

Approval

(產品規格確認書)

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. : SMD05-474 J 4000 H

Customer's Part No. : _____

Specifications : R25 470,000 Ω $\pm$ 5 %

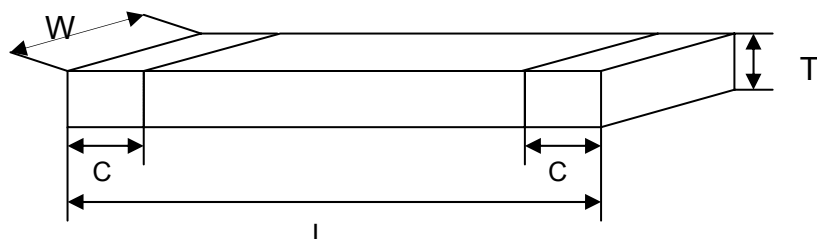
B25-85 4000 $^{\circ}\text{K}$ $\pm$ 3 %

Date : _____

Specification of SMD Chips Thermistor

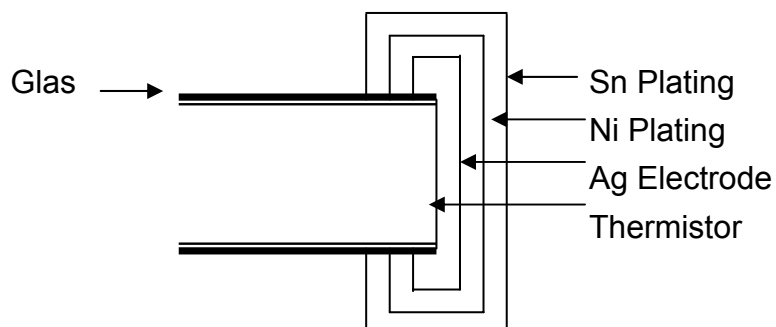
◆ PART NO. : SMD05-474 J 4000 H

◆ CHIP DIMENSIONS



Item	L(mm)	W(mm)	T(mm)	C(mm)
2125 (0805)	2.00 ±0.20	1.25 ±0.20	1.20±0.20	0.50±0.20

◆ CHIP STRUCTURE



◆ ELECTRICAL CHARACTERISTICS

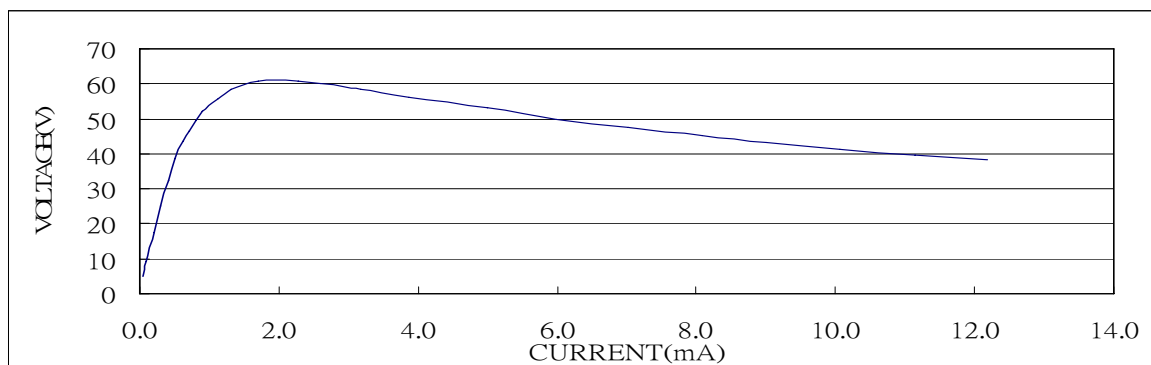
Style	Symbol	Condition	Specification
Resistance at 25°C	R ₂₅	T = 25 ± 0.1°C	470K Ω ± 5 %
B Constant	B	25°C to 85°C	4000 °K ± 3 %
Thermal Time Constant	T	T = 25 ± 0.1°C	Approx. 7.5 sec
Thermal Dissipation Constant	C	T = 25 ± 0.1°C	Approx. 4 mW/°C
Maximum Power Rating*	P _w	T = 25 ± 0.1°C	400 mW
Operation Temp. Range	--	--	-40°C ~ 125°C

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

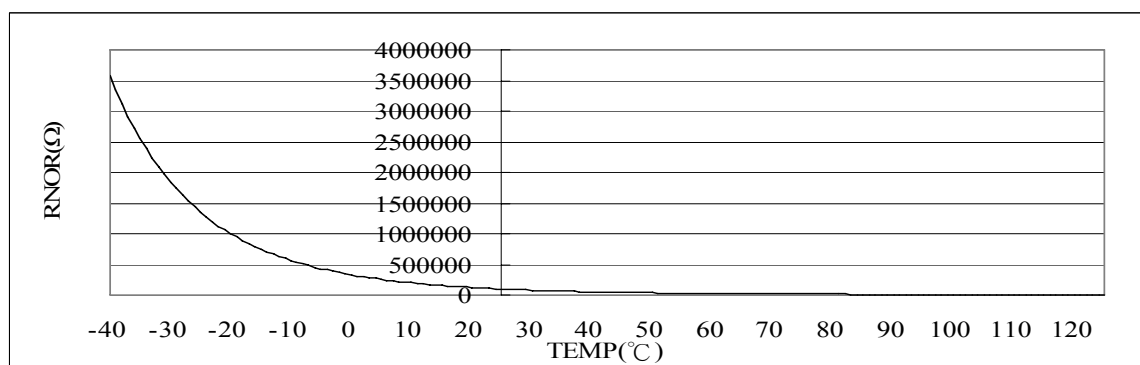
◆ RELIABILITY TEST

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 1000MΩ
Dielectric Withstand Voltage	MIL – STD – 202F , Method 301 DC 250V For 10 seconds	Not Short

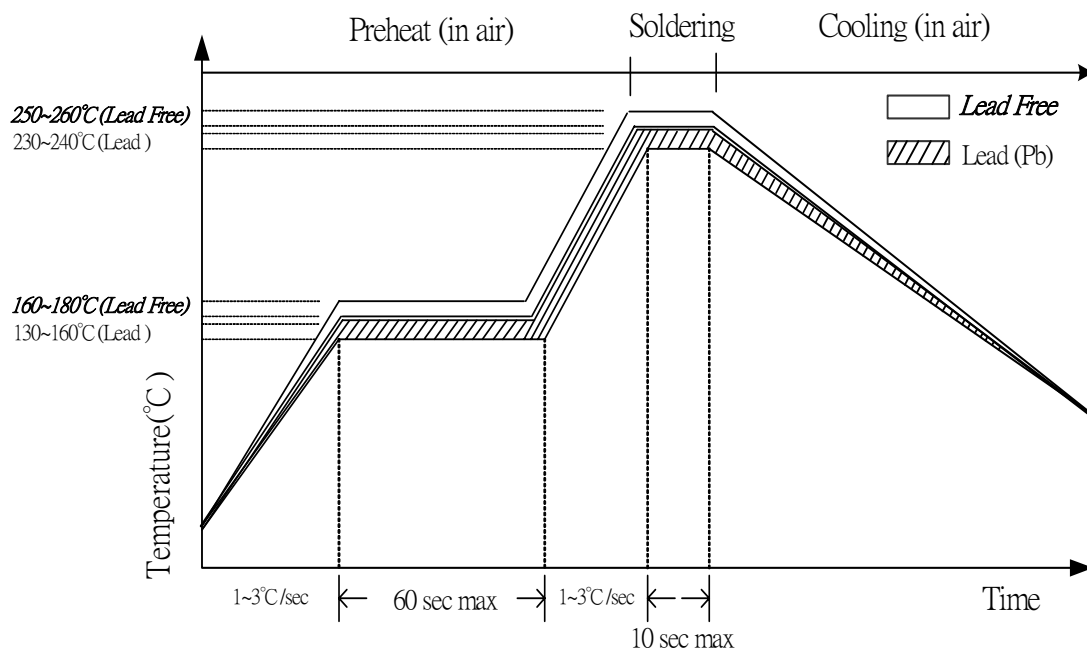
◆ VOLTAGE – CURRENT CURVE



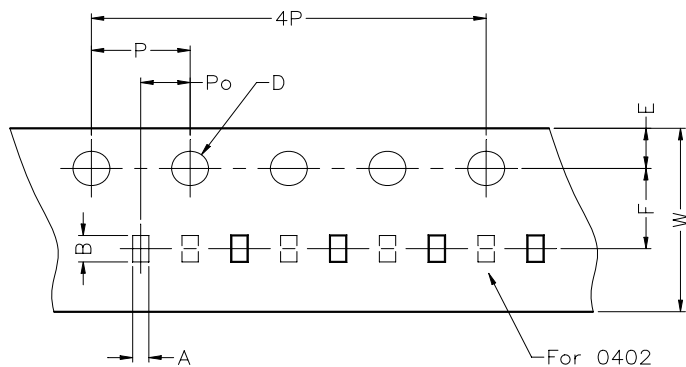
◆ RESISTANCE – TEMP CURVE



◆ REFLOW SOLDERING PROFILE



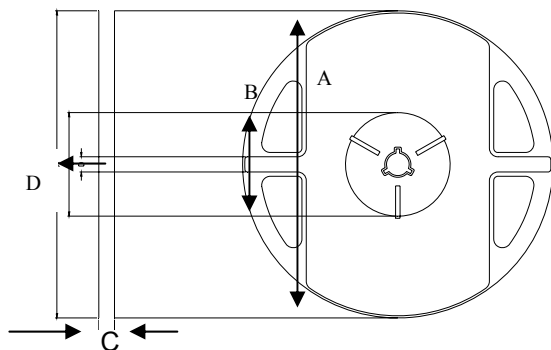
◆ TAPING DIMENSIONS



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 05 474 J 4000 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 : 474 = $470 \times 10^3 = 470,000$ ohm
4. R Tolerance : F:±1% ; G:±2% ; H:±3% ; J:±5% ; K:±10%
5. B value : 3215, 3435, 3700, 7970, 4000, 4100,.....etc.
6. B Tolerance : F:±1% ; G:±2% ; H:±3%

● ACCESSORY : RESISTANCE-TEMPERATURE CHARACTERISTICS

Resistance-Temperature Characteristics

Part No. : SMD05-474 J 4000 H

R : 470,000 ohms ± 5%
B : 4000 °K ± 3%

Temperature (°C)	Resistance (Ω)			Temp. Coef. (%/°C)	Resist. Tolerance (%)		Temp. Tolerance (°C)	
	MIN.	CENTER	MAX.		MIN.	MAX.	MIN.	MAX.
-40	12892680	15058800	17544882	-6.79	-14.38	16.51	-2.43	2.12
-39	12074364	14074424	16364770	-6.73	-14.21	16.27	-2.42	2.11
-38	11315088	13162911	15274214	-6.66	-14.04	16.04	-2.41	2.11
-37	10610070	12318226	14265630	-6.60	-13.87	15.81	-2.39	2.10
-36	9954958	11534885	13332145	-6.54	-13.70	15.58	-2.38	2.09
-35	9345786	10807905	12467522	-6.48	-13.53	15.36	-2.37	2.09
-34	8778938	10132749	11666094	-6.42	-13.36	15.13	-2.36	2.08
-33	8251116	9505284	10922710	-6.36	-13.19	14.91	-2.34	2.07
-32	7759302	8921741	10232682	-6.31	-13.03	14.69	-2.33	2.07
-31	7300743	8378683	9591740	-6.25	-12.87	14.48	-2.32	2.06
-30	6872914	7872969	8995992	-6.20	-12.70	14.26	-2.30	2.05
-29	6473507	7401727	8441885	-6.15	-12.54	14.05	-2.29	2.04
-28	6100404	6962331	7926175	-6.09	-12.38	13.84	-2.27	2.03
-27	5751661	6552375	7445898	-6.04	-12.22	13.64	-2.26	2.02
-26	5425498	6169655	6998340	-5.99	-12.06	13.43	-2.24	2.01
-25	5120273	5812148	6581019	-5.94	-11.90	13.23	-2.23	2.00
-24	4834482	5478000	6191660	-5.90	-11.75	13.03	-2.21	1.99
-23	4566737	5165506	5828176	-5.85	-11.59	12.83	-2.19	1.98
-22	4315763	4873099	5488652	-5.80	-11.44	12.63	-2.18	1.97
-21	4080382	4599336	5171331	-5.76	-11.28	12.44	-2.16	1.96
-20	3859510	4342892	4874597	-5.72	-11.13	12.24	-2.14	1.95
-19	3652145	4102542	4596963	-5.67	-10.98	12.05	-2.12	1.94
-18	3457363	3877161	4337062	-5.63	-10.83	11.86	-2.11	1.92
-17	3274310	3665709	4093634	-5.59	-10.68	11.67	-2.09	1.91
-16	3102194	3467224	3865518	-5.55	-10.53	11.49	-2.07	1.90
-15	2940286	3280821	3651644	-5.51	-10.38	11.30	-2.05	1.89
-14	2787908	3105680	3451022	-5.47	-10.23	11.12	-2.03	1.87
-13	2644434	2941042	3262741	-5.43	-10.09	10.94	-2.02	1.86
-12	2509281	2786205	3085957	-5.39	-9.94	10.76	-2.00	1.84
-11	2381910	2640520	2919890	-5.35	-9.79	10.58	-1.98	1.83
-10	2261820	2503384	2763819	-5.31	-9.65	10.40	-1.96	1.82
-9	2148548	2374238	2617076	-5.28	-9.51	10.23	-1.94	1.80

-8	2041660	2252564	2479042	-5.24	-9.36	10.05	-1.92	1.79
-7	1940755	2137882	2349143	-5.21	-9.22	9.88	-1.90	1.77
-6	1845459	2029743	2226848	-5.17	-9.08	9.71	-1.88	1.75
-5	1755424	1927733	2111664	-5.14	-8.94	9.54	-1.86	1.74
-4	1670327	1831466	2003130	-5.11	-8.80	9.37	-1.84	1.72
-3	1589865	1740582	1900823	-5.07	-8.66	9.21	-1.81	1.71
-2	1513756	1654746	1804345	-5.04	-8.52	9.04	-1.79	1.69
-1	1441739	1573647	1713330	-5.01	-8.38	8.88	-1.77	1.67
0	1373568	1496995	1627433	-4.98	-8.24	8.71	-1.75	1.66
1	1309014	1424518	1546337	-4.95	-8.11	8.55	-1.73	1.64
2	1247864	1355964	1469745	-4.92	-7.97	8.39	-1.71	1.62
3	1189918	1291098	1397379	-4.89	-7.84	8.23	-1.68	1.60
4	1134988	1229699	1328982	-4.86	-7.70	8.07	-1.66	1.59
5	1082901	1171562	1264313	-4.83	-7.57	7.92	-1.64	1.57
6	1033492	1116494	1203146	-4.80	-7.43	7.76	-1.62	1.55
7	986609	1064316	1145273	-4.77	-7.30	7.61	-1.59	1.53
8	942107	1014860	1090497	-4.74	-7.17	7.45	-1.57	1.51
9	899853	967967	1038635	-4.72	-7.04	7.30	-1.55	1.49
10	859720	923492	989516	-4.69	-6.91	7.15	-1.52	1.47
11	821589	881296	942979	-4.66	-6.77	7.00	-1.50	1.45
12	785351	841250	898874	-4.64	-6.64	6.85	-1.48	1.43
13	750900	803231	857062	-4.61	-6.52	6.70	-1.45	1.41
14	718139	767128	817410	-4.59	-6.39	6.55	-1.43	1.39
15	686975	732832	779796	-4.56	-6.26	6.41	-1.41	1.37
16	657323	700244	744104	-4.54	-6.13	6.26	-1.38	1.35
17	629101	669270	710225	-4.51	-6.00	6.12	-1.36	1.33
18	602232	639821	678058	-4.49	-5.88	5.98	-1.33	1.31
19	576644	611815	647508	-4.46	-5.75	5.83	-1.31	1.29
20	552271	585173	618485	-4.44	-5.62	5.69	-1.28	1.27
21	529047	559821	590904	-4.42	-5.50	5.55	-1.26	1.24
22	506913	535691	564688	-4.39	-5.37	5.41	-1.23	1.22
23	485813	512718	539761	-4.37	-5.25	5.27	-1.21	1.20
24	465692	490840	516053	-4.35	-5.12	5.14	-1.18	1.18
25	446500	470000	493500	-4.33	-5.00	5.00	-1.16	1.16
26	427083	450143	473263	-4.31	-5.12	5.14	-1.19	1.19
27	408601	431219	453951	-4.28	-5.25	5.27	-1.23	1.22
28	391005	413178	435517	-4.26	-5.37	5.41	-1.27	1.26
29	374248	395976	417918	-4.24	-5.49	5.54	-1.31	1.29
30	358286	379569	401111	-4.22	-5.61	5.68	-1.34	1.33
31	343078	363917	385057	-4.20	-5.73	5.81	-1.38	1.36
32	328585	348982	369718	-4.18	-5.84	5.94	-1.42	1.40

33	314769	334727	355060	-4.16	-5.96	6.07	-1.46	1.43
34	301596	321118	341049	-4.14	-6.08	6.21	-1.50	1.47
35	289033	308123	327654	-4.12	-6.20	6.34	-1.54	1.50
36	277048	295712	314844	-4.10	-6.31	6.47	-1.58	1.54
37	265613	283855	302591	-4.08	-6.43	6.60	-1.62	1.57
38	254701	272525	290869	-4.06	-6.54	6.73	-1.66	1.61
39	244284	261697	279652	-4.04	-6.65	6.86	-1.70	1.65
40	234337	251347	268916	-4.03	-6.77	6.99	-1.74	1.68
41	224839	241450	258639	-4.01	-6.88	7.12	-1.78	1.72
42	215766	231984	248798	-3.99	-6.99	7.25	-1.82	1.75
43	207098	222931	239374	-3.97	-7.10	7.38	-1.86	1.79
44	198814	214269	230347	-3.95	-7.21	7.50	-1.90	1.82
45	190897	205979	221698	-3.94	-7.32	7.63	-1.94	1.86
46	183328	198046	213410	-3.92	-7.43	7.76	-1.98	1.90
47	176091	190450	205466	-3.90	-7.54	7.88	-2.02	1.93
48	169169	183178	197851	-3.88	-7.65	8.01	-2.06	1.97
49	162547	176213	190550	-3.87	-7.76	8.14	-2.10	2.00
50	156212	169541	183548	-3.85	-7.86	8.26	-2.15	2.04
51	150149	163149	176832	-3.83	-7.97	8.39	-2.19	2.08
52	144347	157024	170388	-3.82	-8.07	8.51	-2.23	2.11
53	138791	151154	164206	-3.80	-8.18	8.63	-2.27	2.15
54	133472	145527	158273	-3.79	-8.28	8.76	-2.31	2.19
55	128378	140131	152578	-3.77	-8.39	8.88	-2.36	2.22
56	123499	134957	147110	-3.75	-8.49	9.00	-2.40	2.26
57	118824	129995	141860	-3.74	-8.59	9.13	-2.44	2.30
58	114344	125234	136818	-3.72	-8.70	9.25	-2.48	2.34
59	110051	120666	131975	-3.71	-8.80	9.37	-2.53	2.37
60	105936	116283	127322	-3.69	-8.90	9.49	-2.57	2.41
61	101990	112076	122851	-3.68	-9.00	9.61	-2.61	2.45
62	98207	108038	118555	-3.66	-9.10	9.73	-2.66	2.48
63	94579	104160	114425	-3.65	-9.20	9.86	-2.70	2.52
64	91098	100437	110455	-3.63	-9.30	9.98	-2.75	2.56
65	87759	96860	106638	-3.62	-9.40	10.10	-2.79	2.60
66	84555	93425	102968	-3.60	-9.49	10.21	-2.83	2.63
67	81479	90124	99437	-3.59	-9.59	10.33	-2.88	2.67
68	78528	86953	96041	-3.58	-9.69	10.45	-2.92	2.71
69	75694	83905	92774	-3.56	-9.79	10.57	-2.97	2.75
70	72973	80975	89630	-3.55	-9.88	10.69	-3.01	2.79
71	70360	78158	86604	-3.53	-9.98	10.81	-3.06	2.82
72	67850	75450	83691	-3.52	-10.07	10.92	-3.10	2.86
73	65439	72845	80888	-3.51	-10.17	11.04	-3.15	2.90

74	63122	70340	78188	-3.49	-10.26	11.16	-3.19	2.94
75	60896	67931	75589	-3.48	-10.36	11.27	-3.24	2.98
76	58756	65612	73085	-3.47	-10.45	11.39	-3.29	3.01
77	56700	63381	70673	-3.45	-10.54	11.50	-3.33	3.05
78	54722	61234	68350	-3.44	-10.63	11.62	-3.38	3.09
79	52821	59168	66111	-3.43	-10.73	11.74	-3.42	3.13
80	50993	57178	63954	-3.41	-10.82	11.85	-3.47	3.17
81	49234	55263	61875	-3.40	-10.91	11.96	-3.52	3.21
82	47543	53419	59871	-3.39	-11.00	12.08	-3.56	3.25
83	45915	51642	57938	-3.38	-11.09	12.19	-3.61	3.29
84	44349	49931	56075	-3.36	-11.18	12.31	-3.66	3.32
85	42842	48283	54279	-3.35	-11.27	12.42	-3.71	3.36
86	41391	46695	52546	-3.34	-11.36	12.53	-3.75	3.40
87	39995	45164	50875	-3.33	-11.45	12.64	-3.80	3.44
88	38650	43690	49263	-3.31	-11.53	12.76	-3.85	3.48
89	37355	42268	47707	-3.30	-11.62	12.87	-3.90	3.52
90	36109	40898	46206	-3.29	-11.71	12.98	-3.95	3.56
91	34908	39576	44758	-3.28	-11.80	13.09	-3.99	3.60
92	33751	38302	43359	-3.27	-11.88	13.20	-4.04	3.64
93	32636	37074	42010	-3.25	-11.97	13.31	-4.09	3.68
94	31562	35889	40706	-3.24	-12.06	13.42	-4.14	3.72
95	30527	34746	39448	-3.23	-12.14	13.53	-4.19	3.76
96	29530	33643	38233	-3.22	-12.23	13.64	-4.24	3.80
97	28568	32579	37060	-3.21	-12.31	13.75	-4.29	3.84
98	27641	31552	35926	-3.20	-12.39	13.86	-4.34	3.88
99	26747	30561	34831	-3.19	-12.48	13.97	-4.39	3.92
100	25886	29604	33773	-3.17	-12.56	14.08	-4.44	3.96
101	25054	28681	32750	-3.16	-12.64	14.19	-4.49	4.00
102	24252	27789	31763	-3.15	-12.73	14.30	-4.54	4.04
103	23479	26929	30808	-3.14	-12.81	14.41	-4.59	4.08
104	22733	26097	29885	-3.13	-12.89	14.51	-4.64	4.12
105	22013	25294	28992	-3.12	-12.97	14.62	-4.69	4.16
106	21318	24519	28130	-3.11	-13.05	14.73	-4.74	4.20
107	20647	23769	27295	-3.10	-13.14	14.83	-4.79	4.24
108	20000	23045	26489	-3.09	-13.22	14.94	-4.84	4.28
109	19375	22346	25708	-3.08	-13.30	15.05	-4.89	4.32
110	18771	21670	24954	-3.07	-13.38	15.15	-4.94	4.36
111	18189	21017	24224	-3.06	-13.46	15.26	-4.99	4.40
112	17626	20385	23517	-3.05	-13.54	15.36	-5.04	4.44
113	17082	19775	22834	-3.04	-13.61	15.47	-5.10	4.48
114	16558	19184	22172	-3.03	-13.69	15.57	-5.15	4.53

115	16050	18614	21532	-3.02	-13.77	15.68	-5.20	4.57
116	15560	18062	20913	-3.01	-13.85	15.78	-5.25	4.61
117	15087	17528	20313	-2.99	-13.93	15.89	-5.31	4.65
118	14629	17012	19732	-2.98	-14.00	15.99	-5.36	4.69
119	14187	16512	19170	-2.98	-14.08	16.10	-5.41	4.73
120	13760	16029	18625	-2.97	-14.16	16.20	-5.46	4.77
121	13346	15561	18098	-2.96	-14.23	16.30	-5.52	4.82
122	12947	15109	17588	-2.95	-14.31	16.41	-5.57	4.86
123	12561	14671	17093	-2.94	-14.38	16.51	-5.62	4.90
124	12187	14247	16614	-2.93	-14.46	16.61	-5.68	4.94
125	11826	13837	16150	-2.92	-14.53	16.71	-5.73	4.98