

# APPROVAL DATA SHEET

## 客戶承認書

CUSTOMER : Maritex

APPLICATION : \_\_\_\_\_

PRODUCT : NTC THERMISTOR

CUSTOMER NO.: \_\_\_\_\_

PART NO. : 11S0805103HC

PROJECT NO. : \_\_\_\_\_

DATE : 2015/2/23

VERSION : Ver.1

R 25	:	<u>10,000</u>	ohms ±	<u>3.0%</u>
B 25 - 85	:	<u>3435</u>	°K ±	<u>1.0%</u>

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

3F.-1, No.286-1, Xinya Rd., Qianzhen Dist., Kaohsiung City 806, Taiwan (R.O.C.)

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

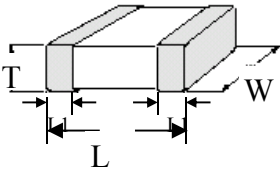
HST	SPECIFICATION	NTC THERMISTOR
-----	---------------	----------------

PART NO. : 11S0805103HC

1. APPEARANCE

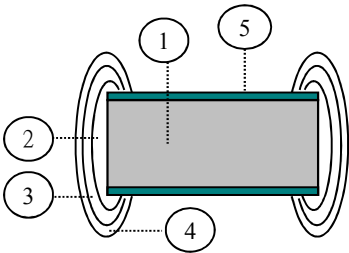
1-1 DIMENSIONS

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

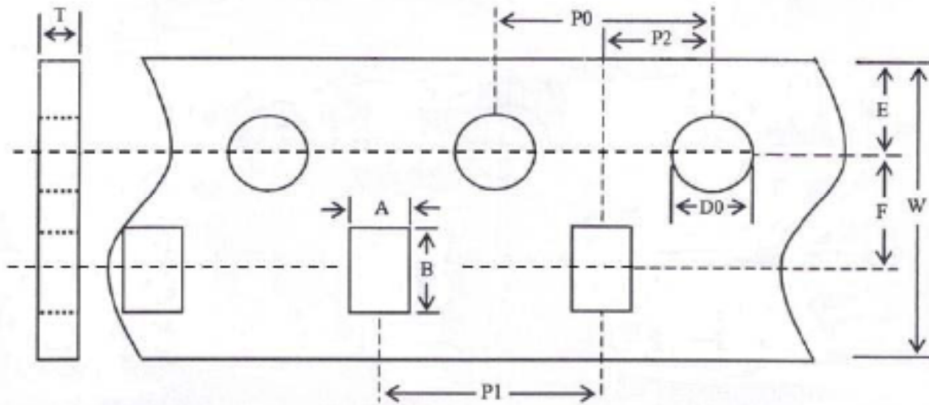


No.	Part Name	Materials	Remark
1	Element	Metal Oxide	
2	End Termination	Ag	
3	Ni plated	Ni	
4	Solder plated	Sn	Lead Free
5	Coating	Glass	

2. ELECTRICAL RATING

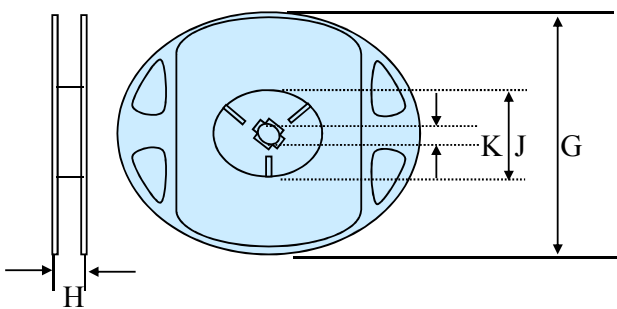
No.	Item	Symbol	Conditions	Min.	Nor.	Max.	Unit
1	Resistance at Ta	R <sub>25</sub>	Ta : 25 ±0.1°C	9,700	10,000	10,300	ohms
2	B Constant	B	4099 Log(R <sub>25</sub> /R <sub>85</sub> )	3401	3435	3469	° K
3	Dissipation Constant	C	Ta : 25	-	1	-	mW/°C
4	Thermal Time Constant	t	Ta : 25	-	7.5	-	sec
5	Max. Rated Power	P <sub>max.</sub>	Ta : 25	-	-	350	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

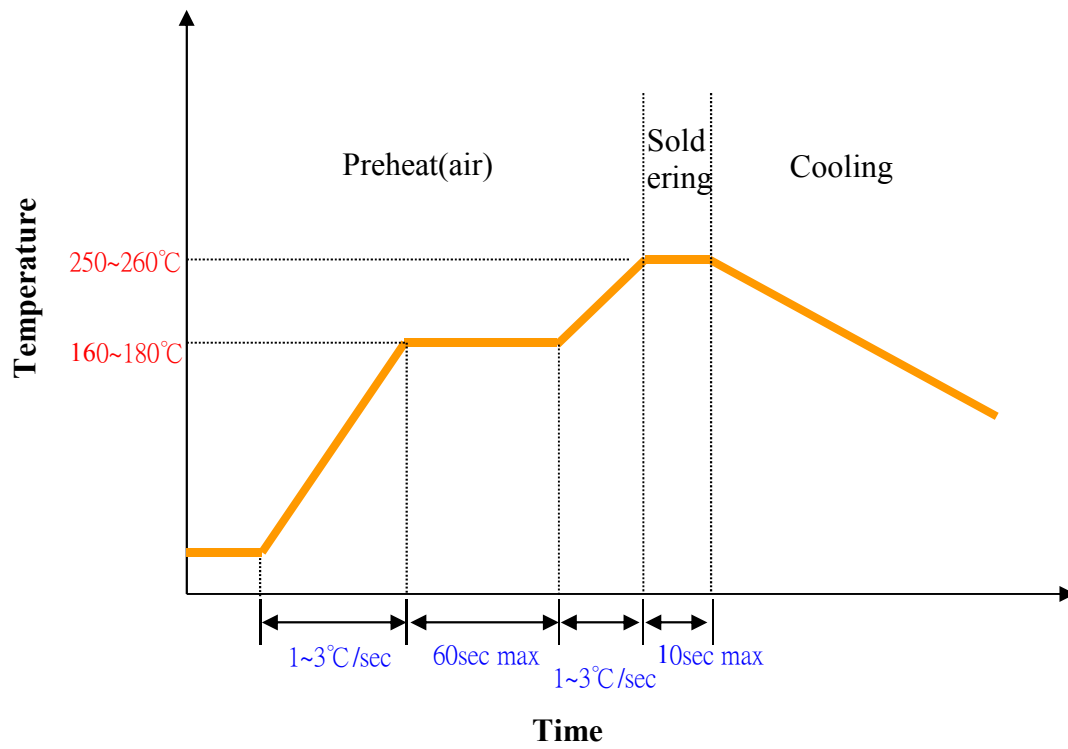
unit : mm

4,000 pcs/Reel

HST	SPECIFICATION		NTC THERMISTOR
PART NO. : <u>11S0805103HC</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 ±3%
2	Damp heat , Steady state	40°C , 90~95%R.H. x 1000Hrs MIL-STD-202F, Method 103B	Within ±3%
3	Temperature Cycle	(-40°C -> 125°C ) x 10 cycle MIL-STD-202F, Method 107	Within ±3%
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 ±3%
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 ±3%

PART NO. : 11S0805103HC

## 5. REFLOW SOLDERING PROFILE



HST	SPECIFICATION	NTC THERMISTOR
-----	---------------	----------------

**RESISTANCE-TEMPERATURE CHARACTERISTICS**

**PART NO.:** 11S0805103HC

R	10,000	ohms ±	3%
B	3435	°K ±	1%

Temperature (°C)	Resistance (Ω)			Temperature Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
-40	206737	219820	233521	-6.06	-5.95	6.23	-1.03	0.98
-39	194754	206954	219720	-6.00	-5.89	6.17	-1.03	0.98
-38	183563	194945	206847	-5.95	-5.84	6.11	-1.03	0.98
-37	173105	183730	194831	-5.90	-5.78	6.04	-1.02	0.98
-36	163326	173249	183609	-5.85	-5.73	5.98	-1.02	0.98
-35	154177	163449	173122	-5.80	-5.67	5.92	-1.02	0.98
-34	145613	154280	163317	-5.75	-5.62	5.86	-1.02	0.98
-33	137591	145698	154143	-5.70	-5.56	5.80	-1.02	0.98
-32	130074	137659	145556	-5.65	-5.51	5.74	-1.02	0.98
-31	123025	130126	137514	-5.60	-5.46	5.68	-1.01	0.97
-30	116412	123063	129977	-5.56	-5.40	5.62	-1.01	0.97
-29	110205	116437	122911	-5.51	-5.35	5.56	-1.01	0.97
-28	104376	110218	116282	-5.47	-5.30	5.50	-1.01	0.97
-27	98899	104378	110060	-5.42	-5.25	5.44	-1.00	0.97
-26	93751	98890	104218	-5.38	-5.20	5.39	-1.00	0.97
-25	88908	93732	98729	-5.34	-5.15	5.33	-1.00	0.96
-24	84352	88881	93570	-5.29	-5.10	5.28	-1.00	0.96
-23	80062	84317	88718	-5.25	-5.05	5.22	-0.99	0.96
-22	76022	80020	84153	-5.21	-5.00	5.16	-0.99	0.96
-21	72215	75973	79855	-5.17	-4.95	5.11	-0.99	0.96
-20	68625	72160	75808	-5.13	-4.90	5.06	-0.99	0.95
-19	65240	68566	71995	-5.09	-4.85	5.00	-0.98	0.95
-18	62046	65176	68401	-5.05	-4.80	4.95	-0.98	0.95
-17	59031	61977	65012	-5.01	-4.75	4.90	-0.98	0.95
-16	56184	58958	61814	-4.97	-4.71	4.84	-0.97	0.95
-15	53493	56107	58796	-4.94	-4.66	4.79	-0.97	0.94
-14	50951	53414	55946	-4.90	-4.61	4.74	-0.97	0.94
-13	48546	50869	53254	-4.86	-4.57	4.69	-0.96	0.94
-12	46272	48462	50710	-4.83	-4.52	4.64	-0.96	0.94
-11	44120	46185	48304	-4.79	-4.47	4.59	-0.96	0.93
-10	42082	44031	46029	-4.76	-4.43	4.54	-0.95	0.93
-9	40152	41992	43877	-4.72	-4.38	4.49	-0.95	0.93
-8	38324	40061	41840	-4.69	-4.34	4.44	-0.95	0.92
-7	36591	38232	39910	-4.66	-4.29	4.39	-0.94	0.92
-6	34948	36498	38083	-4.62	-4.25	4.34	-0.94	0.92
-5	33389	34854	36351	-4.59	-4.20	4.29	-0.94	0.92
-4	31910	33295	34709	-4.56	-4.16	4.25	-0.93	0.91
-3	30507	31816	33152	-4.53	-4.12	4.20	-0.93	0.91
-2	29174	30412	31675	-4.50	-4.07	4.15	-0.92	0.91
-1	27908	29080	30273	-4.47	-4.03	4.11	-0.92	0.90
0	26705	27814	28943	-4.44	-3.99	4.06	-0.92	0.90
1	25561	26611	27679	-4.41	-3.94	4.01	-0.91	0.90

HST	SPECIFICATION	NTC THERMISTOR
-----	---------------	----------------

**RESISTANCE-TEMPERATURE CHARACTERISTICS**

**PART NO.:** 11S0805103HC

R	10,000	ohms ±	3%
B	3435	°K ±	1%

Temperature (°C)	Resistance (Ω)			Temperature Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
2	24474	25468	26479	-4.38	-3.90	3.97	-0.91	0.89
3	23440	24381	25338	-4.35	-3.86	3.92	-0.90	0.89
4	22456	23348	24253	-4.32	-3.82	3.88	-0.90	0.88
5	21520	22365	23222	-4.29	-3.78	3.83	-0.89	0.88
6	20628	21429	22241	-4.26	-3.74	3.79	-0.89	0.88
7	19779	20538	21307	-4.23	-3.70	3.74	-0.88	0.87
8	18970	19690	20418	-4.20	-3.65	3.70	-0.88	0.87
9	18199	18882	19572	-4.18	-3.61	3.66	-0.88	0.87
10	17464	18112	18766	-4.15	-3.57	3.61	-0.87	0.86
11	16763	17378	17998	-4.12	-3.53	3.57	-0.87	0.86
12	16095	16678	17266	-4.10	-3.49	3.53	-0.86	0.85
13	15457	16011	16569	-4.07	-3.46	3.49	-0.86	0.85
14	14849	15374	15903	-4.05	-3.42	3.44	-0.85	0.84
15	14268	14766	15269	-4.02	-3.38	3.40	-0.85	0.84
16	13713	14186	14663	-3.99	-3.34	3.36	-0.84	0.84
17	13183	13632	14085	-3.97	-3.30	3.32	-0.84	0.83
18	12676	13104	13533	-3.94	-3.26	3.28	-0.83	0.83
19	12192	12598	13006	-3.92	-3.22	3.24	-0.83	0.82
20	11729	12115	12503	-3.90	-3.19	3.20	-0.82	0.82
21	11287	11654	12022	-3.87	-3.15	3.16	-0.82	0.81
22	10864	11212	11562	-3.85	-3.11	3.12	-0.81	0.81
23	10459	10790	11122	-3.83	-3.07	3.08	-0.80	0.80
24	10071	10386	10702	-3.80	-3.04	3.04	-0.80	0.80
25	9700	10000	10300	-3.78	-3.00	3.00	-0.79	0.79
26	9338	9630	9923	-3.76	-3.04	3.04	-0.81	0.81
27	8991	9276	9562	-3.74	-3.07	3.08	-0.82	0.82
28	8659	8937	9215	-3.71	-3.11	3.12	-0.84	0.84
29	8341	8612	8884	-3.69	-3.14	3.15	-0.85	0.85
30	8037	8301	8566	-3.67	-3.18	3.19	-0.87	0.87
31	7745	8003	8261	-3.65	-3.22	3.23	-0.89	0.88
32	7466	7717	7969	-3.63	-3.25	3.27	-0.90	0.90
33	7198	7443	7689	-3.61	-3.29	3.30	-0.92	0.91
34	6941	7180	7420	-3.59	-3.32	3.34	-0.93	0.93
35	6695	6928	7162	-3.56	-3.36	3.38	-0.95	0.94
36	6459	6686	6914	-3.54	-3.39	3.42	-0.96	0.96
37	6233	6454	6676	-3.52	-3.42	3.45	-0.98	0.97
38	6015	6231	6448	-3.50	-3.46	3.49	-1.00	0.99
39	5807	6017	6229	-3.48	-3.49	3.52	-1.01	1.00
40	5606	5811	6018	-3.47	-3.53	3.56	-1.03	1.02
41	5414	5614	5816	-3.45	-3.56	3.60	-1.04	1.03
42	5230	5424	5621	-3.43	-3.59	3.63	-1.06	1.05
43	5052	5242	5434	-3.41	-3.62	3.67	-1.08	1.06

**RESISTANCE-TEMPERATURE CHARACTERISTICS**

**PART NO.:** 11S0805103HC

R	10,000	ohms ±	3%
B	3435	°K ±	1%

Temperature (°C)	Resistance (Ω)			Temperature Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
44	4882	5067	5255	-3.39	-3.66	3.70	-1.09	1.08
45	4718	4899	5082	-3.37	-3.69	3.74	-1.11	1.09
46	4560	4737	4915	-3.35	-3.72	3.77	-1.13	1.11
47	4409	4581	4755	-3.33	-3.75	3.81	-1.14	1.13
48	4263	4431	4601	-3.32	-3.79	3.84	-1.16	1.14
49	4123	4287	4453	-3.30	-3.82	3.88	-1.18	1.16
50	3989	4148	4311	-3.28	-3.85	3.91	-1.19	1.17
51	3859	4015	4173	-3.26	-3.88	3.94	-1.21	1.19
52	3734	3886	4041	-3.25	-3.91	3.98	-1.23	1.21
53	3614	3763	3913	-3.23	-3.94	4.01	-1.24	1.22
54	3499	3643	3791	-3.21	-3.97	4.05	-1.26	1.24
55	3387	3528	3672	-3.19	-4.01	4.08	-1.28	1.25
56	3280	3418	3558	-3.18	-4.04	4.11	-1.29	1.27
57	3177	3311	3449	-3.16	-4.07	4.14	-1.31	1.29
58	3077	3209	3343	-3.14	-4.10	4.18	-1.33	1.30
59	2981	3109	3240	-3.13	-4.13	4.21	-1.35	1.32
60	2889	3014	3142	-3.11	-4.16	4.24	-1.36	1.34
61	2800	2922	3047	-3.10	-4.19	4.28	-1.38	1.35
62	2714	2833	2955	-3.08	-4.22	4.31	-1.40	1.37
63	2631	2747	2867	-3.06	-4.25	4.34	-1.42	1.39
64	2551	2665	2781	-3.05	-4.27	4.37	-1.43	1.40
65	2474	2585	2699	-3.03	-4.30	4.40	-1.45	1.42
66	2399	2508	2619	-3.02	-4.33	4.43	-1.47	1.44
67	2327	2433	2542	-3.00	-4.36	4.47	-1.49	1.45
68	2258	2362	2468	-2.99	-4.39	4.50	-1.51	1.47
69	2191	2292	2396	-2.97	-4.42	4.53	-1.52	1.49
70	2126	2225	2327	-2.96	-4.45	4.56	-1.54	1.50
71	2064	2161	2260	-2.94	-4.47	4.59	-1.56	1.52
72	2004	2098	2195	-2.93	-4.50	4.62	-1.58	1.54
73	1945	2038	2133	-2.91	-4.53	4.65	-1.60	1.56
74	1889	1979	2072	-2.90	-4.56	4.68	-1.61	1.57
75	1835	1923	2014	-2.89	-4.59	4.71	-1.63	1.59
76	1782	1868	1957	-2.87	-4.61	4.74	-1.65	1.61
77	1731	1816	1902	-2.86	-4.64	4.77	-1.67	1.62
78	1682	1765	1849	-2.84	-4.67	4.80	-1.69	1.64
79	1635	1715	1798	-2.83	-4.70	4.83	-1.71	1.66
80	1589	1668	1749	-2.82	-4.72	4.86	-1.73	1.68
81	1544	1621	1701	-2.80	-4.75	4.89	-1.75	1.69
82	1501	1577	1654	-2.79	-4.78	4.92	-1.76	1.71
83	1460	1533	1609	-2.78	-4.80	4.95	-1.78	1.73
84	1420	1492	1566	-2.76	-4.83	4.98	-1.80	1.75
85	1381	1451	1524	-2.75	-4.85	5.01	-1.82	1.77



HST	SPECIFICATION	NTC THERMISTOR
-----	---------------	----------------

**RESISTANCE-TEMPERATURE CHARACTERISTICS**

**PART NO.:** 11S0805103HC

R	10,000	ohms ±	3%
B	3435	°K ±	1%

Temperature (°C)	Resistance (Ω)			Temperture Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
86	1343	1412	1483	-2.74	-4.88	5.04	-1.84	1.78
87	1306	1374	1443	-2.72	-4.91	5.07	-1.86	1.80
88	1271	1337	1405	-2.71	-4.93	5.09	-1.88	1.82
89	1237	1301	1368	-2.70	-4.96	5.12	-1.90	1.84
90	1204	1267	1332	-2.69	-4.98	5.15	-1.92	1.86
91	1171	1233	1297	-2.67	-5.01	5.18	-1.94	1.87
92	1140	1201	1263	-2.66	-5.03	5.21	-1.96	1.89
93	1110	1169	1231	-2.65	-5.06	5.23	-1.98	1.91
94	1081	1139	1199	-2.64	-5.08	5.26	-2.00	1.93
95	1053	1109	1168	-2.62	-5.11	5.29	-2.02	1.95
96	1025	1081	1138	-2.61	-5.13	5.32	-2.04	1.97
97	998	1053	1109	-2.60	-5.16	5.34	-2.06	1.98
98	973	1026	1081	-2.59	-5.18	5.37	-2.08	2.00
99	948	1000	1054	-2.58	-5.21	5.40	-2.10	2.02
100	923	974	1027	-2.56	-5.23	5.43	-2.12	2.04
101	900	950	1002	-2.55	-5.26	5.45	-2.14	2.06
102	877	926	977	-2.54	-5.28	5.48	-2.16	2.08
103	855	903	952	-2.53	-5.31	5.51	-2.18	2.10
104	833	880	929	-2.52	-5.33	5.53	-2.20	2.12
105	812	858	906	-2.51	-5.35	5.56	-2.22	2.13
106	792	837	884	-2.50	-5.38	5.59	-2.24	2.15
107	772	816	862	-2.49	-5.40	5.61	-2.26	2.17
108	753	797	841	-2.47	-5.42	5.64	-2.28	2.19
109	735	777	821	-2.46	-5.45	5.67	-2.30	2.21
110	717	758	801	-2.45	-5.47	5.69	-2.32	2.23
111	699	740	782	-2.44	-5.49	5.72	-2.34	2.25
112	682	722	764	-2.43	-5.52	5.74	-2.36	2.27
113	666	705	745	-2.42	-5.54	5.77	-2.38	2.29
114	650	688	728	-2.41	-5.56	5.79	-2.40	2.31
115	634	672	711	-2.40	-5.58	5.82	-2.43	2.33
116	619	656	694	-2.39	-5.61	5.84	-2.45	2.35
117	604	640	678	-2.38	-5.63	5.87	-2.47	2.37
118	590	625	662	-2.37	-5.65	5.90	-2.49	2.39
119	576	611	647	-2.36	-5.67	5.92	-2.51	2.41
120	562	596	632	-2.35	-5.70	5.95	-2.53	2.43
121	549	583	617	-2.34	-5.72	5.97	-2.55	2.45
122	536	569	603	-2.33	-5.74	5.99	-2.57	2.47
123	524	556	590	-2.32	-5.76	6.02	-2.60	2.49
124	512	543	576	-2.31	-5.78	6.04	-2.62	2.51
125	500	531	563	-2.30	-5.81	6.07	-2.64	2.53