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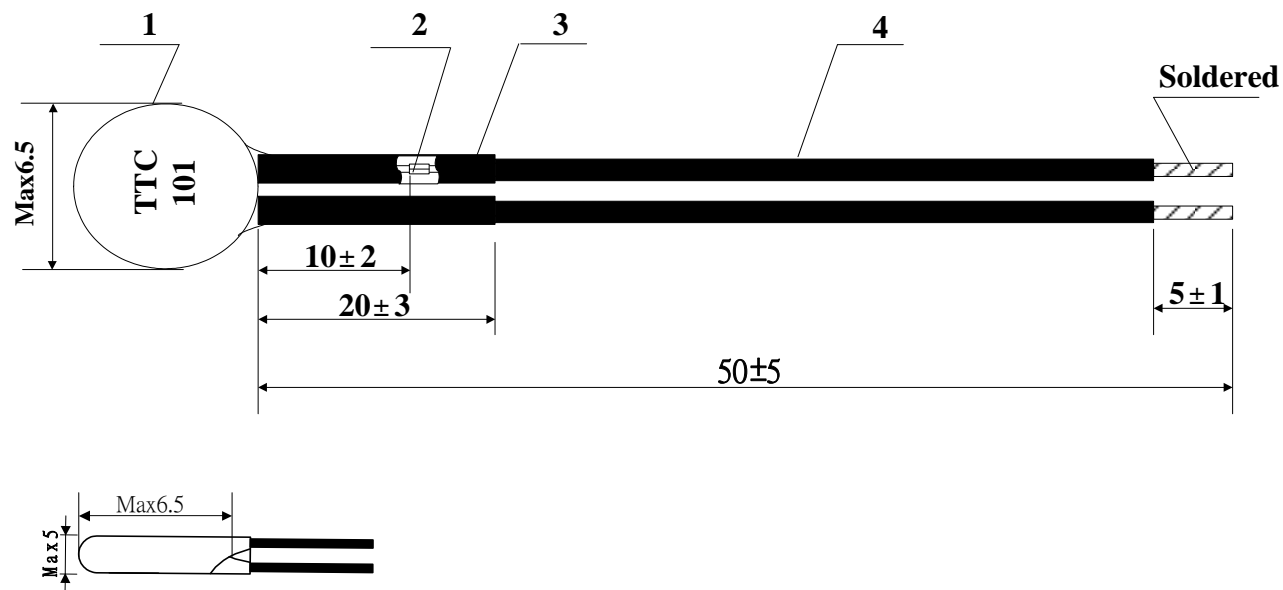
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**SPECIFICATION FOR APPROVAL**

CUSTOMER	立創電子
CERTIFIED	
MODEL/TYPE	
PART NO.	NTST5101JZ001(RoHS)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	DEC.02.2020
REV. NO.	1.0
REV. DATE	

FOR CUSTOMER APPROVAL	CHECKED BY
	戶鋒
	APPROVED BY
	盧宜睦





A. Material List

NO.	ITEM	DESCRIPTION
1	NTC CHIP	TTC05101JSY
2	TERMINAL	G10108BS-0
3	TUBE	Φ1.5mm黑色熱縮管
4	LEAD WIRE	UL1007#26 TS黑色線

B. Electrical Characteristic

ITEM	VALUE
R25°C	0.1KΩ±5%
B25/50	3200K±5%

						Customer	立創電子	
						Customer P/N		
						Thinking P/N	NTST5101JZ001	
						Drawing NO.	ST1801026	
						Date	2018/1/11	
						Tol: ±0.3mm	Unit: mm	Scale:
1.0	2018/1/11	新圖面	曹建暉	戶鋒	盧宜睦	THINKING ELECTRONIC INDUSTRIAL CO.,LTD		
Rev.	Date	Subjects of Change	Designed by	Checked by	Approved by			

興勤電子工業股份有限公司

THINKING ELECTRONIC INDUSTRIAL CO.,LTD

SUBJECT: CERTIFICATION OF MATERIALS

CUSTOMER: 立創電子

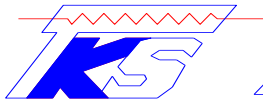
THINKING P/N: NTST5101JZ001

NO	PART NAME	PART P/N	Q'TY	FLAMMABILITY SOLID BURNING CLASS	UL FILE NO
1	NTC CHIP	TTC05101JSY	1		UL APPROVED
2	TERMINAL	G10108BS-0	2		
3	TUBE	Φ1.5mm黑色熱縮管	2	VW-1	UL APPROVED
4	WIRE	UL1007#26 TS黑色線	2	VW-1	UL APPROVED
備 注					

Approved by: 盧宜睦

Checked by: 戶鋒

Designed by: 曹建暉



Specification of NTC Thermistor for Temperature Compensation

PART NO. NTST5101JZ001

CUSTOMER P/N. _____

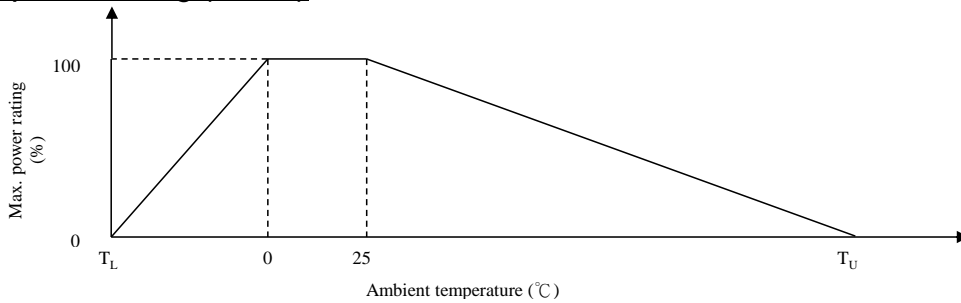
1. Electrical characteristics

	Parameter	Symbol	Test Conditions	Min.	Nor.	Max.	Unit.
a.	Resistance At 25°C	R ₂₅	T _a =25°C±0.05°C I<0.5mA	0.095	0.1	0.105	KΩ
b.	Resistance At 50°C	R ₅₀	T _a =50°C±0.05°C I<0.5mA	-----	0.0436	-----	KΩ
c.	R ₂₅ / R ₅₀	K	-----	-----	2.294	-----	-----
d.	B Constant	B25/50	(3853.887 Ln K)	3040	3200	3360	K
e.	Thermal Dissipation Constant	δ	T _a =25°C±0.05°C	-----	Approx.8	-----	mW/°C
f.	Thermal Time Constant	τ	25°C→85°C T1=25+(85-25)*63.2%=62.92°C	-----	Approx.21	-----	Sec

2. Maximum Ratings

	Parameter	Specification	Unit
a.	Operation Temperature Range	-20 ----- +80	°C
b.	Maximum Power Rating (At 25°C)	450	mW
c.	Maximum permissible Current	150	mA

Maximum power rating (Pmax)



Note: T_L = Minimum Temp. of Operating Temp. Range (°C)

T_U = Maximum Temp. of Operating Temp. Range (°C)

Specification of NTC Thermistor for Temperature Compensation

3. Mechanical Characteristics

3-1 Leads Terminal Tensile Strength

Conditions	Test Result	
Fasten body with a Load Applied to each lead 0.5 kg for 10 sec.	No break out	OK
	and damage	

4. Reliability Test

Item	Test Conditions	Variable
Temp. cycle test	-20 °C X 30min → +25 °C X 5min X 10Cycles +80 °C X 30min → +25 °C X 5min	Within ± 5 %
Humidity test	40°C 95 % RH X 1000 HRS	Within ± 5 %

Install and use

1. Use this product within the specified temperature range.
2. Higher temperature may cause deterioration of the characteristics or the material quality of this product.
3. Do not melt the solder in resin head, when you solder this product. If you melt the solder in resin head, it has possibility that the break of wire, short and insulation damage.
4. Do not touch the resin head directly by solder iron. It may cause the melt of solder in resin head.
5. At least away from resin head 10mm above when lead dividing.
6. In case you cut the lead wire of this product less than 10mm from resin head, the heat of melted solder at lead wire edge is propagated easily to the resin head along the lead wire.
7. Radius of lead bending should be more than 1mm when lead bending.
Holding element by side lead wire is recommended when lead wire is bent or cut.
8. Do not apply an excessive force to the lead. Otherwise, it may cause junction between lead and element to break or crack.
9. The ceramic element of this product is fragile, and care must be taken not to load an excessive press-force or not to give a shock at handling. Such forces may cause cracking or chipping.
10. If you mold by resin this product, please evaluate the quality of this product before you use it.

Warehouse Storage Conditions of Products

To keep solderability of product from declining, the following storage condition is recommended.

1. Storage condition:

Temperature -10°C to +40°C

Humidity less than 75%RH (not dewing condition)

2. Storage term:

Use this product within 1 year after delivery by first-in and first-out stocking system.

3. Handling after unpacking:

After unpacking, reseal product promptly or store it in a sealed container with a drying agent.

4. Storage place:

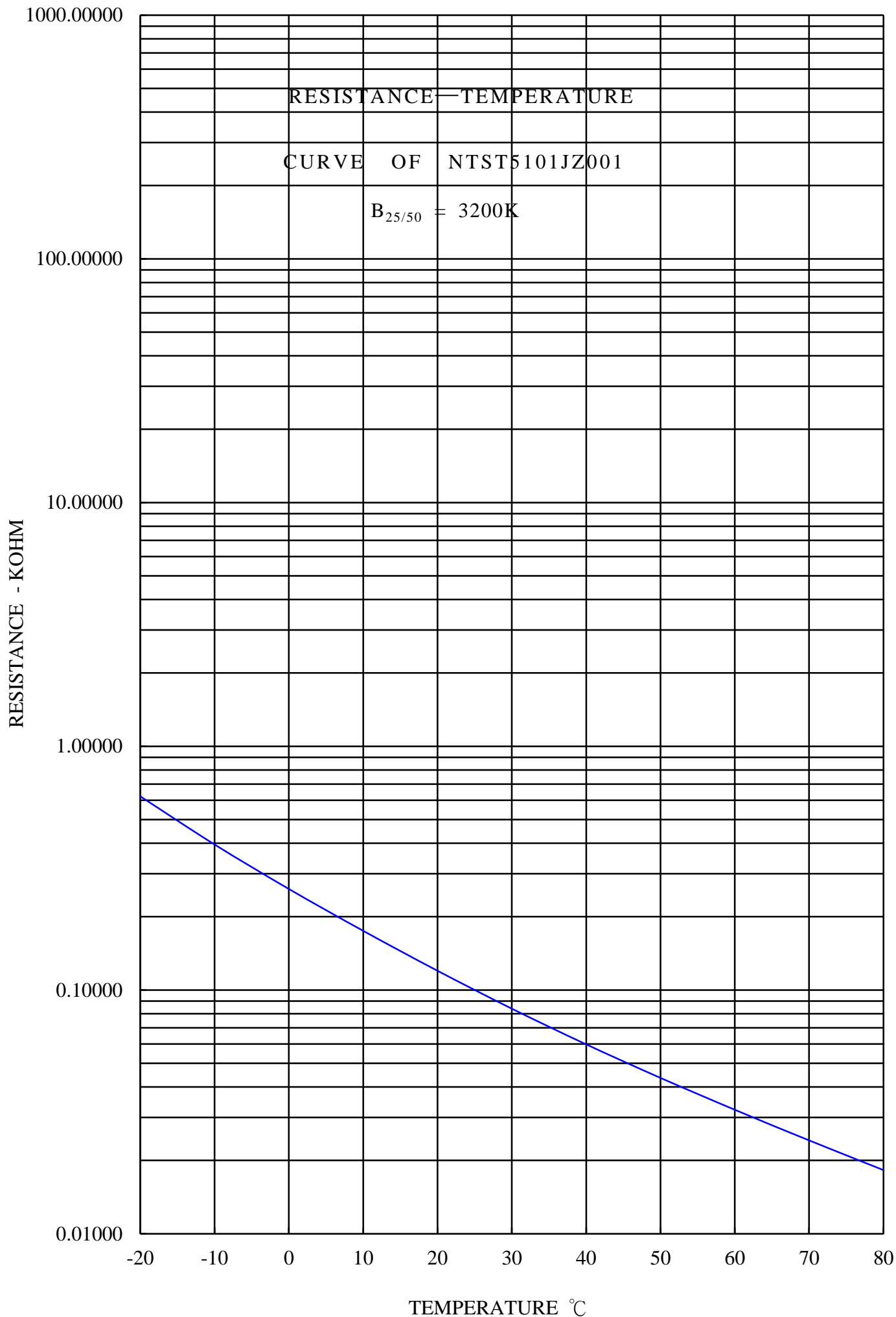
Do not store this product in corrosive gas (Sulfuric acid gas, Chlorine gas, etc.) or in direct sunlight.

Warn and note item

This product is designed for application in an ordinary environment (normal room temperature, humidity and atmospheric pressure).

Do not use under the following conditions because all of these factors can deteriorate the product characteristics or cause failures and burn-out.

1. Corrosive gas or deoxidizing gas (Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
2. Volatile or flammable gas
3. Dusty conditions
4. Under vacuum, or under high or low pressure
5. Wet or humid locations; soak in the liquid or wash with liquid
6. Places with salt water, oils, chemical liquids or organic solvents and do not use directly with quick-drying glue.
7. Strong vibrations
8. Other places where similar hazardous conditions exist
9. Be sure to provide an appropriate fail-safe function on your product to prevent secondary damages that may be caused by the abnormal function or the failure of our product.



R - T Table

Part No. : NTST5101JZ001

R25=0.1K Ω \pm 5%B25/50 = 3200 K \pm 5%

Temperature (°C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. (°C)	
-20	0.71694	0.62311	0.54021	-3.10	2.89
-19	0.68233	0.59443	0.51655	-3.06	2.87
-18	0.64961	0.56725	0.49409	-3.03	2.84
-17	0.61869	0.54151	0.47277	-3.00	2.82
-16	0.58947	0.51712	0.45252	-2.97	2.80
-15	0.56184	0.49401	0.43329	-2.94	2.77
-14	0.53573	0.47212	0.41502	-2.91	2.75
-13	0.51103	0.45137	0.39767	-2.87	2.73
-12	0.48766	0.43169	0.38119	-2.84	2.71
-11	0.46555	0.41303	0.36551	-2.81	2.68
-10	0.44461	0.39532	0.35061	-2.78	2.66
-9	0.42478	0.37850	0.33643	-2.75	2.64
-8	0.40598	0.36254	0.32293	-2.72	2.61
-7	0.38816	0.34736	0.31007	-2.69	2.58
-6	0.37125	0.33293	0.29782	-2.66	2.56
-5	0.35519	0.31920	0.28615	-2.62	2.53
-4	0.33993	0.30613	0.27500	-2.59	2.50
-3	0.32544	0.29369	0.26437	-2.55	2.47
-2	0.31165	0.28182	0.25421	-2.51	2.44
-1	0.29852	0.27051	0.24451	-2.48	2.41
0	0.28603	0.25972	0.23523	-2.44	2.38
1	0.27413	0.24941	0.22636	-2.40	2.34
2	0.26278	0.23957	0.21787	-2.36	2.31
3	0.25197	0.23017	0.20974	-2.32	2.27
4	0.24165	0.22119	0.20195	-2.28	2.24
5	0.23180	0.21259	0.19449	-2.24	2.20
6	0.22240	0.20438	0.18734	-2.19	2.17
7	0.21343	0.19651	0.18049	-2.15	2.13
8	0.20485	0.18899	0.17391	-2.11	2.09
9	0.19666	0.18178	0.16761	-2.06	2.05
10	0.18883	0.17488	0.16156	-2.02	2.02
11	0.18134	0.16827	0.15575	-1.98	1.98
12	0.17418	0.16194	0.15018	-1.93	1.94
13	0.16734	0.15587	0.14483	-1.89	1.90
14	0.16079	0.15006	0.13969	-1.85	1.86
15	0.15453	0.14449	0.13476	-1.80	1.82
16	0.14854	0.13915	0.13003	-1.76	1.78
17	0.14281	0.13404	0.12548	-1.72	1.74
18	0.13733	0.12913	0.12111	-1.67	1.70
19	0.13208	0.12443	0.11692	-1.63	1.66
20	0.12706	0.11992	0.11289	-1.58	1.62
21	0.12226	0.11559	0.10902	-1.54	1.59
22	0.11766	0.11145	0.10530	-1.50	1.55
23	0.11325	0.10747	0.10173	-1.45	1.51

24	0.10904	0.10366	0.09830	-1.41	1.47
25	0.10500	0.10000	0.09500	-1.37	1.42
26	0.10150	0.09649	0.09150	-1.43	1.48
27	0.09813	0.09312	0.08815	-1.49	1.54
28	0.09489	0.08990	0.08495	-1.55	1.60
29	0.09178	0.08680	0.08187	-1.61	1.65
30	0.08879	0.08382	0.07893	-1.67	1.71
31	0.08592	0.08097	0.07611	-1.73	1.77
32	0.08315	0.07822	0.07341	-1.80	1.83
33	0.08049	0.07559	0.07082	-1.86	1.89
34	0.07793	0.07307	0.06833	-1.93	1.95
35	0.07547	0.07064	0.06595	-1.99	2.01
36	0.07310	0.06830	0.06366	-2.06	2.07
37	0.07082	0.06606	0.06147	-2.12	2.13
38	0.06862	0.06391	0.05937	-2.19	2.19
39	0.06651	0.06184	0.05735	-2.26	2.25
40	0.06447	0.05985	0.05541	-2.32	2.31
41	0.06251	0.05793	0.05355	-2.39	2.37
42	0.06062	0.05609	0.05176	-2.46	2.44
43	0.05879	0.05431	0.05004	-2.53	2.50
44	0.05704	0.05260	0.04839	-2.60	2.56
45	0.05534	0.05096	0.04681	-2.66	2.62
46	0.05371	0.04937	0.04528	-2.73	2.68
47	0.05213	0.04785	0.04381	-2.80	2.74
48	0.05060	0.04638	0.04240	-2.87	2.81
49	0.04913	0.04496	0.04104	-2.94	2.87
50	0.04771	0.04359	0.03973	-3.01	2.93
51	0.04634	0.04227	0.03847	-3.08	2.99
52	0.04501	0.04100	0.03725	-3.15	3.05
53	0.04373	0.03977	0.03608	-3.22	3.11
54	0.04249	0.03858	0.03495	-3.29	3.17
55	0.04129	0.03744	0.03386	-3.36	3.23
56	0.04013	0.03633	0.03281	-3.43	3.29
57	0.03900	0.03526	0.03180	-3.50	3.35
58	0.03792	0.03423	0.03082	-3.57	3.41
59	0.03686	0.03323	0.02987	-3.64	3.47
60	0.03585	0.03226	0.02896	-3.71	3.53
61	0.03486	0.03133	0.02808	-3.78	3.59
62	0.03390	0.03042	0.02723	-3.85	3.65
63	0.03297	0.02955	0.02641	-3.92	3.70
64	0.03208	0.02870	0.02562	-3.99	3.76
65	0.03121	0.02788	0.02485	-4.06	3.82
66	0.03036	0.02709	0.02411	-4.12	3.88
67	0.02954	0.02632	0.02339	-4.19	3.94
68	0.02875	0.02557	0.02269	-4.26	3.99
69	0.02798	0.02485	0.02202	-4.33	4.05
70	0.02723	0.02415	0.02137	-4.40	4.11
71	0.02650	0.02348	0.02074	-4.47	4.17
72	0.02580	0.02282	0.02014	-4.54	4.22
73	0.02512	0.02219	0.01955	-4.61	4.28
74	0.02445	0.02157	0.01898	-4.68	4.34
75	0.02381	0.02097	0.01843	-4.75	4.40
76	0.02318	0.02039	0.01789	-4.82	4.45

77	0.02258	0.01983	0.01738	-4.89	4.51
78	0.02199	0.01929	0.01688	-4.96	4.57
79	0.02142	0.01876	0.01639	-5.04	4.63
80	0.02086	0.01825	0.01592	-5.11	4.69