



THINKING ELECTRONIC INDUSTRIAL CO., LTD.

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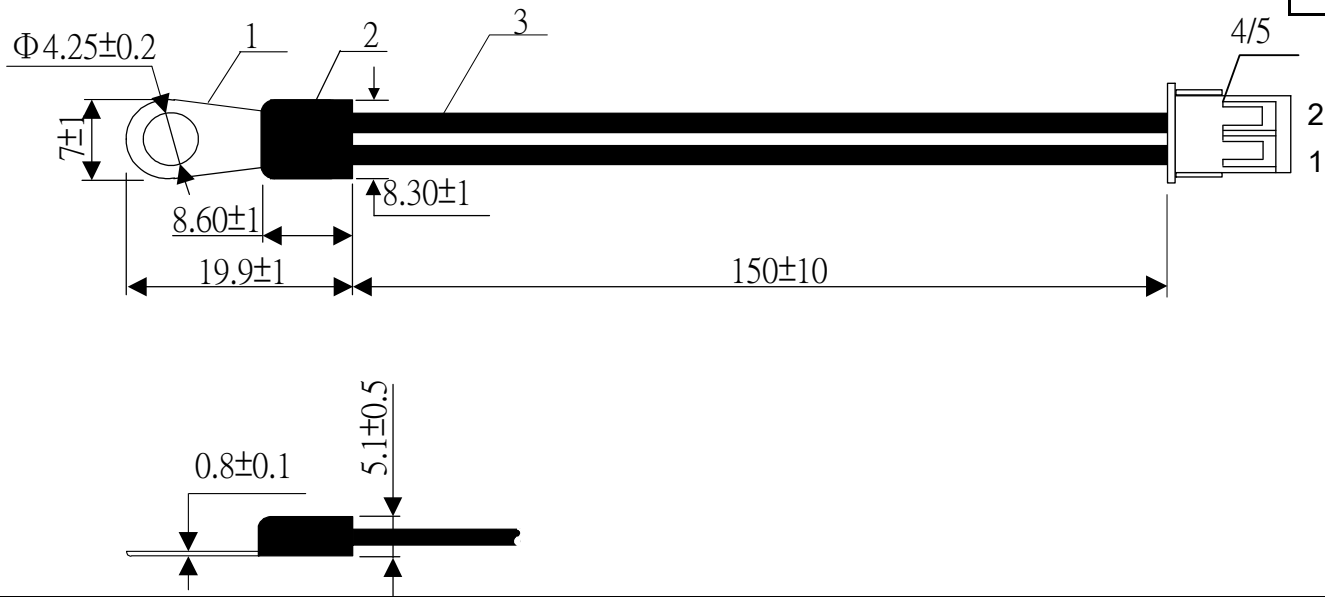
SPECIFICATION FOR APPROVAL

CUSTOMER	立創電子
CERTIFIED MODEL/TYPE	NTSA0473
PART NO.	NTSA0473JZ046B(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
	朱鳳美



A. Material List		
NO.	ITEM	DESCRIPTION
1	TERMINAL	MA242519II101P000
2	COATING RESIN	BLACK EPOXY
3	LEAD WIRE	UL1430#26 TS 黑色線
4	TERMINAL	SXA-001T-P0.6(JST)
5	HOUSING	XAP-02V-1(JST)
*	ELEMENT	NTC THERMISTOR
B. Electrical Characteristic		
ITEM	VALUE	
R25°C	47KΩ±5%	
B25/50	3950K±5%	



						Customer	立創電子	
						Customer P/N		
						Thinking P/N	NTSA0473JZ046B	
						Drawing NO.	SA1806028	
						Date	2019/7/29	
						Tol: ±0.3mm	Unit: mm	Scale:
1.0	2019/7/29	新圖面制作	劉嘉儀	戶鋒	朱鳳美	THINKING ELECTRONIC INDUSTRIAL CO., LTD.		
Rev.	Date	Subjects of Change	Designed by	Checked by	Approved by			

PART NO. NTSA0473JZ046B

CUSTOMER P/N .

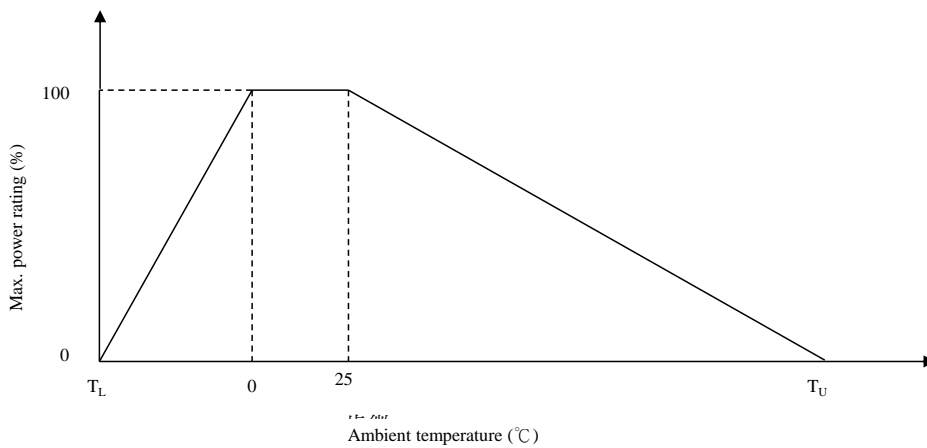
1. Electrical characteristics

	Parameter	Symbol	Test Conditions	Min.	Nor.	Max.	Unit.
a.	Resistance At 25°C	R ₂₅	Ta=25°C±0.05°C P _T ≤0.1mW	44.65	47	49.35	KΩ
b.	Resistance At 50°C	R ₅₀	Ta=50°C±0.05°C P _T ≤0.1mW	-----	16.86	-----	KΩ
c.	R ₂₅ /R ₅₀	K	-----	-----	2.79	-----	-----
d	B Constant	B _{25/50}	(3853.887* Ln K)	3753	3950	4148	K
e.	Thermal Dissipation Constant	δ	Ta=25°C (in air)	-----	Approx.5	-----	mW/°C
f.	Thermal Time Constant	τ	25°C→85°C T1=25+(85-25)*63.2%=62.92°C	-----	Approx.30	-----	Sec
g.	Hi-Pot Test	-----	1500V AC 3 Sec	-----	-----	10	mA

2. Maximum Ratings

	Parameter	Specification	Unit
a.	Operation Temperature Range	-40 ----- +105	°C
b.	Max' Power Rating (in air at 25°C)	150	m W

Maximum power rating (Pmax)



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

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

3. Mechanical Characteristics

Leads Terminal Tensile Strength

Conditions	Test Result	
Fasten body with a Load Applied to each lead 3.0 kg for 5 sec.	No break out and damage	OK

4. Reliability Test

Item	Test Conditions	Variable
Temp. cycle test	-40 °C X 30min → +25 °C X 5min X 10Cycles +105 °C X 30min → +25 °C X 5min	Within ± 3 %
Humidity test	45°C 95 % RH X 1000 HRS	Within ± 3 %

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:

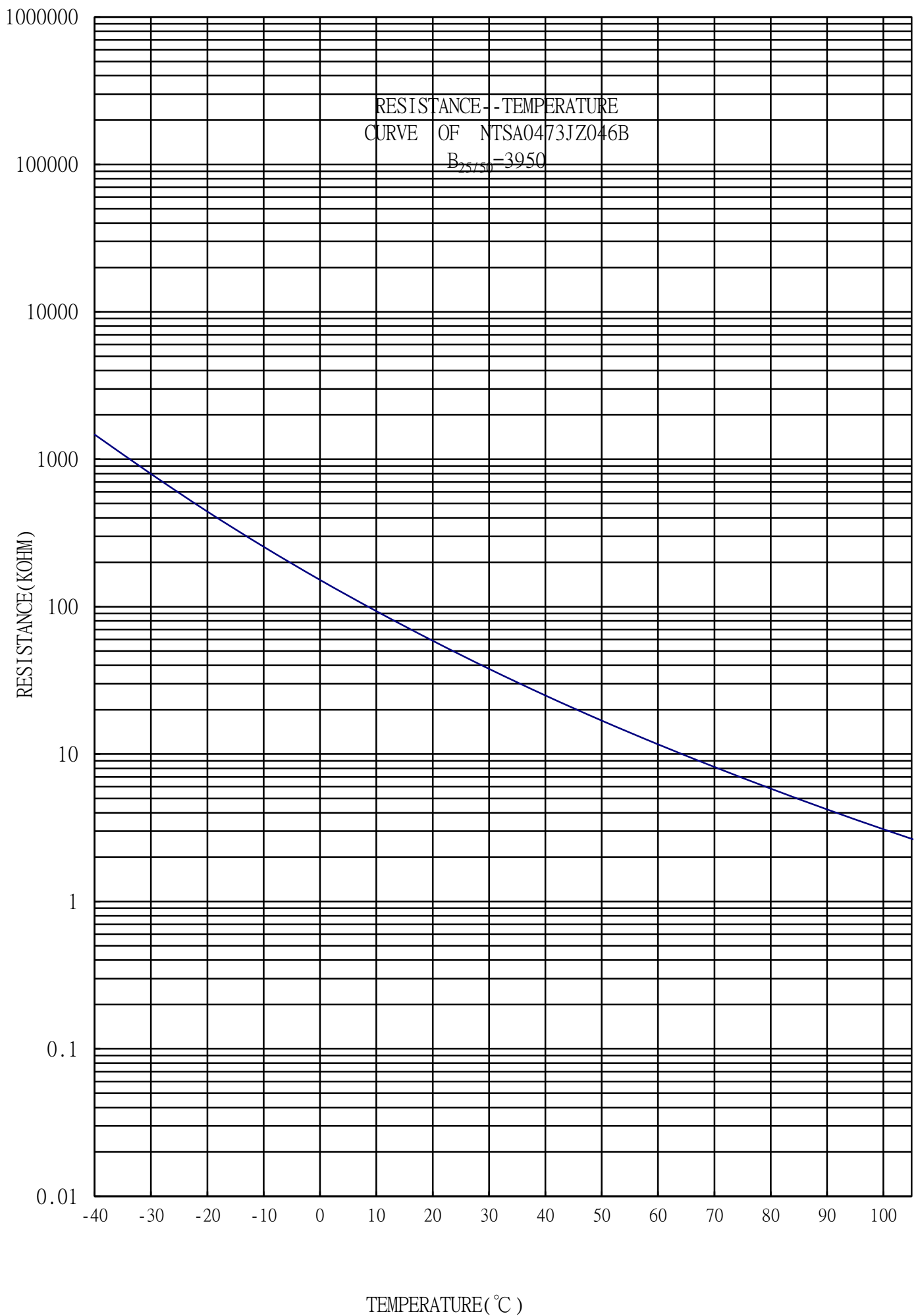
Do not store this product in corrosive gas (Sulfuric acid gas, Chlorine gas, etc.) or in direct sunlight.

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.



TEMPERATURE(°C)

R - T Table

Part No. : NTSA0473JZ046B

R25=47K Ω \pm 5%B25/50 = 3950 K \pm 5%

Temperature ($^{\circ}$ C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. ($^{\circ}$ C)	
-40	1834.38	1470.71	1176.20	-3.86	3.34
-39	1719.03	1382.50	1109.08	-3.82	3.30
-38	1611.12	1299.72	1045.89	-3.76	3.26
-37	1510.06	1221.96	986.355	-3.70	3.22
-36	1415.39	1148.89	930.236	-3.65	3.18
-35	1326.71	1080.23	877.344	-3.59	3.15
-34	1243.68	1015.75	827.514	-3.53	3.11
-33	1165.99	955.220	780.597	-3.48	3.08
-32	1093.33	898.444	736.452	-3.43	3.04
-31	1025.42	845.220	694.944	-3.39	3.01
-30	961.996	795.355	655.936	-3.34	2.99
-29	902.779	748.657	619.295	-3.30	2.96
-28	847.509	704.940	584.889	-3.26	2.93
-27	795.929	664.019	552.586	-3.22	2.91
-26	747.792	625.716	522.260	-3.19	2.89
-25	702.863	589.860	493.787	-3.15	2.86
-24	660.918	556.286	467.048	-3.12	2.84
-23	621.744	524.839	441.930	-3.08	2.81
-22	585.143	495.372	418.324	-3.05	2.79
-21	550.930	467.748	396.132	-3.01	2.76
-20	518.932	441.838	375.257	-2.98	2.74
-19	488.991	417.525	355.612	-2.94	2.71
-18	460.958	394.697	337.116	-2.90	2.69
-17	434.698	373.253	319.692	-2.87	2.66
-16	410.088	353.100	303.271	-2.83	2.63
-15	387.011	334.150	287.788	-2.79	2.60
-14	365.362	316.324	273.183	-2.75	2.57
-13	345.044	299.548	259.401	-2.71	2.54
-12	325.968	283.755	246.391	-2.67	2.51
-11	308.050	268.880	234.104	-2.63	2.48
-10	291.215	254.867	222.498	-2.59	2.45
-9	275.391	241.660	211.531	-2.55	2.42
-8	260.513	229.210	201.164	-2.51	2.39
-7	246.520	217.469	191.362	-2.47	2.36
-6	233.355	206.394	182.092	-2.43	2.33
-5	220.965	195.945	173.323	-2.39	2.29
-4	209.302	186.082	165.024	-2.35	2.26
-3	198.319	176.770	157.169	-2.31	2.23
-2	187.973	167.977	149.732	-2.27	2.20
-1	178.225	159.670	142.689	-2.23	2.16
0	169.036	151.820	136.016	-2.19	2.13
1	160.372	144.399	129.693	-2.15	2.10
2	152.200	137.383	123.699	-2.11	2.06
3	144.489	130.746	118.015	-2.07	2.03
4	137.211	124.467	112.623	-2.03	1.99
5	130.339	118.523	107.508	-1.99	1.96

6	123.849	112.895	102.652	-1.95	1.92
7	117.716	107.564	98.0418	-1.90	1.89
8	111.918	102.513	93.6629	-1.86	1.85
9	106.437	97.7252	89.5024	-1.82	1.81
10	101.252	93.1858	85.5482	-1.78	1.77
11	96.3452	88.8802	81.7887	-1.73	1.74
12	91.7010	84.7952	78.2134	-1.69	1.70
13	87.3036	80.9181	74.8121	-1.65	1.66
14	83.1385	77.2372	71.5754	-1.60	1.62
15	79.1921	73.7415	68.4944	-1.56	1.58
16	75.4520	70.4208	65.5609	-1.52	1.54
17	71.9062	67.2655	62.7670	-1.47	1.50
18	68.5438	64.2665	60.1054	-1.43	1.46
19	65.3544	61.4153	57.5693	-1.38	1.42
20	62.3283	58.7040	55.1522	-1.34	1.38
21	59.4565	56.1251	52.8479	-1.29	1.34
22	56.7306	53.6717	50.6508	-1.25	1.29
23	54.1424	51.3371	48.5555	-1.20	1.25
24	51.6846	49.1152	46.5568	-1.16	1.21
25	49.3500	47.0000	44.6500	-1.11	1.17
26	47.3390	44.9861	42.6433	-1.17	1.22
27	45.4197	43.0683	40.7366	-1.23	1.28
28	43.5877	41.2417	38.9244	-1.28	1.33
29	41.8386	39.5016	37.2018	-1.34	1.39
30	40.1686	37.8436	35.5640	-1.40	1.44
31	38.5737	36.2636	34.0066	-1.46	1.50
32	37.0504	34.7577	32.5254	-1.52	1.56
33	35.5951	33.3221	31.1163	-1.58	1.61
34	34.2046	31.9534	29.7756	-1.64	1.67
35	32.8759	30.6481	28.4998	-1.71	1.73
36	31.6058	29.4031	27.2854	-1.77	1.78
37	30.3917	28.2153	26.1293	-1.83	1.84
38	29.2308	27.0820	25.0284	-1.90	1.90
39	28.1207	26.0004	23.9799	-1.96	1.96
40	27.0588	24.9679	22.9811	-2.03	2.02
41	26.0428	23.9822	22.0293	-2.09	2.07
42	25.0707	23.0407	21.1222	-2.16	2.13
43	24.1402	22.1415	20.2575	-2.22	2.19
44	23.2494	21.2823	19.4330	-2.29	2.25
45	22.3965	20.4612	18.6465	-2.36	2.31
46	21.5795	19.6764	17.8962	-2.42	2.37
47	20.7969	18.9259	17.1802	-2.49	2.43
48	20.0469	18.2081	16.4967	-2.56	2.49
49	19.3280	17.5215	15.8441	-2.63	2.55
50	18.6388	16.8645	15.2209	-2.70	2.61
51	17.9779	16.2355	14.6254	-2.77	2.67
52	17.3438	15.6334	14.0564	-2.84	2.73
53	16.7355	15.0567	13.5125	-2.91	2.80
54	16.1516	14.5043	12.9924	-2.98	2.86
55	15.5911	13.9749	12.4950	-3.05	2.92
56	15.0528	13.4676	12.0191	-3.12	2.98
57	14.5358	12.9811	11.5637	-3.20	3.04
58	14.0391	12.5145	11.1277	-3.27	3.10

59	13.5617	12.0670	10.7102	-3.34	3.16
60	13.1027	11.6375	10.3103	-3.41	3.22
61	12.6615	11.2253	9.92724	-3.48	3.28
62	12.2371	10.8296	9.56011	-3.56	3.34
63	11.8288	10.4496	9.20818	-3.63	3.40
64	11.4359	10.0846	8.87075	-3.70	3.46
65	11.0578	9.73392	8.54714	-3.78	3.52
66	10.6938	9.39691	8.23670	-3.85	3.58
67	10.3432	9.07298	7.93883	-3.92	3.64
68	10.0057	8.76155	7.65295	-3.99	3.70
69	9.68050	8.46208	7.37853	-4.07	3.76
70	9.36720	8.17405	7.11505	-4.14	3.82
71	9.06530	7.89698	6.86203	-4.22	3.88
72	8.77432	7.63039	6.61900	-4.29	3.94
73	8.49382	7.37384	6.38553	-4.37	4.00
74	8.22339	7.12692	6.16120	-4.44	4.06
75	7.96262	6.88923	5.94563	-4.52	4.12
76	7.71114	6.66039	5.73843	-4.59	4.18
77	7.46858	6.44003	5.53925	-4.67	4.24
78	7.23459	6.22783	5.34777	-4.74	4.31
79	7.00885	6.02345	5.16364	-4.82	4.37
80	6.79104	5.82657	4.98658	-4.90	4.43
81	6.58087	5.63691	4.81628	-4.98	4.49
82	6.37803	5.45417	4.65247	-5.06	4.55
83	6.18226	5.27810	4.49490	-5.14	4.62
84	5.99330	5.10842	4.34330	-5.22	4.68
85	5.81090	4.94489	4.19743	-5.30	4.74
86	5.63480	4.78728	4.05706	-5.38	4.81
87	5.46478	4.63535	3.92198	-5.46	4.87
88	5.30062	4.48890	3.79198	-5.54	4.94
89	5.14211	4.34771	3.66684	-5.63	5.00
90	4.98903	4.21157	3.54638	-5.71	5.07
91	4.84120	4.08031	3.43041	-5.80	5.13
92	4.69841	3.95373	3.31876	-5.88	5.20
93	4.56049	3.83166	3.21126	-5.97	5.27
94	4.42727	3.71392	3.10773	-6.06	5.34
95	4.29856	3.60036	3.00803	-6.15	5.41
96	4.17421	3.49081	2.91200	-6.24	5.48
97	4.05406	3.38513	2.81950	-6.33	5.55
98	3.93796	3.28316	2.73039	-6.42	5.62
99	3.82576	3.18477	2.64454	-6.51	5.69
100	3.71732	3.08981	2.56181	-6.61	5.76
101	3.61250	2.99817	2.48209	-6.70	5.83
102	3.51116	2.90971	2.40525	-6.80	5.91
103	3.41319	2.82431	2.33118	-6.90	5.98
104	3.31846	2.74186	2.25978	-6.99	6.05
105	3.22685	2.66224	2.19093	-7.09	6.13

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