

SPECIFICATION

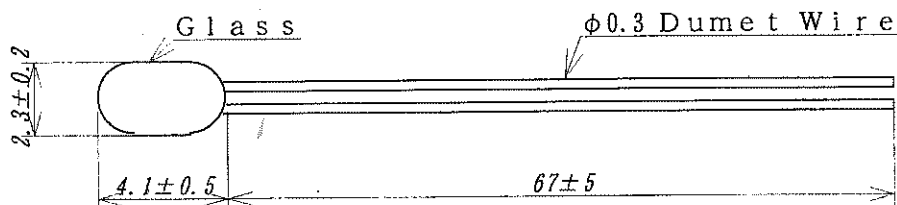
THERMISTOR, TYPE PT-312-S11

1. Scope

This specification deals with shape, dimensions, characteristics, inspection standard etc. of type PT-312-S11 used for electric appliance oven.

2. Specifications

2. 1 Element : Thermistor, type PSB-S1
2. 2 Shape and dimensions



Unit : mm

2. 3 Characteristics

(1) Electrical characteristics

- (a) Resistance value : $R = 1k\Omega \pm 2\%$ (at 200°C)
 (b) B value : $B = 4537K \pm 3\%$
 (calculated from resistance value at 100°C and 200°C)
 (c) Insulation resistance 50MΩ or over by DC500V megger
 (between glass and lead wire)
- (2) Thermal time constant (τ) : $\tau = 10 \sim 17$ s (in still air)
 (3) Thermal dissipation constant (δ) : $\delta = 1.1 \sim 1.6$ mW/°C (in still air)
 (4) Operating temperature range : $-50 \sim +300$ °C

Title: THERMISTOR TYPE PT-312-S11	Drafter <i>M. Omodera</i>	Appr. by <i>T. Takahashi</i>	Dwg. No. 1/2 TE21840 ver. 1
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3. Outgoing Inspection

(1) The product shall be inspected at every delivery lot inspection items, sampling quantities and sampling acceptable standard are as follows.

Inspection Item	Sampling acceptable Standard	Remarks
Resistance value	n=20, Ac=0, Re=1	2. 3 (1) (a)
B-value	n=10, Ac=0, Re=1	2. 3 (1) (b)
Insulation Resistance	n=5, Ac=0, Re=1	2. 3 (1) (c)
Shape & dimensions	n=5, Ac=0, Re=1	2. 2
Appearance	n=5, Ac=0, Re=1	2. 2

(2) Inspection data

Inspection data will be issued for pay upon request.

4. Packing

Packing shall be done not to cause damage or soil during delivery.

Title:

THERMISTOR TYPE PT-312-S11

Drafter

M. Onodera

Appr. by

T. Takahashi

Dwg. No. 2/2

TE21840

ver. 1

PT-312-S11 (B100/200=4537K)

T=	200.000	degC
R=	1.000	k ohm
(B Std.Value)	4537	K
from	-50	degC
to	300	degC
Step	1	degC
R Tolerance	2	%
B Tolerance	3	%

	TEMP.	R Value
1	100	13.062214
2	200	1.000000
	B value	4537

PRT Ver.5

Attention !

This calculation value is a reference value.

Officially, please request to our company.

Temp. (degC)	Resistance Value			R Tolerance		Temp. Tolerance		
	Min.	Std.	Max.	Rmin. %	Rmax. %	Rmin.	Rmax.	%/deg
-50	13689.104973	19280.295544	27144.295049	-29.00	40.79	3.86	-5.43	7.51
-49	12736.983621	17890.539529	25119.242170	-28.81	40.41	3.86	-5.42	7.45
-48	11857.281050	16610.039828	23258.541697	-28.61	40.03	3.87	-5.41	7.40
-47	11044.041841	15429.529176	21547.830574	-28.42	39.65	3.87	-5.40	7.35
-46	10291.835543	14340.581468	19974.086748	-28.23	39.28	3.87	-5.39	7.29
-45	9595.707407	13335.530591	18525.496250	-28.04	38.92	3.87	-5.38	7.24
-44	8951.134011	12407.397532	17191.334184	-27.86	38.56	3.88	-5.36	7.19
-43	8353.983273	11549.824892	15961.858108	-27.67	38.20	3.88	-5.35	7.14
-42	7800.478390	10757.017991	14828.212439	-27.48	37.85	3.88	-5.34	7.09
-41	7287.165291	10023.691884	13782.342684	-27.30	37.50	3.88	-5.33	7.04
-40	6810.883258	9345.023650	12816.918442	-27.12	37.15	3.88	-5.32	6.99
-39	6368.738370	8716.609408	11925.264228	-26.94	36.81	3.88	-5.31	6.94
-38	5958.079503	8134.425569	11101.297280	-26.75	36.47	3.88	-5.29	6.89
-37	5576.476614	7594.793874	10339.471611	-26.58	36.14	3.89	-5.28	6.84
-36	5221.701082	7094.349844	9634.727649	-26.40	35.81	3.89	-5.27	6.79
-35	4891.707908	6630.014270	8982.446867	-26.22	35.48	3.89	-5.26	6.75
-34	4584.619578	6198.967456	8378.410899	-26.04	35.16	3.89	-5.25	6.70
-33	4298.711429	5798.625923	7818.764652	-25.87	34.84	3.89	-5.24	6.65
-32	4032.398375	5426.621323	7299.983026	-25.69	34.52	3.89	-5.22	6.61
-31	3784.222855	5080.781353	6818.840859	-25.52	34.21	3.89	-5.21	6.56
-30	3552.843880	4759.112461	6372.385762	-25.35	33.90	3.89	-5.20	6.52
-29	3337.027086	4459.784167	5957.913568	-25.18	33.59	3.89	-5.19	6.47
-28	3135.635678	4181.114844	5572.946109	-25.00	33.29	3.89	-5.18	6.43
-27	2947.622201	3921.558810	5215.211110	-24.84	32.99	3.89	-5.16	6.39
-26	2772.021040	3679.694612	4882.623971	-24.67	32.69	3.89	-5.15	6.34
-25	2607.941590	3454.214375	4573.271255	-24.50	32.40	3.89	-5.14	6.30
-24	2454.562031	3243.914120	4285.395722	-24.33	32.11	3.89	-5.13	6.26
-23	2311.123655	3047.684964	4017.382741	-24.17	31.82	3.89	-5.12	6.22
-22	2176.925685	2864.505098	3767.747955	-24.00	31.53	3.89	-5.10	6.18
-21	2051.320549	2693.432496	3535.126085	-23.84	31.25	3.88	-5.09	6.14
-20	1933.709559	2533.598265	3318.260744	-23.68	30.97	3.88	-5.08	6.10
-19	1823.538973	2384.200582	3115.995179	-23.52	30.69	3.88	-5.07	6.06
-18	1720.296379	2244.499166	2927.263846	-23.36	30.42	3.88	-5.05	6.02
-17	1623.507403	2113.810238	2751.084740	-23.20	30.15	3.88	-5.04	5.98
-16	1532.732686	1991.501910	2586.552413	-23.04	29.88	3.88	-5.03	5.94
-15	1447.565117	1876.989984	2432.831602	-22.88	29.61	3.88	-5.02	5.90
-14	1367.627308	1769.734102	2289.151431	-22.72	29.35	3.87	-5.00	5.87
-13	1292.569264	1669.234234	2154.800108	-22.57	29.09	3.87	-4.99	5.83
-12	1222.066259	1575.027458	2029.120100	-22.41	28.83	3.87	-4.98	5.79
-11	1155.816885	1486.685023	1911.503710	-22.26	28.57	3.87	-4.97	5.75
-10	1093.541256	1403.809645	1801.389051	-22.10	28.32	3.87	-4.95	5.72
-9	1034.979365	1326.033043	1698.256357	-21.95	28.07	3.86	-4.94	5.68
-8	979.889570	1253.013674	1601.624610	-21.80	27.82	3.86	-4.93	5.65
-7	928.047208	1184.434656	1511.048457	-21.65	27.58	3.86	-4.91	5.61
-6	879.243313	1120.001864	1426.115382	-21.50	27.33	3.86	-4.90	5.58
-5	833.283447	1059.442181	1346.443124	-21.35	27.09	3.85	-4.89	5.54
-4	789.986610	1002.501893	1271.677302	-21.20	26.85	3.85	-4.88	5.51
-3	749.184253	948.945216	1201.489247	-21.05	26.61	3.85	-4.86	5.47

-2	710.719353	898.552936	1135.574001	-20.90	26.38	3.84	-4.85	5.44
-1	674.445572	851.121164	1073.648494	-20.76	26.15	3.84	-4.84	5.41
0	640.226478	806.460192	1015.449864	-20.61	25.91	3.84	-4.82	5.37
1	607.934824	764.393433	960.733912	-20.47	25.69	3.83	-4.81	5.34
2	577.451885	724.756451	909.273686	-20.32	25.46	3.83	-4.80	5.31
3	548.666848	687.396064	860.858179	-20.18	25.23	3.82	-4.78	5.28
4	521.476243	652.169522	815.291131	-20.04	25.01	3.82	-4.77	5.24
5	495.783424	618.943743	772.389923	-19.90	24.79	3.82	-4.76	5.21
6	471.498086	587.594613	731.984567	-19.76	24.57	3.81	-4.74	5.18
7	448.535817	558.006337	693.916768	-19.62	24.36	3.81	-4.73	5.15
8	426.817683	530.070843	658.039064	-19.48	24.14	3.80	-4.71	5.12
9	406.269855	503.687229	624.214033	-19.34	23.93	3.80	-4.70	5.09
10	386.823243	478.761252	592.313559	-19.20	23.72	3.79	-4.69	5.06
11	368.413179	455.204860	562.218161	-19.07	23.51	3.79	-4.67	5.03
12	350.979107	432.935751	533.816366	-18.93	23.30	3.79	-4.66	5.00
13	334.464306	411.876976	507.004134	-18.80	23.10	3.78	-4.65	4.97
14	318.815627	391.956560	481.684332	-18.66	22.89	3.78	-4.63	4.94
15	303.983252	373.107160	457.766237	-18.53	22.69	3.77	-4.62	4.91
16	289.920468	355.265746	435.165085	-18.39	22.49	3.76	-4.60	4.89
17	276.583462	338.373303	413.801653	-18.26	22.29	3.76	-4.59	4.86
18	263.931127	322.374556	393.601867	-18.13	22.09	3.75	-4.57	4.83
19	251.924879	307.217717	374.496448	-18.00	21.90	3.75	-4.56	4.80
20	240.528495	292.854247	356.420575	-17.87	21.71	3.74	-4.55	4.77
21	229.707954	279.238640	339.313580	-17.74	21.51	3.74	-4.53	4.75
22	219.431296	266.328217	323.118661	-17.61	21.32	3.73	-4.52	4.72
23	209.668486	254.082937	307.782620	-17.48	21.13	3.72	-4.50	4.69
24	200.391288	242.465227	293.255615	-17.35	20.95	3.72	-4.49	4.67
25	191.573154	231.439809	279.490934	-17.23	20.76	3.71	-4.47	4.64
26	183.189109	220.973560	266.444784	-17.10	20.58	3.71	-4.46	4.61
27	175.215655	211.035363	254.076097	-16.97	20.40	3.70	-4.44	4.59
28	167.630677	201.595978	242.346346	-16.85	20.21	3.69	-4.43	4.56
29	160.413351	192.627923	231.219374	-16.72	20.03	3.69	-4.41	4.54
30	153.544070	184.105360	220.661244	-16.60	19.86	3.68	-4.40	4.51
31	147.004361	176.003984	210.640086	-16.48	19.68	3.67	-4.39	4.49
32	140.776818	168.300931	201.125966	-16.35	19.50	3.66	-4.37	4.46
33	134.845033	160.974686	192.090757	-16.23	19.33	3.66	-4.36	4.44
34	129.193537	154.004992	183.508024	-16.11	19.16	3.65	-4.34	4.41
35	123.8077409	147.3727776	175.3529136	-15.99	18.99	3.64	-4.32	4.39
36	118.6738819	141.0600771	167.6020525	-15.87	18.82	3.63	-4.31	4.37
37	113.7789722	135.0499645	160.2334523	-15.75	18.65	3.63	-4.29	4.34
38	109.1107527	129.3264875	153.2264219	-15.63	18.48	3.62	-4.28	4.32
39	104.657649	123.8746077	146.5614852	-15.51	18.31	3.61	-4.26	4.30
40	100.4087298	118.6801441	140.2203039	-15.40	18.15	3.60	-4.25	4.27
41	96.35366862	113.7297202	134.1856067	-15.28	17.99	3.60	-4.23	4.25
42	92.48270774	109.0107155	128.441122	-15.16	17.82	3.59	-4.22	4.23
43	88.78662423	104.5112186	122.9715159	-15.05	17.66	3.58	-4.20	4.20
44	85.25669845	100.2199852	117.7623342	-14.93	17.50	3.57	-4.19	4.18
45	81.88468441	96.12639712	112.7999476	-14.82	17.35	3.56	-4.17	4.16
46	78.66278202	92.22042521	108.0715017	-14.70	17.19	3.55	-4.15	4.14
47	75.58361107	88.4925939	103.5648693	-14.59	17.03	3.54	-4.14	4.12
48	72.64018682	84.93394835	99.26860583	-14.47	16.88	3.54	-4.12	4.09
49	69.82589714	81.53602362	95.17190857	-14.36	16.72	3.53	-4.11	4.07
50	67.13448108	78.29081574	91.26457744	-14.25	16.57	3.52	-4.09	4.05
51	64.56000869	75.19075466	87.53697903	-14.14	16.42	3.51	-4.07	4.03
52	62.09686216	72.22867893	83.9800126	-14.03	16.27	3.50	-4.06	4.01
53	59.73971804	69.39781183	80.58507844	-13.92	16.12	3.49	-4.04	3.99
54	57.48353065	66.69173917	77.34404807	-13.81	15.97	3.48	-4.03	3.97
55	55.32351634	64.1043883	74.24923653	-13.70	15.83	3.47	-4.01	3.95
56	53.25513886	61.63000854	71.2933762	-13.59	15.68	3.46	-3.99	3.93
57	51.27409551	59.26315274	68.46959249	-13.48	15.53	3.45	-3.98	3.91
58	49.37630413	56.99865999	65.77138082	-13.37	15.39	3.44	-3.96	3.89
59	47.55789091	54.8316394	63.19258526	-13.27	15.25	3.43	-3.94	3.87
60	45.81517889	52.75745483	60.72737831	-13.16	15.11	3.42	-3.93	3.85

61	44.14467714	50.7717106	58.37024207	-13.05	14.97	3.41	-3.91	3.83
62	42.54307059	48.87023799	56.11595045	-12.95	14.83	3.40	-3.89	3.81
63	41.00721046	47.04908263	53.95955258	-12.84	14.69	3.39	-3.88	3.79
64	39.53410523	45.30449253	51.89635715	-12.74	14.55	3.38	-3.86	3.77
65	38.12091213	43.63290697	49.92191773	-12.63	14.41	3.37	-3.84	3.75
66	36.76492917	42.03094593	48.03201899	-12.53	14.28	3.36	-3.83	3.73
67	35.46358758	40.49540017	46.22266375	-12.43	14.14	3.35	-3.81	3.71
68	34.21444472	39.02322194	44.4900608	-12.32	14.01	3.34	-3.79	3.69
69	33.01517736	37.61151617	42.83061341	-12.22	13.88	3.32	-3.78	3.68
70	31.86357536	36.25753222	41.24090861	-12.12	13.74	3.31	-3.76	3.66
71	30.75753573	34.9586561	39.71770703	-12.02	13.61	3.30	-3.74	3.64
72	29.69505702	33.71240311	38.25793339	-11.92	13.48	3.29	-3.72	3.62
73	28.67423395	32.51641095	36.85866747	-11.82	13.35	3.28	-3.71	3.60
74	27.69325248	31.36843316	35.51713575	-11.72	13.23	3.27	-3.69	3.59
75	26.75038504	30.26633305	34.23070338	-11.62	13.10	3.26	-3.67	3.57
76	25.84398607	29.2080778	32.99686674	-11.52	12.97	3.24	-3.65	3.55
77	24.9724878	28.19173311	31.81324634	-11.42	12.85	3.23	-3.64	3.53
78	24.13439629	27.21545793	30.67758021	-11.32	12.72	3.22	-3.62	3.52
79	23.32828763	26.27749968	29.5877176	-11.22	12.60	3.21	-3.60	3.50
80	22.55280442	25.37618958	28.54161307	-11.13	12.47	3.20	-3.58	3.48
81	21.80665235	24.50993838	27.53732095	-11.03	12.35	3.18	-3.56	3.46
82	21.08859708	23.6772322	26.57299004	-10.93	12.23	3.17	-3.55	3.45
83	20.39746121	22.8766287	25.64685867	-10.84	12.11	3.16	-3.53	3.43
84	19.73212139	22.10675341	24.75725004	-10.74	11.99	3.15	-3.51	3.42
85	19.09150571	21.36629626	23.90256774	-10.65	11.87	3.13	-3.49	3.40
86	18.47459106	20.65400832	23.08129165	-10.55	11.75	3.12	-3.47	3.38
87	17.8804008	19.96869871	22.29197394	-10.46	11.63	3.11	-3.46	3.37
88	17.30800241	19.3092317	21.53323541	-10.36	11.52	3.09	-3.44	3.35
89	16.75650534	18.67452389	20.8037619	-10.27	11.40	3.08	-3.42	3.33
90	16.22505901	18.06354165	20.10230103	-10.18	11.29	3.07	-3.40	3.32
91	15.71285079	17.47529863	19.42765904	-10.09	11.17	3.05	-3.38	3.30
92	15.21910422	16.90885338	18.77869781	-9.99	11.06	3.04	-3.36	3.29
93	14.74307722	16.3633072	18.15433205	-9.90	10.95	3.03	-3.35	3.27
94	14.28406047	15.83780197	17.55352669	-9.81	10.83	3.01	-3.33	3.26
95	13.84137585	15.3315182	16.97529428	-9.72	10.72	3.00	-3.31	3.24
96	13.41437488	14.84367317	16.41869272	-9.63	10.61	2.98	-3.29	3.23
97	13.00243741	14.37351906	15.88282291	-9.54	10.50	2.97	-3.27	3.21
98	12.60497021	13.92034134	15.36682669	-9.45	10.39	2.96	-3.25	3.20
99	12.22140571	13.48345714	14.8698848	-9.36	10.28	2.94	-3.23	3.18
100	11.85120081	13.06221371	14.39121496	-9.27	10.17	2.93	-3.21	3.17
101	11.49383574	12.65598699	13.93007006	-9.18	10.07	2.91	-3.19	3.15
102	11.14881294	12.26418025	13.48573647	-9.09	9.96	2.90	-3.17	3.14
103	10.81565606	11.8862228	13.05753241	-9.01	9.85	2.88	-3.16	3.12
104	10.49390897	11.52156871	12.64480637	-8.92	9.75	2.87	-3.14	3.11
105	10.1831348	11.1696957	12.24693571	-8.83	9.64	2.85	-3.12	3.09
106	9.882915105	10.830104	11.86332524	-8.75	9.54	2.84	-3.10	3.08
107	9.592848978	10.5023153	11.49340591	-8.66	9.44	2.82	-3.08	3.07
108	9.312552272	10.18587174	11.13663357	-8.57	9.33	2.81	-3.06	3.05
109	9.041656832	9.880334981	10.79248779	-8.49	9.23	2.79	-3.04	3.04
110	8.779809772	9.585285296	10.46047073	-8.40	9.13	2.78	-3.02	3.02
111	8.526672787	9.3003207	10.1401061	-8.32	9.03	2.76	-3.00	3.01
112	8.281921495	9.025056142	9.830938116	-8.23	8.93	2.75	-2.98	3.00
113	8.045244818	8.759122732	9.532530565	-8.15	8.83	2.73	-2.96	2.98
114	7.816344386	8.502167002	9.244465882	-8.07	8.73	2.72	-2.94	2.97
115	7.594933969	8.253850208	8.966344291	-7.98	8.63	2.70	-2.92	2.96
116	7.380738947	8.013847657	8.697782978	-7.90	8.53	2.68	-2.90	2.94
117	7.17349579	7.781848083	8.438415313	-7.82	8.44	2.67	-2.88	2.93
118	6.972951575	7.557553034	8.187890107	-7.74	8.34	2.65	-2.86	2.92
119	6.77886352	7.340676305	7.945870904	-7.65	8.24	2.63	-2.84	2.91
120	6.590998541	7.13094339	7.712035312	-7.57	8.15	2.62	-2.82	2.89
121	6.40913283	6.92809096	7.486074363	-7.49	8.05	2.60	-2.80	2.88
122	6.233051455	6.731866371	7.267691908	-7.41	7.96	2.58	-2.78	2.87
123	6.062547974	6.542027189	7.056604035	-7.33	7.87	2.57	-2.76	2.85

124	5.897424071	6.358340747	6.852538526	-7.25	7.77	2.55	-2.74	2.84
125	5.737489208	6.180583709	6.655234328	-7.17	7.68	2.53	-2.71	2.83
126	5.582560291	6.008541669	6.46444106	-7.09	7.59	2.52	-2.69	2.82
127	5.432461354	5.842008762	6.279918535	-7.01	7.50	2.50	-2.67	2.80
128	5.28702326	5.68078729	6.101436311	-6.93	7.40	2.48	-2.65	2.79
129	5.146083405	5.524687372	5.928773261	-6.85	7.31	2.46	-2.63	2.78
130	5.009485449	5.373526608	5.761717164	-6.77	7.22	2.45	-2.61	2.77
131	4.877079051	5.227129758	5.600064315	-6.70	7.13	2.43	-2.59	2.76
132	4.748719617	5.085328433	5.443619151	-6.62	7.05	2.41	-2.57	2.74
133	4.624268062	4.947960809	5.292193902	-6.54	6.96	2.39	-2.55	2.73
134	4.503590582	4.814871342	5.145608249	-6.46	6.87	2.38	-2.52	2.72
135	4.386558431	4.685910508	5.003689003	-6.39	6.78	2.36	-2.50	2.71
136	4.273047717	4.560934544	4.866269802	-6.31	6.69	2.34	-2.48	2.70
137	4.162939202	4.439805213	4.733190812	-6.24	6.61	2.32	-2.46	2.69
138	4.056118107	4.322389565	4.604298454	-6.16	6.52	2.30	-2.44	2.67
139	3.952473935	4.208559722	4.479445135	-6.08	6.44	2.28	-2.42	2.66
140	3.851900296	4.098192665	4.358488994	-6.01	6.35	2.27	-2.40	2.65
141	3.754294736	3.991170034	4.241293661	-5.93	6.27	2.25	-2.37	2.64
142	3.659558583	3.887377934	4.127728023	-5.86	6.18	2.23	-2.35	2.63
143	3.567596794	3.786706752	4.017666007	-5.79	6.10	2.21	-2.33	2.62
144	3.478317806	3.689050983	3.910986366	-5.71	6.02	2.19	-2.31	2.61
145	3.391633401	3.594309061	3.807572481	-5.64	5.93	2.17	-2.29	2.60
146	3.307458568	3.502383197	3.707312164	-5.57	5.85	2.15	-2.26	2.59
147	3.225711382	3.413179228	3.610097479	-5.49	5.77	2.13	-2.24	2.57
148	3.146312874	3.326606471	3.515824565	-5.42	5.69	2.11	-2.22	2.56
149	3.069186921	3.242577581	3.424393468	-5.35	5.61	2.09	-2.20	2.55
150	2.994260131	3.161008415	3.33570798	-5.28	5.53	2.07	-2.17	2.54
151	2.921461737	3.081817911	3.249675487	-5.20	5.45	2.06	-2.15	2.53
152	2.850723491	3.004927955	3.166206826	-5.13	5.37	2.04	-2.13	2.52
153	2.781979572	2.930263273	3.085216138	-5.06	5.29	2.02	-2.11	2.51
154	2.715166487	2.857751313	3.00662074	-4.99	5.21	2.00	-2.08	2.50
155	2.650222983	2.787322141	2.930340994	-4.92	5.13	1.98	-2.06	2.49
156	2.587089959	2.718908332	2.856300187	-4.85	5.05	1.95	-2.04	2.48
157	2.525710386	2.65244488	2.784424413	-4.78	4.98	1.93	-2.01	2.47
158	2.466029225	2.587869097	2.714642459	-4.71	4.90	1.91	-1.99	2.46
159	2.407993353	2.525120525	2.646885701	-4.64	4.82	1.89	-1.97	2.45
160	2.351551487	2.464140848	2.581088	-4.57	4.75	1.87	-1.95	2.44
161	2.29665412	2.404873812	2.517185603	-4.50	4.67	1.85	-1.92	2.43
162	2.243253446	2.347265143	2.455117052	-4.43	4.59	1.83	-1.90	2.42
163	2.191303304	2.291262469	2.39482309	-4.36	4.52	1.81	-1.88	2.41
164	2.14075911	2.236815254	2.336246578	-4.29	4.45	1.79	-1.85	2.40
165	2.091577801	2.18387472	2.279332409	-4.23	4.37	1.77	-1.83	2.39
166	2.043717779	2.132393784	2.224027434	-4.16	4.30	1.75	-1.81	2.38
167	1.997138851	2.082326993	2.170280383	-4.09	4.22	1.73	-1.78	2.37
168	1.951802187	2.033630463	2.118041791	-4.02	4.15	1.70	-1.76	2.36
169	1.907670257	1.986261819	2.067263933	-3.96	4.08	1.68	-1.73	2.35
170	1.864706796	1.940180138	2.017900753	-3.89	4.01	1.66	-1.71	2.34
171	1.822876746	1.895345894	1.969907802	-3.82	3.93	1.64	-1.69	2.33
172	1.782146221	1.85172091	1.923242178	-3.76	3.86	1.62	-1.66	2.32
173	1.742482458	1.809268301	1.877862465	-3.69	3.79	1.59	-1.64	2.31
174	1.703853779	1.767952431	1.833728678	-3.63	3.72	1.57	-1.61	2.31
175	1.666229552	1.727738867	1.790802208	-3.56	3.65	1.55	-1.59	2.30
176	1.629580151	1.68859433	1.749045771	-3.49	3.58	1.53	-1.57	2.29
177	1.593876923	1.650486658	1.708423359	-3.43	3.51	1.51	-1.54	2.28
178	1.559092149	1.613384762	1.668900192	-3.37	3.44	1.48	-1.52	2.27
179	1.525199014	1.577258587	1.63044267	-3.30	3.37	1.46	-1.49	2.26
180	1.492171572	1.542079075	1.593018332	-3.24	3.30	1.44	-1.47	2.25
181	1.459984719	1.507818128	1.556595813	-3.17	3.23	1.41	-1.44	2.24
182	1.428614159	1.474448576	1.521144802	-3.11	3.17	1.39	-1.42	2.23
183	1.398036377	1.441944139	1.486636007	-3.05	3.10	1.37	-1.39	2.22
184	1.368228613	1.410279398	1.453041113	-2.98	3.03	1.35	-1.37	2.22
185	1.339168831	1.379429766	1.420332749	-2.92	2.97	1.32	-1.34	2.21
186	1.3108357	1.349371451	1.388484454	-2.86	2.90	1.30	-1.32	2.20

187	1.283208564	1.320081436	1.357470642	-2.79	2.83	1.28	-1.29	2.19
188	1.256267422	1.291537448	1.327266571	-2.73	2.77	1.25	-1.27	2.18
189	1.229992902	1.26371793	1.297848314	-2.67	2.70	1.23	-1.24	2.17
190	1.204366243	1.236602018	1.269192727	-2.61	2.64	1.20	-1.22	2.16
191	1.179369271	1.210169515	1.241277425	-2.55	2.57	1.18	-1.19	2.16
192	1.154984379	1.184400871	1.214080749	-2.48	2.51	1.16	-1.17	2.15
193	1.13119451	1.159277155	1.187581747	-2.42	2.44	1.13	-1.14	2.14
194	1.107983135	1.134780037	1.161760141	-2.36	2.38	1.11	-1.12	2.13
195	1.085334238	1.110891769	1.136596311	-2.30	2.31	1.08	-1.09	2.12
196	1.063232296	1.087595159	1.112071266	-2.24	2.25	1.06	-1.06	2.12
197	1.041662263	1.064873556	1.088166624	-2.18	2.19	1.03	-1.04	2.11
198	1.020609557	1.042710832	1.064864593	-2.12	2.12	1.01	-1.01	2.10
199	1.000060038	1.02109136	1.042147945	-2.06	2.06	0.98	-0.99	2.09
200	0.98	1	1.02	-2.00	2.00	0.96	-0.96	2.08
201	0.959251485	0.979422083	0.99961681	-2.06	2.06	0.99	-0.99	2.08
202	0.939018825	0.959343393	0.979715832	-2.12	2.12	1.02	-1.03	2.07
203	0.919287465	0.939750151	0.960284055	-2.18	2.19	1.06	-1.06	2.06
204	0.900043305	0.920629004	0.941308862	-2.24	2.25	1.09	-1.09	2.05
205	0.881272688	0.901967004	0.922778012	-2.29	2.31	1.12	-1.13	2.04
206	0.862962381	0.883751604	0.904679633	-2.35	2.37	1.16	-1.16	2.04
207	0.845099564	0.865970635	0.887002206	-2.41	2.43	1.19	-1.20	2.03
208	0.827671813	0.848612297	0.869734553	-2.47	2.49	1.22	-1.23	2.02
209	0.810667087	0.831665151	0.852865829	-2.52	2.55	1.25	-1.27	2.01
210	0.794073717	0.8151181	0.83638551	-2.58	2.61	1.29	-1.30	2.01
211	0.777880393	0.798960382	0.820283379	-2.64	2.67	1.32	-1.34	2.00
212	0.762076149	0.783181557	0.804549522	-2.69	2.73	1.35	-1.37	1.99
213	0.746650355	0.767771497	0.789174314	-2.75	2.79	1.39	-1.41	1.98
214	0.731592704	0.752720377	0.774148412	-2.81	2.85	1.42	-1.44	1.98
215	0.716893201	0.738018663	0.759462744	-2.86	2.91	1.45	-1.48	1.97
216	0.702542154	0.723657104	0.745108502	-2.92	2.96	1.49	-1.51	1.96
217	0.688530163	0.709626722	0.731077131	-2.97	3.02	1.52	-1.55	1.95
218	0.674848109	0.695918803	0.717360326	-3.03	3.08	1.56	-1.58	1.95
219	0.661487148	0.68252489	0.703950018	-3.08	3.14	1.59	-1.62	1.94
220	0.648438701	0.669436773	0.69083837	-3.14	3.20	1.62	-1.65	1.93
221	0.63569444	0.656646481	0.67801777	-3.19	3.25	1.66	-1.69	1.93
222	0.62324629	0.644146275	0.665480822	-3.24	3.31	1.69	-1.73	1.92
223	0.61108641	0.631928641	0.653220341	-3.30	3.37	1.73	-1.76	1.91
224	0.599207194	0.619986282	0.641229346	-3.35	3.43	1.76	-1.80	1.90
225	0.587601258	0.608312113	0.629501051	-3.40	3.48	1.79	-1.84	1.90
226	0.576261434	0.59689925	0.618028863	-3.46	3.54	1.83	-1.87	1.89
227	0.565180767	0.585741008	0.606806373	-3.51	3.60	1.86	-1.91	1.88
228	0.5543525	0.574830893	0.595827354	-3.56	3.65	1.90	-1.95	1.88
229	0.543770076	0.564162596	0.58508575	-3.61	3.71	1.93	-1.98	1.87
230	0.533427127	0.553729987	0.574575675	-3.67	3.76	1.97	-2.02	1.86
231	0.523317469	0.543527109	0.564291405	-3.72	3.82	2.00	-2.06	1.86
232	0.513435095	0.533548176	0.554227378	-3.77	3.88	2.04	-2.10	1.85
233	0.503774174	0.523787561	0.544378181	-3.82	3.93	2.07	-2.13	1.84
234	0.494329038	0.514239799	0.534738552	-3.87	3.99	2.11	-2.17	1.84
235	0.485094184	0.504899575	0.525303374	-3.92	4.04	2.14	-2.21	1.83
236	0.476064264	0.495761724	0.51606767	-3.97	4.10	2.18	-2.25	1.82
237	0.467234082	0.486821224	0.507026597	-4.02	4.15	2.21	-2.28	1.82
238	0.45859859	0.478073193	0.498175445	-4.07	4.20	2.25	-2.32	1.81
239	0.450152882	0.469512884	0.489509632	-4.12	4.26	2.29	-2.36	1.80
240	0.44189219	0.461135681	0.4810247	-4.17	4.31	2.32	-2.40	1.80
241	0.433811879	0.452937095	0.472716311	-4.22	4.37	2.36	-2.44	1.79
242	0.425907447	0.444912759	0.464580242	-4.27	4.42	2.39	-2.48	1.78
243	0.418174513	0.437058429	0.456612386	-4.32	4.47	2.43	-2.52	1.78
244	0.410608821	0.429369972	0.448808744	-4.37	4.53	2.47	-2.56	1.77
245	0.403206233	0.421843371	0.441165425	-4.42	4.58	2.50	-2.59	1.77
246	0.395962724	0.414474717	0.433678639	-4.47	4.63	2.54	-2.63	1.76
247	0.388874381	0.407260206	0.4263447	-4.51	4.69	2.58	-2.67	1.75
248	0.381937399	0.400196138	0.419160016	-4.56	4.74	2.61	-2.71	1.75
249	0.375148076	0.393278912	0.412121092	-4.61	4.79	2.65	-2.75	1.74

250	0.368502813	0.386505022	0.405224525	-4.66	4.84	2.69	-2.79	1.73
251	0.361998108	0.379871058	0.398466999	-4.71	4.90	2.72	-2.83	1.73
252	0.355630554	0.3733737	0.391845286	-4.75	4.95	2.76	-2.87	1.72
253	0.349396838	0.367009716	0.385356244	-4.80	5.00	2.80	-2.91	1.72
254	0.343293734	0.36077596	0.378996809	-4.85	5.05	2.83	-2.95	1.71
255	0.337318107	0.35466937	0.372763999	-4.89	5.10	2.87	-2.99	1.70
256	0.331466901	0.348686964	0.366654908	-4.94	5.15	2.91	-3.03	1.70
257	0.325737147	0.342825839	0.360666706	-4.98	5.20	2.95	-3.08	1.69
258	0.320125951	0.337083166	0.354796635	-5.03	5.25	2.98	-3.12	1.69
259	0.314630501	0.331456192	0.349042008	-5.08	5.31	3.02	-3.16	1.68
260	0.309248055	0.325942236	0.343400206	-5.12	5.36	3.06	-3.20	1.67
261	0.303975947	0.320538686	0.337868678	-5.17	5.41	3.10	-3.24	1.67
262	0.29881158	0.315242998	0.332444936	-5.21	5.46	3.13	-3.28	1.66
263	0.293752426	0.310052694	0.327126557	-5.26	5.51	3.17	-3.32	1.66
264	0.288796023	0.304965358	0.321911178	-5.30	5.56	3.21	-3.36	1.65
265	0.283939975	0.29997864	0.316796497	-5.35	5.61	3.25	-3.41	1.65
266	0.279181946	0.295090246	0.311780269	-5.39	5.66	3.29	-3.45	1.64
267	0.274519662	0.290297944	0.306860304	-5.44	5.71	3.33	-3.49	1.63
268	0.269950911	0.285599557	0.30203447	-5.48	5.75	3.36	-3.53	1.63
269	0.265473534	0.280992965	0.297300684	-5.52	5.80	3.40	-3.58	1.62
270	0.261085431	0.276476099	0.292656919	-5.57	5.85	3.44	-3.62	1.62
271	0.256784554	0.272046946	0.288101195	-5.61	5.90	3.48	-3.66	1.61
272	0.252568909	0.267703541	0.283631584	-5.65	5.95	3.52	-3.70	1.61
273	0.248436553	0.26344397	0.279246202	-5.70	6.00	3.56	-3.75	1.60
274	0.244385593	0.259266365	0.274943215	-5.74	6.05	3.60	-3.79	1.60
275	0.240414183	0.255168909	0.270720831	-5.78	6.09	3.64	-3.83	1.59
276	0.236520525	0.251149825	0.266577305	-5.82	6.14	3.68	-3.88	1.58
277	0.232702867	0.247207384	0.26251093	-5.87	6.19	3.71	-3.92	1.58
278	0.228959499	0.243339898	0.258520046	-5.91	6.24	3.75	-3.96	1.57
279	0.225288758	0.239545723	0.25460303	-5.95	6.29	3.79	-4.01	1.57
280	0.22168902	0.235823253	0.250758298	-5.99	6.33	3.83	-4.05	1.56
281	0.218158703	0.232170922	0.246984306	-6.04	6.38	3.87	-4.09	1.56
282	0.214696263	0.228587205	0.243279546	-6.08	6.43	3.91	-4.14	1.55
283	0.211300197	0.225070612	0.239642548	-6.12	6.47	3.95	-4.18	1.55
284	0.207969037	0.221619688	0.236071874	-6.16	6.52	3.99	-4.23	1.54
285	0.204701353	0.218233018	0.232566123	-6.20	6.57	4.03	-4.27	1.54
286	0.20149575	0.214909218	0.229123927	-6.24	6.61	4.07	-4.32	1.53
287	0.198350868	0.211646937	0.225743949	-6.28	6.66	4.11	-4.36	1.53
288	0.195265379	0.20844486	0.222424887	-6.32	6.71	4.15	-4.41	1.52
289	0.19223799	0.2053017	0.219165466	-6.36	6.75	4.19	-4.45	1.52
290	0.189267437	0.202216204	0.215964442	-6.40	6.80	4.24	-4.50	1.51
291	0.186352488	0.199187146	0.212820603	-6.44	6.84	4.28	-4.54	1.51
292	0.183491943	0.196213333	0.209732763	-6.48	6.89	4.32	-4.59	1.50
293	0.180684627	0.193293597	0.206699763	-6.52	6.94	4.36	-4.63	1.50
294	0.177929398	0.1904268	0.203720473	-6.56	6.98	4.40	-4.68	1.49
295	0.175225138	0.18761183	0.200793789	-6.60	7.03	4.44	-4.73	1.49
296	0.172570759	0.184847601	0.197918631	-6.64	7.07	4.48	-4.77	1.48
297	0.169965196	0.182133055	0.195093946	-6.68	7.12	4.52	-4.82	1.48
298	0.167407412	0.179467156	0.192318705	-6.72	7.16	4.56	-4.86	1.47
299	0.164896394	0.176848893	0.189591901	-6.76	7.21	4.61	-4.91	1.47
300	0.162431153	0.17427728	0.186912552	-6.80	7.25	4.64	-4.95	1.46