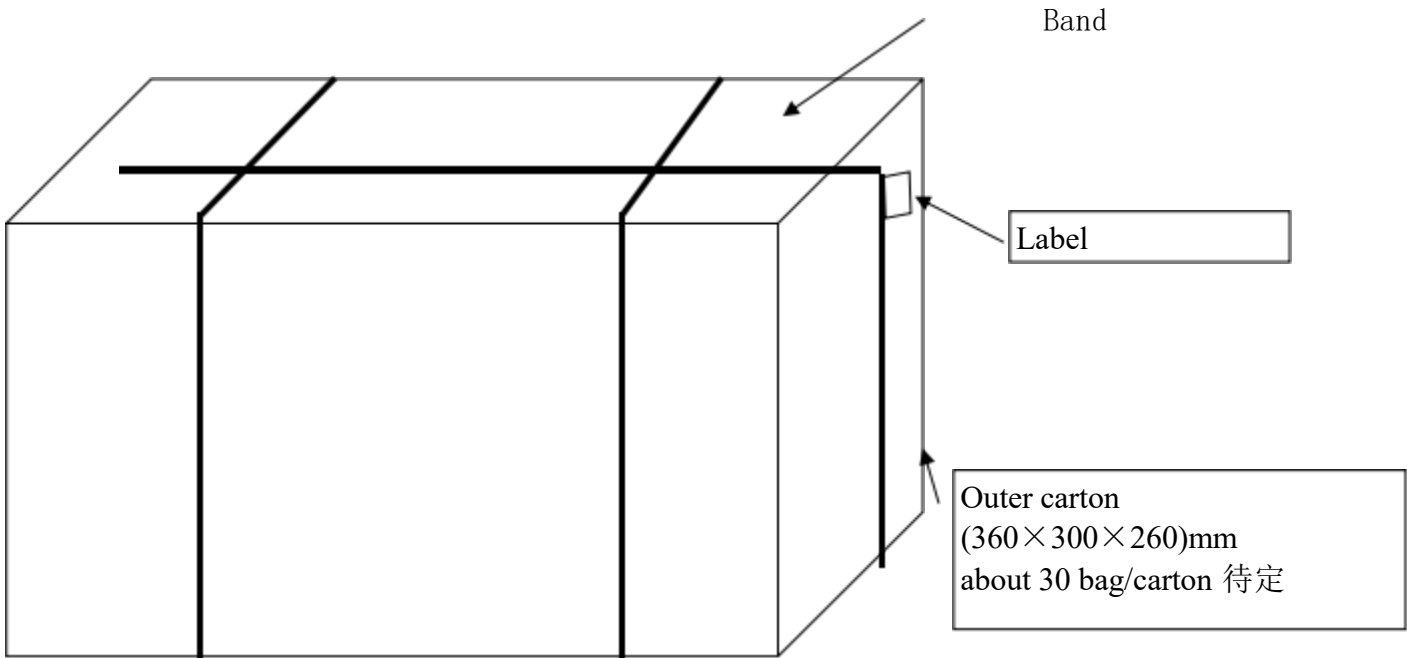
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10. 包装(Packing)

10-1 内包装袋:PE袋(PE bag)

1. 500PCS/包。(500PCS/bag) 待定
2. 最小包装上签产品标签及客户料号(Label with product name and customer number)
3. 具体包装数量在批量交货前再次确认, 确保包装经济、安全(The specific number of packages in the batch to confirm again before delivery, to ensure that the packaging economy and safety.)

10.2 外包装箱(Outer packing container)



10-3 以上包装为预估包装, 正式交货前请允许根据实际数量更改包装要求。

(Actual size and quantity may subject to be changed according to the final production situation.)

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11. 编码规则 (Encoding Rules)

BMT	N	X	Y	F	3950	F	A	L150
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(1) (2) (3) (4) (5) (6) (7) (8) (9)

(1) BMT 碧梦科技标识 (Blddream Logo)

(2) 传感器种类 (Type of sensor)
N NTC温度传感器 (NTC Temperature sensor)
B 铂电阻温度传感器 (PT Temperature sensor)
P PTC温度传感器 (PTC Temperature sensor)
H 温湿度传感器 (Humidity Temperature sensor)
F 其它传感器 (Other sensor)

(3) 传感器封装外形 (Sensor Package profile)
T 电工端子/螺丝固定类传感器 (Terminal/Screw fixed type sensor)
R 包封/注塑头传感器 (Resin/Molding coated sensor)
M 金属外壳传感器 (Metal case sensor)
P 塑胶/非金属外壳传感器 (Plastic/Nonmetal case sensor)

(4) 零功率电阻25℃, Y代表: (zero-power resistance at R25), Example, Y stands for:)
Y代表: 222, 502, 103, 153, 203, 303, 503, 104, 204, 504, 2. 252K, 231. 5K, 1388K, 3650K

(5) 标称电阻公差符号 (Nominal resistancetolerance), Example,
R: ±0. 3% E: ±0. 5% F: ±1% G: ±2% L: ±2. 5%
H: ±3% J: ±5% K: ±10%

(6) B值常数 (B value constant), Example, 3435, 3950...

(7) B值公差符号 (B value tolerance), Example,
R: ±0. 3% E: ±0. 5% F: ±1% G: ±2% L: ±2. 5%
H: ±3% J: ±5% K: ±10%

(8) B值类别 (B value category), Example,
A: 25/50 B: 25/85 C: 0/25 D: 0/50 E: 0/100 F: 5/25
G: 25/100 H: 100/200

(9) 产品长度 (Product length), Example, L500: 表示产品长500mm

电阻温度对应表（RT表）

最低温度	-40.0	℃	B 25 / 50 = 3950 ± 1%	K	材料编号 40-6
最高温度	105.0	℃	R @ 25 = 10.0 ± 1%	Kohm	
温度梯度	1.0	℃			

温度 ℃	最小值 Kohm	中心值 Kohm	最大值 Kohm	电阻温度系数 %/℃	温度负误差 ℃	温度正误差 ℃	电阻负公差 %	电阻正公差 %
-40	292.5828	305.8217	319.6276	-6.57	-0.69	0.66	-4.33	4.51
-39	274.9350	287.1948	299.9714	-6.52	-0.68	0.65	-4.27	4.45
-38	258.4502	269.8063	281.6333	-6.47	-0.68	0.65	-4.21	4.38
-37	243.0453	253.5672	264.5181	-6.42	-0.67	0.65	-4.15	4.32
-36	228.6440	238.3953	248.5376	-6.37	-0.67	0.64	-4.09	4.25
-35	215.1756	224.2149	233.6106	-6.32	-0.66	0.64	-4.03	4.19
-34	202.5746	210.9559	219.6621	-6.28	-0.66	0.63	-3.97	4.13
-33	190.7807	198.5537	206.6228	-6.23	-0.65	0.63	-3.91	4.06
-32	179.7379	186.9484	194.4287	-6.18	-0.65	0.62	-3.86	4.00
-31	169.3945	176.0846	183.0206	-6.14	-0.64	0.62	-3.80	3.94
-30	159.7025	165.9111	172.3437	-6.09	-0.64	0.61	-3.74	3.88
-29	150.6176	156.3804	162.3474	-6.04	-0.63	0.61	-3.69	3.82
-28	142.0985	147.4486	152.9848	-6.00	-0.63	0.60	-3.63	3.75
-27	134.1071	139.0750	144.2125	-5.96	-0.62	0.60	-3.57	3.69
-26	126.6080	131.2218	135.9901	-5.91	-0.61	0.59	-3.52	3.63
-25	119.5684	123.8541	128.2805	-5.87	-0.61	0.59	-3.46	3.57
-24	112.9577	116.9393	121.0490	-5.83	-0.60	0.58	-3.40	3.51
-23	106.7477	110.4473	114.2636	-5.78	-0.60	0.58	-3.35	3.46
-22	100.9121	104.3501	107.8944	-5.74	-0.59	0.57	-3.29	3.40
-21	95.4263	98.6217	101.9139	-5.70	-0.59	0.57	-3.24	3.34
-20	90.2676	93.2379	96.2964	-5.66	-0.58	0.56	-3.19	3.28
-19	85.4149	88.1764	91.0180	-5.62	-0.57	0.56	-3.13	3.22
-18	80.8486	83.4161	86.0565	-5.58	-0.57	0.55	-3.08	3.17
-17	76.5502	78.9376	81.3914	-5.54	-0.56	0.55	-3.02	3.11
-16	72.5028	74.7230	77.0034	-5.50	-0.55	0.54	-2.97	3.05
-15	68.6904	70.7552	72.8748	-5.46	-0.55	0.53	-2.92	3.00
-14	65.0982	67.0187	68.9889	-5.42	-0.54	0.53	-2.87	2.94
-13	61.7125	63.4988	65.3303	-5.38	-0.54	0.52	-2.81	2.88
-12	58.5203	60.1819	61.8845	-5.35	-0.53	0.52	-2.76	2.83
-11	55.5096	57.0553	58.6381	-5.31	-0.52	0.51	-2.71	2.77
-10	52.6692	54.1071	55.5787	-5.27	-0.52	0.50	-2.66	2.72
-9	49.9887	51.3263	52.6945	-5.24	-0.51	0.50	-2.61	2.67
-8	47.4583	48.7027	49.9746	-5.20	-0.50	0.49	-2.55	2.61
-7	45.0689	46.2264	47.4090	-5.16	-0.50	0.48	-2.50	2.56
-6	42.8118	43.8887	44.9881	-5.13	-0.49	0.48	-2.45	2.50
-5	40.6793	41.6809	42.7030	-5.09	-0.48	0.47	-2.40	2.45
-4	38.6637	39.5954	40.5455	-5.06	-0.47	0.47	-2.35	2.40
-3	36.7581	37.6247	38.5078	-5.03	-0.47	0.46	-2.30	2.35
-2	34.9560	35.7619	36.5828	-4.99	-0.46	0.45	-2.25	2.30
-1	33.2513	34.0007	34.7636	-4.96	-0.45	0.44	-2.20	2.24
0	31.6382	32.3351	33.0439	-4.92	-0.45	0.44	-2.16	2.19
1	30.1114	30.7593	31.4179	-4.89	-0.44	0.43	-2.11	2.14
2	28.6659	29.2681	29.8800	-4.86	-0.43	0.42	-2.06	2.09
3	27.2970	27.8566	28.4249	-4.83	-0.42	0.42	-2.01	2.04
4	26.0001	26.5202	27.0479	-4.80	-0.41	0.41	-1.96	1.99
5	24.7713	25.2544	25.7444	-4.76	-0.41	0.40	-1.91	1.94
6	23.6066	24.0553	24.5101	-4.73	-0.40	0.39	-1.87	1.89
7	22.5024	22.9190	23.3410	-4.70	-0.39	0.39	-1.82	1.84
8	21.4552	21.8419	22.2334	-4.67	-0.38	0.38	-1.77	1.79
9	20.4619	20.8207	21.1837	-4.64	-0.38	0.37	-1.72	1.74
10	19.5194	19.8523	20.1888	-4.61	-0.37	0.36	-1.68	1.69
11	18.6249	18.9335	19.2453	-4.58	-0.36	0.36	-1.63	1.65
12	17.7758	18.0618	18.3506	-4.55	-0.35	0.35	-1.58	1.60
13	16.9694	17.2344	17.5017	-4.52	-0.34	0.34	-1.54	1.55
14	16.2035	16.4489	16.6962	-4.49	-0.33	0.33	-1.49	1.50
15	15.4759	15.7029	15.9317	-4.47	-0.33	0.32	-1.45	1.46
16	14.7844	14.9944	15.2058	-4.44	-0.32	0.32	-1.40	1.41
17	14.1272	14.3212	14.5165	-4.41	-0.31	0.31	-1.35	1.36
18	13.5023	13.6815	13.8617	-4.38	-0.30	0.30	-1.31	1.32

19	12.9080	13.0734	13.2396	-4.35	-0.29	0.29	-1.26	1.27
20	12.3427	12.4952	12.6483	-4.33	-0.28	0.28	-1.22	1.23
21	11.8049	11.9453	12.0863	-4.30	-0.27	0.27	-1.18	1.18
22	11.2930	11.4223	11.5518	-4.27	-0.27	0.26	-1.13	1.13
23	10.8058	10.9246	11.0436	-4.25	-0.26	0.26	-1.09	1.09
24	10.3418	10.4509	10.5601	-4.22	-0.25	0.25	-1.04	1.04
25	9.9000	10.0000	10.1000	-4.19	-0.24	0.24	-1.00	1.00
26	9.4908	9.5906	9.6906	-4.17	-0.25	0.25	-1.04	1.04
27	9.0982	9.1978	9.2975	-4.14	-0.26	0.26	-1.08	1.08
28	8.7217	8.8209	8.9203	-4.12	-0.27	0.27	-1.12	1.13
29	8.3608	8.4594	8.5583	-4.09	-0.29	0.28	-1.17	1.17
30	8.0150	8.1129	8.2112	-4.07	-0.30	0.30	-1.21	1.21
31	7.6837	7.7809	7.8784	-4.04	-0.31	0.31	-1.25	1.25
32	7.3665	7.4627	7.5594	-4.02	-0.32	0.32	-1.29	1.30
33	7.0627	7.1579	7.2537	-4.00	-0.33	0.33	-1.33	1.34
34	6.7719	6.8660	6.9608	-3.97	-0.35	0.35	-1.37	1.38
35	6.4935	6.5866	6.6803	-3.95	-0.36	0.36	-1.41	1.42
36	6.2272	6.3190	6.4116	-3.92	-0.37	0.37	-1.45	1.46
37	5.9724	6.0630	6.1543	-3.90	-0.39	0.38	-1.49	1.51
38	5.7286	5.8179	5.9080	-3.88	-0.40	0.40	-1.53	1.55
39	5.4955	5.5834	5.6722	-3.86	-0.41	0.41	-1.58	1.59
40	5.2725	5.3591	5.4466	-3.83	-0.43	0.42	-1.62	1.63
41	5.0593	5.1445	5.2306	-3.81	-0.44	0.43	-1.66	1.67
42	4.8554	4.9392	5.0239	-3.79	-0.45	0.45	-1.70	1.71
43	4.6605	4.7428	4.8261	-3.77	-0.47	0.46	-1.74	1.76
44	4.4742	4.5550	4.6369	-3.74	-0.48	0.47	-1.78	1.80
45	4.2960	4.3754	4.4558	-3.72	-0.49	0.49	-1.81	1.84
46	4.1257	4.2036	4.2826	-3.70	-0.51	0.50	-1.85	1.88
47	3.9628	4.0393	4.1169	-3.68	-0.52	0.51	-1.89	1.92
48	3.8072	3.8822	3.9583	-3.66	-0.54	0.53	-1.93	1.96
49	3.6583	3.7319	3.8066	-3.64	-0.55	0.54	-1.97	2.00
50	3.5161	3.5882	3.6614	-3.62	-0.56	0.56	-2.01	2.04
51	3.3801	3.4507	3.5225	-3.60	-0.58	0.57	-2.05	2.08
52	3.2500	3.3192	3.3896	-3.58	-0.59	0.58	-2.09	2.12
53	3.1257	3.1935	3.2625	-3.56	-0.61	0.60	-2.12	2.16
54	3.0068	3.0732	3.1408	-3.54	-0.62	0.61	-2.16	2.20
55	2.8931	2.9581	3.0243	-3.52	-0.64	0.63	-2.20	2.24
56	2.7844	2.8480	2.9129	-3.50	-0.65	0.64	-2.24	2.28
57	2.6804	2.7427	2.8062	-3.48	-0.67	0.65	-2.27	2.32
58	2.5809	2.6419	2.7041	-3.46	-0.68	0.67	-2.31	2.35
59	2.4858	2.5455	2.6064	-3.44	-0.70	0.68	-2.35	2.39
60	2.3948	2.4532	2.5128	-3.42	-0.71	0.70	-2.38	2.43
61	2.3077	2.3648	2.4232	-3.40	-0.73	0.71	-2.42	2.47
62	2.2243	2.2803	2.3374	-3.38	-0.74	0.73	-2.45	2.50
63	2.1446	2.1993	2.2552	-3.36	-0.76	0.74	-2.49	2.54
64	2.0683	2.1218	2.1765	-3.35	-0.77	0.75	-2.52	2.58
65	1.9952	2.0476	2.1011	-3.33	-0.79	0.77	-2.56	2.61
66	1.9252	1.9765	2.0289	-3.31	-0.80	0.78	-2.59	2.65
67	1.8583	1.9084	1.9596	-3.29	-0.82	0.80	-2.63	2.69
68	1.7941	1.8431	1.8933	-3.27	-0.83	0.81	-2.66	2.72
69	1.7327	1.7806	1.8297	-3.26	-0.85	0.83	-2.69	2.76
70	1.6738	1.7207	1.7688	-3.24	-0.86	0.84	-2.73	2.79
71	1.6174	1.6633	1.7103	-3.22	-0.88	0.86	-2.76	2.83
72	1.5634	1.6083	1.6543	-3.20	-0.89	0.87	-2.79	2.86
73	1.5116	1.5555	1.6006	-3.19	-0.91	0.89	-2.83	2.90
74	1.4619	1.5049	1.5490	-3.17	-0.92	0.90	-2.86	2.93
75	1.4143	1.4564	1.4996	-3.15	-0.94	0.92	-2.89	2.96
76	1.3687	1.4098	1.4521	-3.14	-0.96	0.93	-2.92	3.00
77	1.3249	1.3652	1.4066	-3.12	-0.97	0.95	-2.95	3.03
78	1.2829	1.3223	1.3628	-3.10	-0.99	0.96	-2.98	3.06
79	1.2426	1.2812	1.3209	-3.09	-1.00	0.98	-3.01	3.10
80	1.2039	1.2417	1.2806	-3.07	-1.02	0.99	-3.04	3.13
81	1.1668	1.2038	1.2419	-3.05	-1.04	1.01	-3.07	3.16
82	1.1312	1.1674	1.2047	-3.04	-1.05	1.02	-3.10	3.19
83	1.0970	1.1325	1.1690	-3.02	-1.07	1.04	-3.13	3.22
84	1.0642	1.0989	1.1347	-3.01	-1.08	1.05	-3.16	3.26
85	1.0326	1.0666	1.1017	-2.99	-1.10	1.07	-3.19	3.29
86	1.0023	1.0356	1.0700	-2.97	-1.11	1.08	-3.22	3.32
87	0.9732	1.0058	1.0395	-2.96	-1.13	1.10	-3.25	3.35
88	0.9452	0.9772	1.0102	-2.94	-1.15	1.11	-3.28	3.38

89	0.9183	0.9497	0.9820	-2.93	-1.16	1.13	-3.30	3.41
90	0.8924	0.9232	0.9549	-2.91	-1.18	1.14	-3.33	3.44
91	0.8676	0.8977	0.9288	-2.90	-1.20	1.16	-3.36	3.46
92	0.8437	0.8732	0.9037	-2.88	-1.21	1.17	-3.38	3.49
93	0.8206	0.8496	0.8795	-2.87	-1.23	1.19	-3.41	3.52
94	0.7985	0.8269	0.8563	-2.85	-1.24	1.20	-3.44	3.55
95	0.7772	0.8051	0.8339	-2.84	-1.26	1.22	-3.46	3.58
96	0.7567	0.7841	0.8123	-2.83	-1.28	1.23	-3.49	3.60
97	0.7370	0.7638	0.7915	-2.81	-1.29	1.25	-3.51	3.63
98	0.7180	0.7443	0.7715	-2.80	-1.31	1.27	-3.54	3.66
99	0.6997	0.7255	0.7523	-2.78	-1.32	1.28	-3.56	3.68
100	0.6820	0.7074	0.7337	-2.77	-1.34	1.30	-3.59	3.71
101	0.6591	0.6839	0.7095	-2.76	-1.36	1.31	-3.62	3.75
102	0.6372	0.6614	0.6864	-2.74	-1.38	1.33	-3.65	3.78
103	0.6164	0.6399	0.6643	-2.73	-1.40	1.35	-3.68	3.81
104	0.5964	0.6194	0.6433	-2.72	-1.42	1.37	-3.72	3.85
105	0.5774	0.5999	0.6231	-2.70	-1.44	1.39	-3.75	3.88