

APPROVAL DATA SHEET

客戶承認書

CUSTOMER : Maritex

APPLICATION : _____

PRODUCT : NTC THERMISTOR

CUSTOMER NO.: _____

PART NO. : 11S0805473JH

PROJECT NO. : 14021901

DATE : 2014/2/26

VERSION : Ver.1

R 25 : 47,000 ohms \pm 5.0%

B 25 - 85 : 4000 °K \pm 3.0%

PLEASE SIGN BACK ONE COPY OF THIS SPECIFICATION AFTER
COMPLETION OF APPROVAL

APPROVAL BY: _____

DATE: _____



宏碩科技股份有限公司

Hyper- Sense Technology Co., Ltd.

80673 高雄市前鎮區新衙路286-1號3F-1

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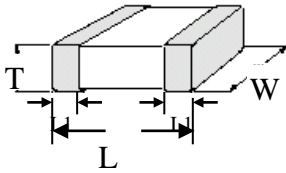
TEL : 886-7-8411531 ; FAX : 886-7-8418647

HST	SPECIFICATION	NTC THERMISTOR
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PART NO. : 11S0805473JH

1. APPEARANCE

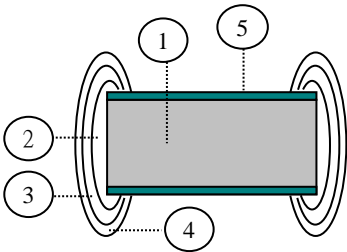
1-1 DIMENSIONS



unit : mm

Symbol	Min.	Nor.	Max.
L	1.80	2.00	2.20
W	1.05	1.25	1.45
T	-	-	1.20
L1	0.20	-	0.60

1-2 CONSTRUCTION & MATERIAL

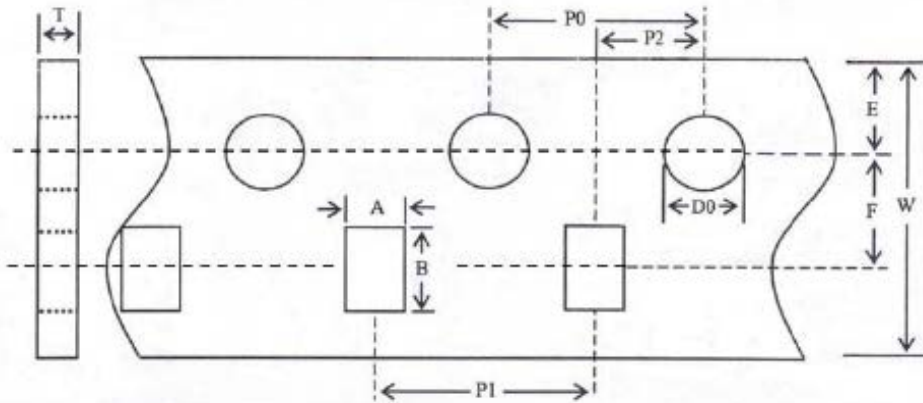


No.	Part Name	Materials	Remark
1	Element	Metal Oxide	
2	End Termination	Ag	
3	Ni plated	Ni	
4	Solder plated	Sn	Lead Free
5	Coating	Glass	

2. ELECTRICAL RATING

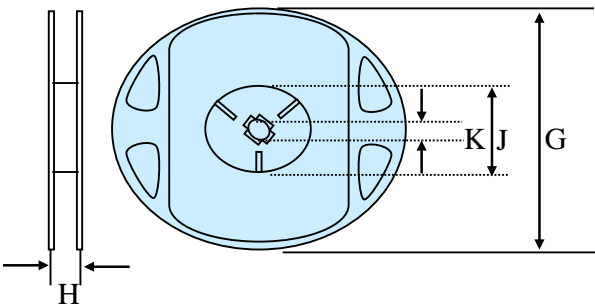
No.	Item	Symbol	Conditions	Min.	Nor.	Max.	Unit
1	Resistance at Ta	R ₂₅	Ta : 25 ±0.1°C	44,650	47,000	49,350	ohms
2	B Constant	B	4099 Log(R ₂₅ /R ₈₅)	3880	4000	4120	° K
3	Dissipation Constant	C	Ta : 25	-	4	-	mW/°C
4	Thermal Time Constant	t	Ta : 25	-	7.5	-	sec
5	Max. Rated Power	P _{max}	Ta : 25	-	-	400	mW
6	Operating Temperature	T		-40	-	125	°C

3. TAPING DIMENSIONS



unit : mm

Symbol	0402		0603		0805		1206	
A	0.65	±0.10	1.10	±0.10	1.50	±0.10	2.00	±0.10
B	1.15	±0.10	1.90	±0.10	2.30	±0.10	3.57	±0.10
W	8.00	±0.20	8.00	±0.20	8.00	±0.20	8.00	±0.20
D0	1.50	±0.25	1.50	±0.25	1.50	±0.25	1.55	±0.25
E	1.75	±0.10	1.75	±0.10	1.75	±0.10	1.75	±0.10
F	3.50	±0.05	3.50	±0.05	3.50	±0.05	3.50	±0.05
P0	4.00	±0.10	4.00	±0.10	4.00	±0.10	4.00	±0.10
P1	2.00	±0.10	4.00	±0.10	4.00	±0.10	4.00	±0.10
P2	2.00	±0.10	2.00	±0.10	2.00	±0.10	2.00	±0.10
T	1.10 Max.		1.10 Max.		1.10 Max.		1.10 Max.	



Symbol	Dimensios	
G	178	±2.0
J	60	±1.5
H	9	±0.3
K	13	±0.2

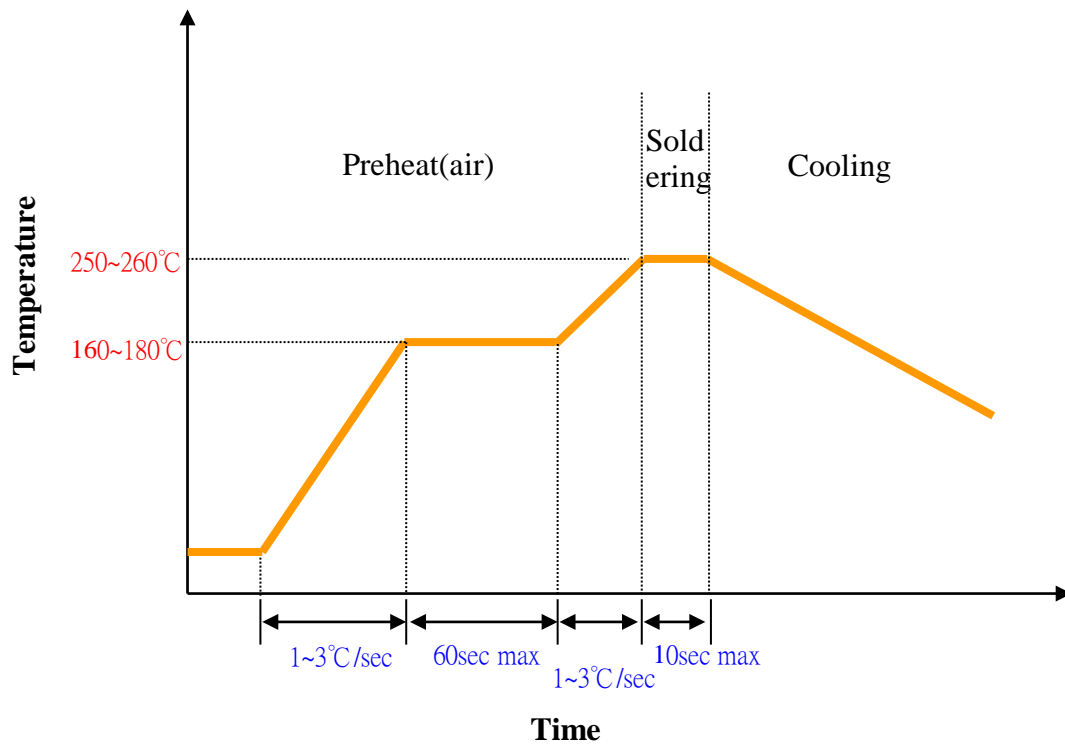
unit : mm

4,000 pcs/Reel

HST	SPECIFICATION	NTC THERMISTOR	
PART NO. : <u>11S0805473JH</u>			
4. ENVIRONMENTAL RATING			
No.	Item	Condition and Test Method	Rated Value
1	Life	70°C x 1000Hrs, Load Power MIL-STD-202F, Method 108A	Within ±5%
2	Damp heat , Steady state	40°C , 90~95%R.H. x 1000Hrs MIL-STD-202F, Method 103B	Within ±5%
3	Temperature Cycle	(-40°C -> 125°C) x 10 cycle MIL-STD-202F, Method 107	Within ±5%
4	Solderability	230°C for 5 sec. MIL-STD-202F, Method 208	95% min. coverage
5	Resistance to Soldering Heat	Soldered to test board at 260°C for 10 sec. MIL-R-55342D, Para 4.7.7	Within ±5%
6	Bending Strength	Pressurizing rod at a rate 1mm/sec. for 1mm. JIS C 5202 5.7	No break out and damage
7	Resistance to Flexure of Substrate	Pressurizing force shall be 3kg (min.) JIS C 5202 5.7	Within ±5%

PART NO. : 11S0805473JH

5. REFLOW SOLDERING PROFILE



HST	SPECIFICATION	NTC THERMISTOR
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RESISTANCE-TEMPERATURE CHARACTERISTICS

PART NO.: 11S0805473JH

R	47,000	ohms ±	5%
B	4000	°K ±	3%

Temperature (°C)	Resistance (Ω)			Temperature Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
-40	1451887	1702063	1990358	-6.91	-14.70	16.94	-2.45	2.13
-39	1358139	1588878	1854170	-6.85	-14.52	16.70	-2.44	2.12
-38	1271102	1484011	1728250	-6.80	-14.35	16.46	-2.42	2.11
-37	1190251	1386795	1611755	-6.75	-14.17	16.22	-2.40	2.10
-36	1115105	1296623	1503919	-6.70	-14.00	15.99	-2.39	2.09
-35	1045224	1212936	1404040	-6.65	-13.83	15.76	-2.37	2.08
-34	980205	1135228	1311481	-6.60	-13.66	15.53	-2.35	2.07
-33	919679	1063031	1225656	-6.55	-13.49	15.30	-2.34	2.06
-32	863304	995919	1146033	-6.50	-13.32	15.07	-2.32	2.05
-31	810771	933501	1072123	-6.45	-13.15	14.85	-2.30	2.04
-30	761791	875419	1003480	-6.40	-12.98	14.63	-2.29	2.03
-29	716103	821343	939695	-6.35	-12.81	14.41	-2.27	2.02
-28	673463	770972	880392	-6.31	-12.65	14.19	-2.25	2.01
-27	633650	724028	825229	-6.26	-12.48	13.98	-2.23	1.99
-26	596457	680256	773890	-6.21	-12.32	13.76	-2.22	1.98
-25	561695	639423	726086	-6.17	-12.16	13.55	-2.20	1.97
-24	529192	601311	681551	-6.12	-11.99	13.34	-2.18	1.96
-23	498784	565724	640042	-6.08	-11.83	13.14	-2.16	1.95
-22	470325	532477	601334	-6.03	-11.67	12.93	-2.14	1.93
-21	443677	501402	565221	-5.99	-11.51	12.73	-2.12	1.92
-20	418714	472345	531512	-5.95	-11.35	12.53	-2.11	1.91
-19	395319	445161	500033	-5.91	-11.20	12.33	-2.09	1.90
-18	373384	419718	470622	-5.86	-11.04	12.13	-2.07	1.88
-17	352808	395894	443132	-5.82	-10.88	11.93	-2.05	1.87
-16	333499	373577	417424	-5.78	-10.73	11.74	-2.03	1.86
-15	315372	352661	393373	-5.74	-10.57	11.54	-2.01	1.84
-14	298346	333050	370861	-5.70	-10.42	11.35	-1.99	1.83
-13	282349	314655	349781	-5.66	-10.27	11.16	-1.97	1.81
-12	267312	297394	330033	-5.62	-10.12	10.98	-1.95	1.80
-11	253171	281188	311526	-5.58	-9.96	10.79	-1.93	1.78
-10	239868	265969	294172	-5.55	-9.81	10.60	-1.91	1.77
-9	227348	251669	277895	-5.51	-9.66	10.42	-1.89	1.75
-8	215561	238228	262621	-5.47	-9.51	10.24	-1.87	1.74
-7	204458	225589	248281	-5.43	-9.37	10.06	-1.85	1.72
-6	193997	213699	234814	-5.40	-9.22	9.88	-1.83	1.71
-5	184137	202511	222161	-5.36	-9.07	9.70	-1.81	1.69
-4	174839	191977	210268	-5.32	-8.93	9.53	-1.79	1.68
-3	166068	182056	199085	-5.29	-8.78	9.35	-1.77	1.66
-2	157791	172710	188566	-5.25	-8.64	9.18	-1.75	1.64
-1	149978	163900	178666	-5.22	-8.49	9.01	-1.73	1.63
0	142600	155594	169348	-5.18	-8.35	8.84	-1.71	1.61
1	135630	147759	160571	-5.15	-8.21	8.67	-1.68	1.59
2	129043	140367	152303	-5.12	-8.07	8.50	-1.66	1.58

HST

SPECIFICATION

NTC THERMISTOR

RESISTANCE-TEMPERATURE CHARACTERISTICS**PART NO.:** 11S0805473JH

R	47,000	ohms ±	5%
B	4000	°K ±	3%

Temperature (°C)	Resistance (Ω)			Temperature Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
3	122816	133389	144511	-5.08	-7.93	8.34	-1.64	1.56
4	116927	126801	137165	-5.05	-7.79	8.17	-1.62	1.54
5	111356	120577	130236	-5.02	-7.65	8.01	-1.60	1.52
6	106084	114697	123698	-4.98	-7.51	7.85	-1.57	1.51
7	101094	109138	117528	-4.95	-7.37	7.69	-1.55	1.49
8	96368	103882	111703	-4.92	-7.23	7.53	-1.53	1.47
9	91891	98910	106200	-4.89	-7.10	7.37	-1.51	1.45
10	87648	94206	101002	-4.86	-6.96	7.21	-1.49	1.43
11	83627	89754	96088	-4.83	-6.83	7.06	-1.46	1.41
12	79814	85538	91443	-4.80	-6.69	6.90	-1.44	1.40
13	76198	81545	87049	-4.77	-6.56	6.75	-1.42	1.38
14	72766	77762	82892	-4.74	-6.42	6.60	-1.39	1.36
15	69509	74176	78958	-4.71	-6.29	6.45	-1.37	1.34
16	66417	70777	75234	-4.68	-6.16	6.30	-1.35	1.32
17	63480	67553	71706	-4.65	-6.03	6.15	-1.32	1.30
18	60691	64494	68365	-4.62	-5.90	6.00	-1.30	1.28
19	58040	61592	65199	-4.59	-5.77	5.86	-1.28	1.26
20	55520	58837	62197	-4.56	-5.64	5.71	-1.25	1.24
21	53124	56221	59351	-4.53	-5.51	5.57	-1.23	1.22
22	50845	53737	56651	-4.51	-5.38	5.42	-1.20	1.19
23	48677	51376	54089	-4.48	-5.25	5.28	-1.18	1.17
24	46614	49133	51658	-4.45	-5.13	5.14	-1.15	1.15
25	44650	47000	49350	-4.42	-5.00	5.00	-1.13	1.13
26	42667	44972	47283	-4.40	-5.13	5.14	-1.17	1.17
27	40783	43043	45314	-4.37	-5.25	5.28	-1.21	1.20
28	38993	41207	43439	-4.35	-5.37	5.42	-1.25	1.24
29	37291	39460	41651	-4.32	-5.50	5.55	-1.29	1.27
30	35673	37797	39947	-4.29	-5.62	5.69	-1.33	1.31
31	34135	36213	38322	-4.27	-5.74	5.82	-1.36	1.34
32	32671	34705	36773	-4.24	-5.86	5.96	-1.40	1.38
33	31278	33267	35295	-4.22	-5.98	6.09	-1.44	1.42
34	29952	31897	33884	-4.19	-6.10	6.23	-1.49	1.45
35	28690	30591	32537	-4.17	-6.22	6.36	-1.53	1.49
36	27488	29346	31252	-4.14	-6.33	6.49	-1.57	1.53
37	26342	28158	30024	-4.12	-6.45	6.63	-1.61	1.57
38	25251	27025	28851	-4.10	-6.56	6.76	-1.65	1.60
39	24211	25944	27731	-4.07	-6.68	6.89	-1.69	1.64
40	23219	24911	26660	-4.05	-6.79	7.02	-1.73	1.68
41	22274	23926	25636	-4.03	-6.90	7.15	-1.78	1.72
42	21372	22984	24657	-4.00	-7.02	7.28	-1.82	1.75
43	20511	22085	23721	-3.98	-7.13	7.41	-1.86	1.79
44	19690	21226	22825	-3.96	-7.24	7.53	-1.90	1.83
45	18906	20405	21968	-3.93	-7.35	7.66	-1.95	1.87

HST	SPECIFICATION	NTC THERMISTOR
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RESISTANCE-TEMPERATURE CHARACTERISTICS

PART NO.: 11S0805473JH

R	47,000	ohms ±	5%
B	4000	°K ±	3%

Temperature (°C)	Resistance (Ω)			Temperature Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
46	18157	19620	21148	-3.91	-7.46	7.79	-1.99	1.91
47	17442	18869	20363	-3.89	-7.57	7.91	-2.03	1.95
48	16759	18152	19611	-3.87	-7.67	8.04	-2.08	1.98
49	16106	17465	18891	-3.85	-7.78	8.17	-2.12	2.02
50	15482	16808	18201	-3.82	-7.89	8.29	-2.17	2.06
51	14886	16179	17540	-3.80	-7.99	8.41	-2.21	2.10
52	14315	15577	16906	-3.78	-8.10	8.54	-2.26	2.14
53	13770	15000	16299	-3.76	-8.20	8.66	-2.30	2.18
54	13248	14448	15717	-3.74	-8.30	8.78	-2.35	2.22
55	12749	13919	15158	-3.72	-8.41	8.90	-2.39	2.26
56	12271	13412	14622	-3.70	-8.51	9.03	-2.44	2.30
57	11813	12926	14108	-3.68	-8.61	9.15	-2.49	2.34
58	11375	12461	13615	-3.66	-8.71	9.27	-2.53	2.38
59	10956	12014	13142	-3.64	-8.81	9.39	-2.58	2.42
60	10554	11586	12687	-3.62	-8.91	9.51	-2.63	2.46
61	10169	11175	12251	-3.60	-9.01	9.62	-2.67	2.50
62	9800	10781	11831	-3.58	-9.10	9.74	-2.72	2.54
63	9446	10403	11429	-3.56	-9.20	9.86	-2.77	2.58
64	9106	10040	11042	-3.54	-9.30	9.98	-2.82	2.63
65	8781	9692	10670	-3.52	-9.39	10.09	-2.87	2.67
66	8469	9357	10312	-3.50	-9.49	10.21	-2.91	2.71
67	8170	9036	9969	-3.49	-9.59	10.32	-2.96	2.75
68	7882	8727	9638	-3.47	-9.68	10.44	-3.01	2.79
69	7607	8430	9320	-3.45	-9.77	10.55	-3.06	2.83
70	7342	8145	9014	-3.43	-9.87	10.67	-3.11	2.88
71	7088	7871	8720	-3.41	-9.96	10.78	-3.16	2.92
72	6843	7608	8437	-3.39	-10.05	10.90	-3.21	2.96
73	6609	7355	8164	-3.38	-10.14	11.01	-3.26	3.00
74	6384	7111	7902	-3.36	-10.23	11.12	-3.31	3.05
75	6167	6877	7649	-3.34	-10.32	11.23	-3.36	3.09
76	5959	6652	7406	-3.32	-10.41	11.34	-3.41	3.13
77	5759	6435	7172	-3.31	-10.50	11.45	-3.46	3.18
78	5567	6226	6946	-3.29	-10.59	11.56	-3.52	3.22
79	5382	6025	6728	-3.27	-10.68	11.67	-3.57	3.26
80	5204	5831	6519	-3.26	-10.77	11.78	-3.62	3.31
81	5033	5645	6316	-3.24	-10.85	11.89	-3.67	3.35
82	4868	5466	6122	-3.22	-10.94	12.00	-3.72	3.39
83	4709	5293	5934	-3.21	-11.02	12.11	-3.78	3.44
84	4557	5126	5752	-3.19	-11.11	12.22	-3.83	3.48
85	4410	4966	5578	-3.17	-11.19	12.32	-3.88	3.53
86	4268	4811	5409	-3.16	-11.28	12.43	-3.94	3.57
87	4132	4662	5246	-3.14	-11.36	12.54	-3.99	3.62
88	4001	4518	5089	-3.13	-11.45	12.64	-4.04	3.66

HST	SPECIFICATION	NTC THERMISTOR
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RESISTANCE-TEMPERATURE CHARACTERISTICS

PART NO.: 11S0805473JH

R	47,000	ohms ±	5%
B	4000	°K ±	3%

Temperature (°C)	Resistance (Ω)			Temperature Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
89	3874	4379	4937	-3.11	-11.53	12.75	-4.10	3.71
90	3752	4245	4791	-3.09	-11.61	12.85	-4.15	3.75
91	3635	4116	4650	-3.08	-11.69	12.96	-4.21	3.80
92	3522	3992	4513	-3.06	-11.77	13.06	-4.26	3.84
93	3413	3872	4381	-3.05	-11.86	13.17	-4.32	3.89
94	3307	3756	4254	-3.03	-11.94	13.27	-4.37	3.93
95	3206	3644	4131	-3.02	-12.02	13.37	-4.43	3.98
96	3108	3536	4012	-3.00	-12.09	13.47	-4.49	4.03
97	3014	3431	3897	-2.99	-12.17	13.58	-4.54	4.07
98	2922	3330	3786	-2.97	-12.25	13.68	-4.60	4.12
99	2834	3233	3679	-2.96	-12.33	13.78	-4.66	4.17
100	2750	3139	3575	-2.95	-12.41	13.88	-4.71	4.21
101	2668	3048	3474	-2.93	-12.49	13.98	-4.77	4.26
102	2588	2960	3377	-2.92	-12.56	14.08	-4.83	4.31
103	2512	2875	3283	-2.90	-12.64	14.18	-4.88	4.35
104	2438	2793	3192	-2.89	-12.71	14.28	-4.94	4.40
105	2367	2714	3104	-2.88	-12.79	14.38	-5.00	4.45
106	2298	2637	3019	-2.86	-12.86	14.48	-5.06	4.50
107	2231	2563	2937	-2.85	-12.94	14.57	-5.12	4.54
108	2167	2491	2857	-2.83	-13.01	14.67	-5.18	4.59
109	2105	2422	2779	-2.82	-13.09	14.77	-5.24	4.64
110	2045	2355	2705	-2.81	-13.16	14.87	-5.30	4.69
111	1987	2290	2632	-2.79	-13.23	14.96	-5.36	4.74
112	1930	2227	2562	-2.78	-13.31	15.06	-5.42	4.79
113	1876	2166	2494	-2.77	-13.38	15.16	-5.48	4.83
114	1823	2107	2428	-2.75	-13.45	15.25	-5.54	4.88
115	1772	2050	2364	-2.74	-13.52	15.35	-5.60	4.93
116	1723	1994	2302	-2.73	-13.59	15.44	-5.66	4.98
117	1676	1941	2242	-2.72	-13.66	15.53	-5.72	5.03
118	1629	1889	2184	-2.70	-13.73	15.63	-5.78	5.08
119	1585	1839	2128	-2.69	-13.80	15.72	-5.84	5.13
120	1542	1790	2073	-2.68	-13.87	15.82	-5.91	5.18
121	1500	1743	2020	-2.67	-13.94	15.91	-5.97	5.23
122	1459	1697	1969	-2.65	-14.01	16.00	-6.03	5.28
123	1420	1653	1919	-2.64	-14.08	16.09	-6.09	5.33
124	1382	1610	1870	-2.63	-14.15	16.19	-6.16	5.38
125	1345	1568	1823	-2.62	-14.21	16.28	-6.22	5.43