

Approval

Approved By:	Checked By:	Prepared By :

Approved By:	Examined By:	Tested By :

Company's Stamp	
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Company's Stamp	
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Approval No. : _____

Product : NTC THERMISTOR

Mayloon Part No. SMD 02-102 J 4100H

Customer's Part No. : _____

Specifications : R₂₅ 1K Ω $\pm$ 5 %

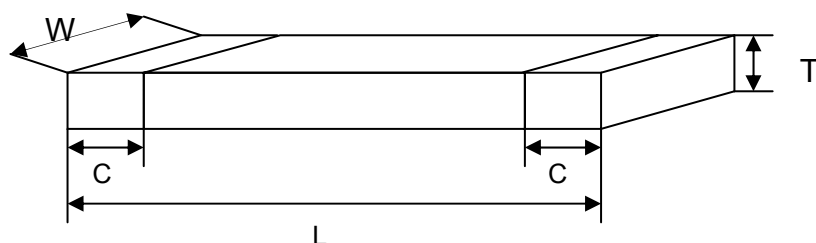
B₂₅₋₈₅ 4100 $^{\circ}$ K $\pm$ 3 %

Date : _____

Specification of SMD Chips Thermistor

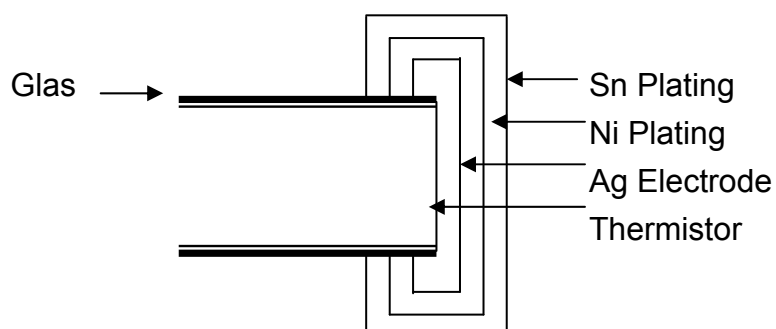
◆ PART NO. : SMD02-102 J 4100H

◆ CHIP DIMENSIONS



Item	L(mm)	W(mm)	T(mm)	C(mm)
1005 (0402)	1.00 ±0.05	0.50 ±0.05	0.50±0.05	0.25±0.10

◆ CHIP STRUCTURE



◆ ELECTRICAL CHARACTERISTICS

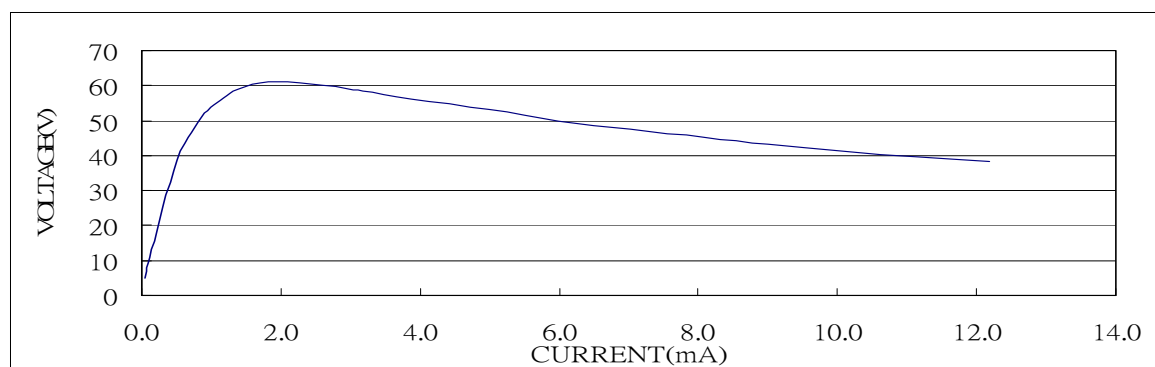
Style	Symbol	Condition	Specification
Resistance at 25°C	R25	T = 25 ± 0.1°C	1K Ω ± 5 %
B Constant	B	25°C to 85°C	4100 °K ± 3 %
Thermal Time Constant	T	T = 25 ± 0.1°C	Approx. 7.5 sec
Thermal Dissipation Constant	C	T = 25 ± 0.1°C	Approx. 4 mW/°C
Maximum Power Rating*	Pw	T = 25 ± 0.1°C	400 mW
Operation Temp. Range	--	--	-40°C ~ 125°C

*Maximum Power Rating = Thermal Dissipation Constant × (125°C-25°C)

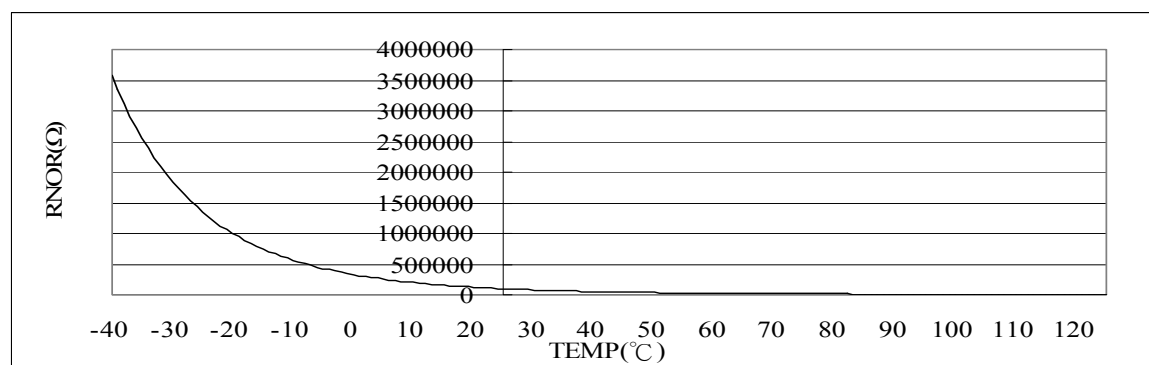
◆ RELIABILITY TEST

PERFORMANCE	TEST METHOD	APPRAISE
Life	MIL – STD – 202F , Method 108A 1000 hours at 125°C NTC WV intermittent	Within ± 3 %
Humidity	MIL – STD – 202F , Method 103B 1000 hours at Temperature: 40°C Humidity: 95%	Within ± 3 %
Thermal Shock	MIL – STD – 202F , Method 107 10 cycles, -40°C to +125°C	Within ± 3 %
Solder ability	MIL – STD – 202F , Method 208 235°C for 2 seconds	95% min. coverage
Resistance to Soldering Heat	MIL – R – 55342D , Para 4.7.7 Soldered to test board at 260°C for 10 seconds	Within ± 3 %
Bending Strength	JIS C 5202 6.1.4 Pressurizing rod at a rate at 1mm/sec for 1mm	Within ± 3 %
Resistance to flexure of Substrate	JIS C 5202 6.2.1 Pressurizing force shall be 3kg (min.)	Over 3 kg
Insulation Resistance	MIL – STD – 202F , Method 302 DC 250V For 10 seconds	Over 1000M Ω
Dielectric Withstand Voltage	MIL – STD – 202F , Method 301 DC 250V For 10 seconds	Not Short

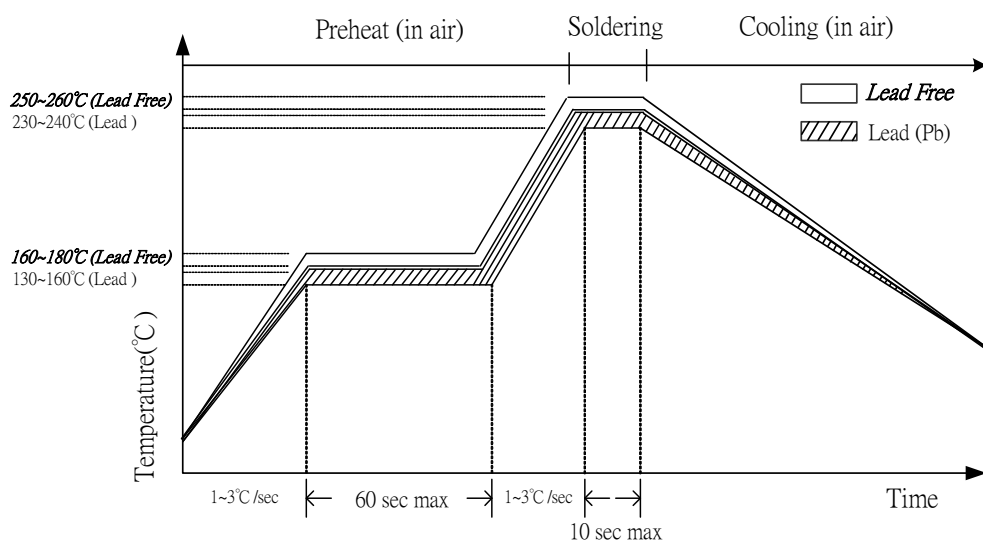
◆ VOLTAGE – CURRENT CURVE



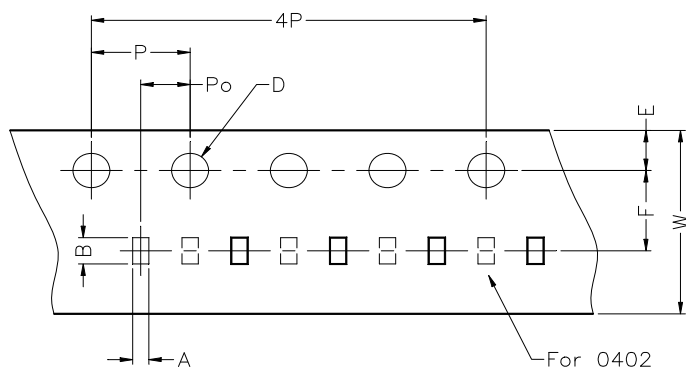
◆ RESISTANCE – TEMP CURVE



◆ REFLOW SOLDERING PROFILE



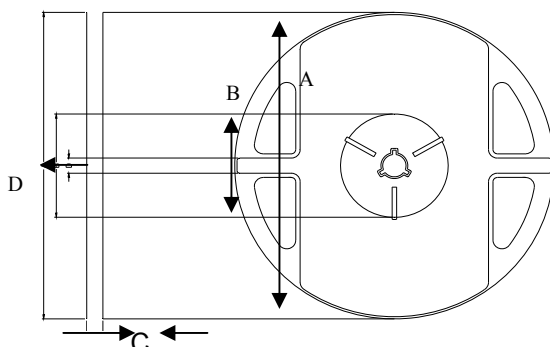
◆ TAPING DIMENSIONS



Unit: mm

Dimension	1206	0805	0603	0402
A	2.00 ± 0.05	1.50 ± 0.05	1.08 ± 0.05	0.66 ± 0.03
B	3.57 ± 0.05	2.30 ± 0.05	1.85 ± 0.05	1.15 ± 0.03
W	8.00 ± 0.02	8.00 ± 0.05	8.00 ± 0.05	8.00 ± 0.05
D	1.55 ± 0.05	1.50 ± 0.10	1.50 ± 0.10	1.50 ± 0.10
E	1.75 ± 0.10	1.75 ± 0.05	1.75 ± 0.05	1.75 ± 0.05
F	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05	3.50 ± 0.05
P	4.00 ± 0.10	4.00 ± 0.05	4.00 ± 0.05	4.00 ± 0.05
Po	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05	2.00 ± 0.05
4P	16.00 ± 0.05	16.00 ± 0.05	16.00 ± 0.05	16.00 ± 0.05

◆ REEL DIMENSIONS



Unit: mm

Item	A	B	C	D
Dimension	178.0±1.0	60.0±1.0	9.0±0.1	13.0±0.1

◆ ORDERING INFORMATION

SMD 02 102 J 4100 H
 ① ② ③ ④ ⑤ ⑥

1. Series SINLOON SMD Thermistor. (TH - Lead (Pb) ; TF – Lead Free)
2. Dimension : 06 (1206) , 05 (0805) , 03 (0603) , 02 (0402)
3. Resistance : 102 = $10 \times 10^2 = 1,000 \text{ ohm}$
4. R Tolerance : F:±1% ; G:±2% ; H:±3% ; J:±5% ; K:±10%
5. B value : 3215, 3250, 3435, 3700, 7970, 4000, 4100,.....etc.
6. B Tolerance : F:±1% ; G:±2% ; H:±3%

● ACCESSORY : RESISTANCE-TEMPERATURE CHARACTERISTICS

Resistance-Temperature Characteristics

Part No. : **SMD 02-102 J 4100H**

R : 1,000 ohms ± 5%
B : 4100°K ± 3%

Temperature (°C)	Resistance (Ω)			Temp. Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
-40	35486	41780	49067	-7.04	-15.06	17.44	-2.48	2.14
-39	33151	38948	45645	-7.00	-14.88	17.19	-2.46	2.13
-38	30982	36324	42480	-6.95	-14.71	16.95	-2.44	2.12
-37	28968	33892	39553	-6.91	-14.53	16.71	-2.42	2.10
-36	27096	31636	36845	-6.87	-14.35	16.46	-2.40	2.09
-35	25355	29543	34337	-6.82	-14.18	16.23	-2.38	2.08
-34	23737	27601	32014	-6.78	-14.00	15.99	-2.36	2.07
-33	22231	25798	29862	-6.74	-13.83	15.75	-2.34	2.05
-32	20829	24123	27867	-6.69	-13.65	15.52	-2.32	2.04
-31	19524	22566	26017	-6.65	-13.48	15.29	-2.30	2.03
-30	18309	21119	24300	-6.61	-13.31	15.06	-2.28	2.01
-29	17176	19773	22706	-6.56	-13.14	14.83	-2.26	2.00
-28	16120	18521	21227	-6.52	-12.97	14.61	-2.24	1.99
-27	15135	17355	19852	-6.48	-12.80	14.39	-2.22	1.97
-26	14216	16270	18575	-6.44	-12.63	14.16	-2.20	1.96
-25	13358	15259	17387	-6.40	-12.46	13.94	-2.18	1.95
-24	12557	14317	16282	-6.35	-12.29	13.73	-2.16	1.93
-23	11809	13438	15254	-6.31	-12.12	13.51	-2.14	1.92
-22	11110	12619	14297	-6.27	-11.96	13.30	-2.12	1.91
-21	10456	11854	13405	-6.23	-11.79	13.09	-2.10	1.89
-20	9845	11140	12575	-6.19	-11.63	12.87	-2.08	1.88
-19	9273	10474	11801	-6.15	-11.46	12.67	-2.06	1.86
-18	8738	9851	11079	-6.11	-11.30	12.46	-2.04	1.85
-17	8237	9269	10405	-6.07	-11.14	12.25	-2.02	1.84
-16	7768	8725	9777	-6.03	-10.98	12.05	-2.00	1.82
-15	7328	8217	9190	-5.99	-10.82	11.85	-1.98	1.81
-14	6916	7740	8642	-5.95	-10.66	11.65	-1.96	1.79
-13	6529	7295	8130	-5.91	-10.50	11.45	-1.94	1.78
-12	6166	6877	7651	-5.87	-10.34	11.25	-1.92	1.76
-11	5826	6487	7204	-5.83	-10.18	11.06	-1.90	1.75
-10	5507	6120	6785	-5.79	-10.03	10.86	-1.87	1.73
-9	5207	5777	6393	-5.76	-9.87	10.67	-1.85	1.71

-8	4925	5455	6026	-5.72	-9.71	10.48	-1.83	1.70
-7	4660	5152	5683	-5.68	-9.56	10.29	-1.81	1.68
-6	4411	4869	5361	-5.64	-9.41	10.11	-1.79	1.67
-5	4177	4602	5059	-5.61	-9.25	9.92	-1.77	1.65
-4	3956	4352	4776	-5.57	-9.10	9.74	-1.75	1.63
-3	3749	4117	4511	-5.53	-8.95	9.55	-1.73	1.62
-2	3554	3896	4262	-5.50	-8.80	9.37	-1.71	1.60
-1	3370	3689	4028	-5.46	-8.65	9.19	-1.68	1.58
0	3196	3493	3808	-5.42	-8.50	9.01	-1.66	1.57
1	3033	3309	3602	-5.39	-8.35	8.84	-1.64	1.55
2	2879	3136	3408	-5.35	-8.20	8.66	-1.62	1.53
3	2734	2973	3226	-5.32	-8.06	8.49	-1.60	1.51
4	2597	2820	3054	-5.28	-7.91	8.32	-1.57	1.50
5	2467	2675	2893	-5.25	-7.76	8.15	-1.55	1.48
6	2345	2539	2741	-5.21	-7.62	7.98	-1.53	1.46
7	2230	2410	2598	-5.18	-7.47	7.81	-1.51	1.44
8	2121	2289	2464	-5.15	-7.33	7.64	-1.48	1.42
9	2018	2174	2337	-5.11	-7.19	7.48	-1.46	1.41
10	1921	2066	2218	-5.08	-7.05	7.31	-1.44	1.39
11	1829	1964	2105	-5.05	-6.90	7.15	-1.42	1.37
12	1742	1868	1999	-5.01	-6.76	6.99	-1.39	1.35
13	1659	1777	1898	-4.98	-6.62	6.83	-1.37	1.33
14	1581	1691	1804	-4.95	-6.49	6.67	-1.35	1.31
15	1507	1610	1714	-4.92	-6.35	6.51	-1.32	1.29
16	1437	1533	1630	-4.88	-6.21	6.35	-1.30	1.27
17	1371	1460	1550	-4.85	-6.07	6.20	-1.28	1.25
18	1308	1391	1475	-4.82	-5.94	6.04	-1.25	1.23
19	1249	1326	1404	-4.79	-5.80	5.89	-1.23	1.21
20	1192	1264	1336	-4.76	-5.66	5.74	-1.21	1.19
21	1139	1205	1273	-4.73	-5.53	5.59	-1.18	1.17
22	1088	1150	1212	-4.70	-5.40	5.44	-1.16	1.15
23	1039	1097	1155	-4.67	-5.26	5.29	-1.13	1.13
24	994	1047	1101	-4.64	-5.13	5.15	-1.11	1.11
25	950	1000	1050	-4.61	-5.00	5.00	-1.09	1.09
26	906	955	1004	-4.58	-5.13	5.14	-1.12	1.12
27	865	913	961	-4.55	-5.26	5.29	-1.16	1.16
28	825	872	919	-4.52	-5.39	5.43	-1.20	1.19
29	788	834	880	-4.49	-5.52	5.57	-1.24	1.23
30	752	797	843	-4.46	-5.64	5.72	-1.28	1.27

31	718	762	807	-4.43	-5.77	5.86	-1.32	1.30
32	687	730	773	-4.40	-5.89	6.00	-1.36	1.34
33	656	698	741	-4.38	-6.02	6.14	-1.40	1.38
34	627	668	710	-4.35	-6.14	6.28	-1.44	1.41
35	600	640	681	-4.32	-6.26	6.42	-1.48	1.45
36	574	613	653	-4.29	-6.38	6.55	-1.53	1.49
37	549	587	627	-4.27	-6.50	6.69	-1.57	1.52
38	526	563	601	-4.24	-6.62	6.83	-1.61	1.56
39	503	540	577	-4.21	-6.74	6.96	-1.65	1.60
40	482	517	554	-4.19	-6.86	7.10	-1.70	1.64
41	462	496	532	-4.16	-6.98	7.23	-1.74	1.68
42	442	476	511	-4.13	-7.09	7.36	-1.78	1.72
43	424	457	491	-4.11	-7.21	7.50	-1.82	1.75
44	406	439	472	-4.08	-7.32	7.63	-1.87	1.79
45	390	421	454	-4.06	-7.43	7.76	-1.91	1.83
46	374	404	436	-4.03	-7.55	7.89	-1.96	1.87
47	359	388	420	-4.01	-7.66	8.02	-2.00	1.91
48	344	373	404	-3.98	-7.77	8.15	-2.05	1.95
49	330	359	388	-3.96	-7.88	8.28	-2.09	1.99
50	317	345	374	-3.93	-7.99	8.41	-2.14	2.03
51	305	332	360	-3.91	-8.09	8.54	-2.18	2.07
52	293	319	347	-3.88	-8.20	8.66	-2.23	2.11
53	281	307	334	-3.86	-8.31	8.79	-2.28	2.15
54	270	295	322	-3.84	-8.41	8.91	-2.32	2.19
55	260	284	310	-3.81	-8.52	9.04	-2.37	2.23
56	250	274	299	-3.79	-8.62	9.16	-2.42	2.28
57	240	263	288	-3.77	-8.73	9.29	-2.47	2.32
58	231	254	278	-3.74	-8.83	9.41	-2.51	2.36
59	223	244	268	-3.72	-8.93	9.53	-2.56	2.40
60	214	236	258	-3.70	-9.03	9.65	-2.61	2.44
61	206	227	249	-3.67	-9.13	9.78	-2.66	2.49
62	199	219	241	-3.65	-9.23	9.90	-2.71	2.53
63	191	211	232	-3.63	-9.33	10.02	-2.76	2.57
64	184	204	224	-3.61	-9.43	10.14	-2.81	2.61
65	178	196	216	-3.59	-9.53	10.26	-2.86	2.66
66	171	189	209	-3.56	-9.63	10.37	-2.91	2.70
67	165	183	202	-3.54	-9.72	10.49	-2.96	2.74
68	159	176	195	-3.52	-9.82	10.61	-3.01	2.79
69	154	170	189	-3.50	-9.91	10.72	-3.06	2.83

70	148	165	182	-3.48	-10.01	10.84	-3.12	2.88
71	143	159	176	-3.46	-10.10	10.96	-3.17	2.92
72	138	154	171	-3.44	-10.19	11.07	-3.22	2.97
73	133	148	165	-3.42	-10.29	11.19	-3.27	3.01
74	129	143	160	-3.40	-10.38	11.30	-3.33	3.05
75	124	139	154	-3.38	-10.47	11.41	-3.38	3.10
76	120	134	149	-3.36	-10.56	11.52	-3.43	3.15
77	116	130	145	-3.34	-10.65	11.64	-3.49	3.19
78	112	125	140	-3.32	-10.74	11.75	-3.54	3.24
79	108	121	136	-3.30	-10.83	11.86	-3.60	3.28
80	105	117	131	-3.28	-10.91	11.97	-3.65	3.33
81	101	114	127	-3.26	-11.00	12.08	-3.71	3.38
82	98	110	123	-3.24	-11.09	12.19	-3.76	3.42
83	95	106	120	-3.22	-11.17	12.30	-3.82	3.47
84	92	103	116	-3.20	-11.26	12.41	-3.87	3.52
85	89	100	112	-3.18	-11.34	12.51	-3.93	3.56
86	86	97	109	-3.16	-11.43	12.62	-3.99	3.61
87	83	94	106	-3.15	-11.51	12.73	-4.05	3.66
88	80	91	103	-3.13	-11.60	12.83	-4.10	3.71
89	78	88	99	-3.11	-11.68	12.94	-4.16	3.76
90	75	85	97	-3.09	-11.76	13.04	-4.22	3.80
91	73	83	94	-3.07	-11.84	13.15	-4.28	3.85
92	71	80	91	-3.06	-11.92	13.25	-4.34	3.90
93	69	78	88	-3.04	-12.00	13.36	-4.40	3.95
94	66	76	86	-3.02	-12.08	13.46	-4.46	4.00
95	64	73	83	-3.00	-12.16	13.56	-4.52	4.05
96	62	71	81	-2.99	-12.24	13.66	-4.58	4.10
97	61	69	79	-2.97	-12.32	13.77	-4.64	4.15
98	59	67	76	-2.95	-12.40	13.87	-4.70	4.20
99	57	65	74	-2.94	-12.47	13.97	-4.76	4.25
100	55	63	72	-2.92	-12.55	14.07	-4.82	4.30
101	54	61	70	-2.90	-12.63	14.17	-4.88	4.35
102	52	60	68	-2.89	-12.70	14.27	-4.94	4.40
103	51	58	66	-2.87	-12.78	14.37	-5.01	4.45
104	49	56	64	-2.85	-12.85	14.46	-5.07	4.50
105	48	55	63	-2.84	-12.93	14.56	-5.13	4.56
106	46	53	61	-2.82	-13.00	14.66	-5.19	4.61
107	45	52	59	-2.81	-13.08	14.76	-5.26	4.66
108	44	50	58	-2.79	-13.15	14.85	-5.32	4.71

109	42	49	56	-2.77	-13.22	14.95	-5.39	4.77
110	41	48	55	-2.76	-13.29	15.04	-5.45	4.82
111	40	46	53	-2.74	-13.36	15.14	-5.52	4.87
112	39	45	52	-2.73	-13.44	15.23	-5.58	4.92
113	38	44	51	-2.71	-13.51	15.33	-5.65	4.98
114	37	43	49	-2.70	-13.58	15.42	-5.71	5.03
115	36	42	48	-2.68	-13.65	15.51	-5.78	5.09
116	35	40	47	-2.67	-13.72	15.61	-5.85	5.14
117	34	39	46	-2.65	-13.78	15.70	-5.91	5.19
118	33	38	44	-2.64	-13.85	15.79	-5.98	5.25
119	32	37	43	-2.63	-13.92	15.88	-6.05	5.30
120	31	36	42	-2.61	-13.99	15.97	-6.12	5.36
121	30	35	41	-2.60	-14.06	16.06	-6.19	5.41
122	30	35	40	-2.58	-14.12	16.15	-6.26	5.47
123	29	34	39	-2.57	-14.19	16.24	-6.32	5.52
124	28	33	38	-2.55	-14.25	16.33	-6.39	5.58
125	27	32	37	-2.54	-14.32	16.42	-6.46	5.64