



东莞久尹电子有限公司
DONGGUAN JOYIN ELECTRONICS CO., LTD.



SPECIFICATION FOR APPROVAL

201811021A

CUSTOMER:	万保刚		
PART NO. :	_____		
JCR103K405JA54PU505Y	_____		
MODEL NO. :	_____		
JCR103K405JA	ISSUE DATE :	Nov-08-2018	
CUSTOMER P/N :	REV. NO :	A	
_____	REV. DATE :	_____	
_____	_____		

JOYIN ENGINEERING SIGNATURE

DRAWN BY 庞春喜	CHECKED BY	APPROVED BY
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CUSTOMER RESPONSE

- Approval
- Approval with the following change
- Reject with the following reasons

CUSTOMER SIGNATURE	TITLE	DATE

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东莞久尹电子有限公司
DONGGUAN JOYIN
ELECTRONICS CO., LTD

NTC Thermistor JCR Type

Edition: JCR103K405JA54PU505Y

REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT



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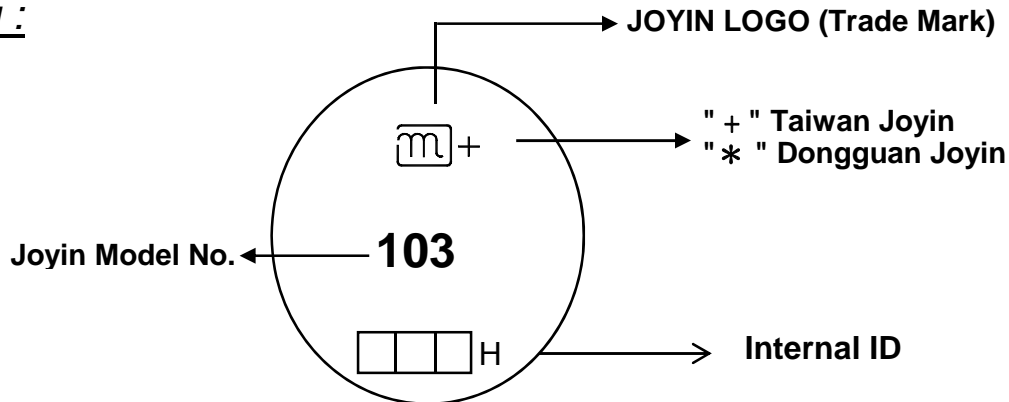
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Part Number Code

JCR **103** **K** **405** **J** **A** **5** **4** **P** **U5** **05** **Y**
 (1) (2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)

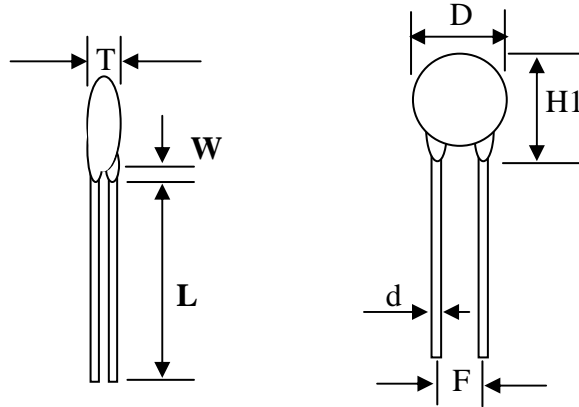
No.	Item	Digit	Specification
(1)	Product Type	JCR	JOYIN NTC Thermistor JCR type
(2)	Zero power Resistance at 25°C	103	$10 \times 10^3 \Omega = 10K\Omega$
(3)	Tolerance of R25°C	K	±10%
(4)	B Value	405	4050K
(5)	Tolerance of B Value	J	±5%
(6)	Definition of B Value	A	$B_{25/50}$
(7)	Lead Diameter	5	$0.5 \pm 0.05\text{mm}$
(8)	Lead spacing	4	$3.5 \pm 0.5\text{mm}$
(9)	Lead Style	P	Straight Lead
(10)	Length	U5	25mm min for Bulk and Straight lead
(11)	Body Size	05	$\Phi 5\text{mm}$
(12)	Optional Suffix	Y	Yellow Powder & Halogen-free CP Wire

Marking :





Structure and Dimensions



(Unit : mm)

Body Size	D max.	T max.	F±0.5	d±0.05	L min	W max	H1 max
Φ 5 mm	6.0	5.0	3.5	0.5	25.0	3.0	8.0

Color of coating : Yellowish brown

Material of coating: Epoxy powder

Electrical Characteristics

Part No.	Zero Power Resistance at 25°C	Tolerance of R ₂₅	B _{25/50} Value	Tolerance of B Value	Max. Power Rating at 25°C
	R ₂₅ (KΩ)	(± %)	(K)	(± %)	P _{max} (mW)
JCR103K405JA54PU505Y	10	10	4050	5	450

Part No.	Dissipation Factor	Thermal Time Constant	Operating Temperature Range
	δ (mW/°C)	τ (sec.)	T _L ~T _U (°C)
JCR103K405JA54PU505Y	7.5	19	-30 ~ +120



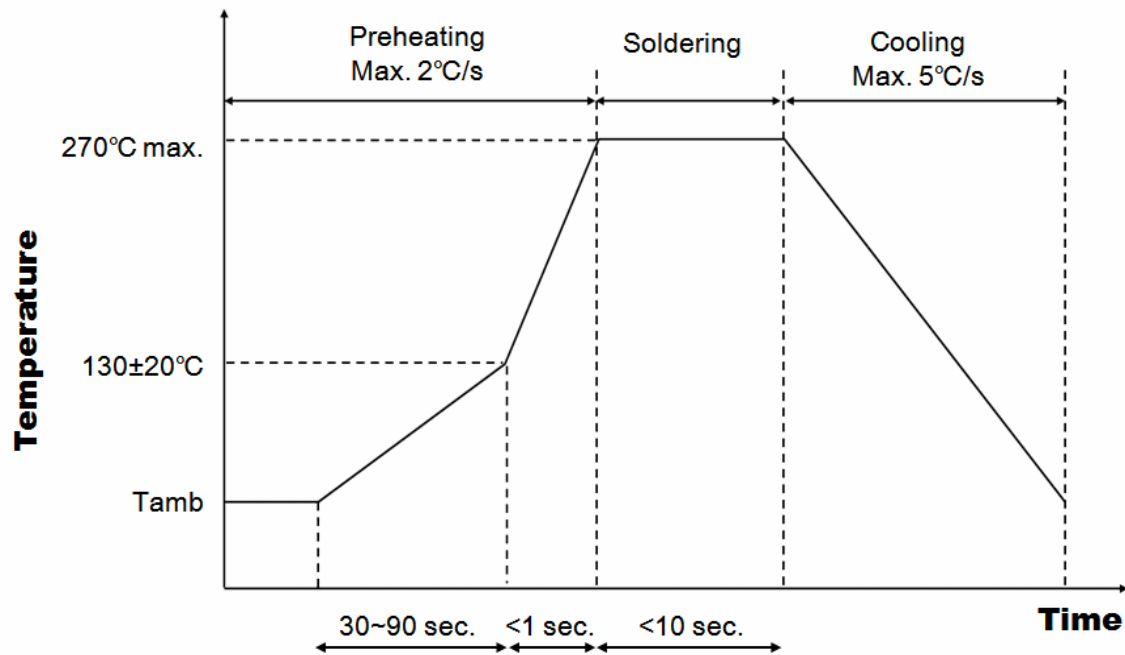
NTC Thermistor JCR Type

Item	Standard	Test condition	Specifications															
Terminal pull strength	IEC 60068-2-21	Gradually applying the force specified and keeping the unit fixed for 10±1 sec. <table border="1"> <tr> <td>Terminal diameter (mm)</td> <td>Force (Kg)</td> </tr> <tr> <td>0.3<d≤0.5</td> <td>0.5</td> </tr> <tr> <td>0.5<d≤0.8</td> <td>1.0</td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	0.3<d≤0.5	0.5	0.5<d≤0.8	1.0	No visible damage									
Terminal diameter (mm)	Force (Kg)																	
0.3<d≤0.5	0.5																	
0.5<d≤0.8	1.0																	
Bending Strength of Terminals	IEC 60068-2-21	Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, then return to the original position. Repeat the procedure in the opposite direction. <table border="1"> <tr> <td>Terminal diameter (mm)</td> <td>Force (Kg)</td> </tr> <tr> <td>0.3<d≤0.5</td> <td>0.25</td> </tr> <tr> <td>0.5<d≤0.8</td> <td>0.5</td> </tr> </table>	Terminal diameter (mm)	Force (Kg)	0.3<d≤0.5	0.25	0.5<d≤0.8	0.5	No visible damage									
Terminal diameter (mm)	Force (Kg)																	
0.3<d≤0.5	0.25																	
0.5<d≤0.8	0.5																	
Solderability	IEC 60068-2-20	245±3°C, 3±0.3 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to soldering heat	IEC 60068-2-20	260±5°C, 10±1 sec	No visible damage ΔR25 ≤ ±3%															
High temperature storage	IEC 60068-2-2	125±5°C, 1000hrs	No visible damage ΔR25 ≤ ±5%															
Damp Heat Steady State	IEC 60068-2-3	40±2°C, 90~95% RH, 1000±24hrs	No visible damage ΔR25 ≤ ±3%															
Rapid Change of Temperature	IEC 60068-2-14	The conditions shown below shall be repeated 5 Cycles . <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Period (minutes)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-40±5</td> <td>30±3</td> </tr> <tr> <td>2</td> <td>Room temperature</td> <td>5±3</td> </tr> <tr> <td>3</td> <td>125±5</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room temperature</td> <td>5±3</td> </tr> </tbody> </table>	Step	Temperature (°C)	Period (minutes)	1	-40±5	30±3	2	Room temperature	5±3	3	125±5	30±3	4	Room temperature	5±3	No visible damage ΔR25 ≤ ±3%
Step	Temperature (°C)	Period (minutes)																
1	-40±5	30±3																
2	Room temperature	5±3																
3	125±5	30±3																
4	Room temperature	5±3																
Life Test	IEC 60539-1 4.26.3	25±5°C, Pmax, 1000hrs	No visible damage ΔR25 ≤ ±5%															



Soldering Recommendation

■ Wave Flow Soldering Profile

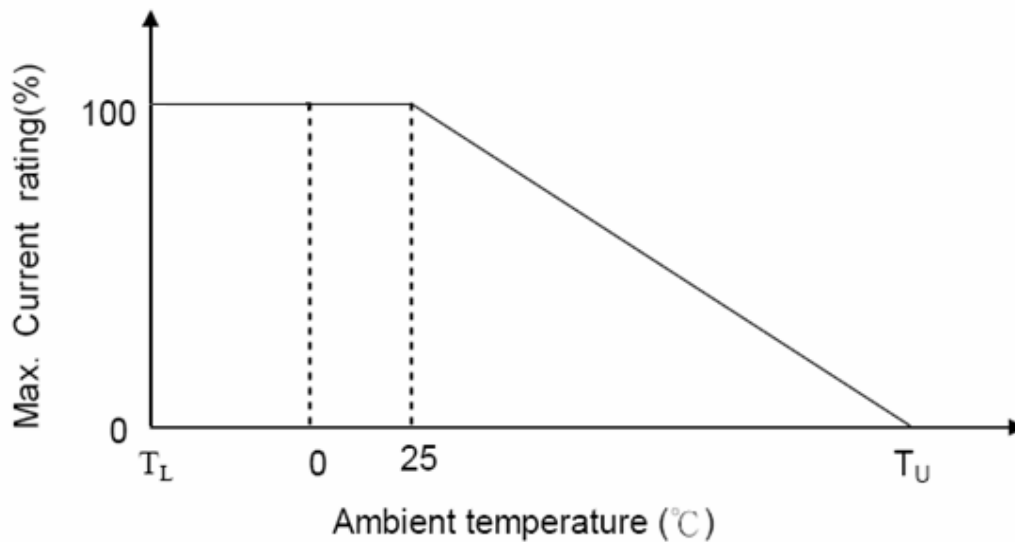


■ Recommended Reworking Conditions With Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	380°C (max.)
Soldering Time	3 sec (max.)
Distance form NTC Thermistor	2 mm (min.)



Power Derating Curve



Note : T_L = Minimum operating temperature (°C)

T_U = Maximum operating temperature (°C)

For example :

Ambient temperature(T_a) = 55°C

Maximum operating temperature(T_u) = 120°C

$P_{T_a} = (T_u - T_a) / (T_u - 25) \times P_{max} = 70\% P_{max}$

RoHS Compliant Declaration

We hereby declare that the components delivered to your company are compliant with RoHS directive 2002/95/EC

Storage condition of products

(I) Storage Conditions :

1.Storage Temperature : -10 ~ +40°C

2.Relative Humidity : $\leq 75\%RH$

3.Keep away from corrosive atmosphere and sunlight.

(II) Period of Storage : 1 year



Safety Approvals



* UL 1434 recognized (File # E171531)



* TÜV / EN60539-1:2008 recognized
(File # R 50267265)

Certificate

(1) ISO 9001 certificate

Tset Report

- (1) RoHS SGS test report
- (2) RoHS2 SGS test report
- (3) Halogen-free test report



R-T TABLE

PART NO. :JCR103K405JA54PU505Y

R25 =10000.0Ohm ± 10%

B25/50 = 4050 K ± 5%

T °C	R max Ω	R nor. Ω	R min Ω	Temp. Tolerance °C	
T (°C)	Rmax. (Ω)	Rnor. (Ω)	Rmin. (Ω)	Temp. Tolerance (°C)	
-40	370913.79	287669.92	204426.05	5.32	-5.32
-39	350338.19	272496.10	194654.01	5.19	-5.19
-38	330719.61	257974.65	185229.69	5.08	-5.08
-37	312052.09	244107.68	176163.27	4.98	-4.98
-36	294321.98	230891.19	167460.40	4.88	-4.88
-35	277509.40	218316.11	159122.83	4.80	-4.80
-34	261589.60	206369.35	151149.10	4.72	-4.72
-33	246534.12	195034.58	143535.03	4.64	-4.64
-32	232311.71	184293.00	136274.29	4.57	-4.57
-31	218889.21	174123.99	129358.78	4.51	-4.51
-30	206232.22	164505.62	122779.02	4.44	-4.44
-29	194305.70	155415.09	116524.49	4.39	-4.39
-28	183074.44	146829.17	110583.90	4.33	-4.33
-27	172503.44	138724.44	104945.43	4.28	-4.28
-26	162558.26	131077.60	99596.93	4.23	-4.23
-25	153205.21	123865.65	94526.09	4.18	-4.18
-24	144411.58	117066.07	89720.57	4.13	-4.13
-23	136145.76	110656.94	85168.13	4.09	-4.09
-22	128377.36	104617.02	80856.69	4.04	-4.04
-21	121077.27	98925.86	76774.46	4.00	-4.00
-20	114217.70	93563.81	72909.93	3.96	-3.96
-19	107772.19	88512.08	69251.97	3.92	-3.92
-18	101715.64	83752.73	65789.82	3.88	-3.88
-17	96024.26	79268.69	62513.13	3.84	-3.84
-16	90675.55	75043.77	59411.99	3.81	-3.81
-15	85648.31	71062.61	56476.91	3.77	-3.77
-14	80922.52	67310.68	53698.84	3.73	-3.73
-13	76479.36	63774.25	51069.14	3.70	-3.70
-12	72301.15	60440.38	48579.62	3.66	-3.66
-11	68371.27	57296.88	46222.49	3.62	-3.62
-10	64674.13	54332.25	43990.37	3.59	-3.59
-9	61195.11	51535.70	41876.28	3.55	-3.55
-8	57920.52	48897.06	39873.60	3.52	-3.52
-7	54837.54	46406.81	37976.08	3.48	-3.48
-6	51934.16	44055.99	36177.81	3.45	-3.45
-5	49199.13	41836.19	34473.24	3.41	-3.41
-4	46621.97	39739.53	32857.10	3.37	-3.37
-3	44192.83	37758.63	31324.44	3.34	-3.34
-2	41902.53	35886.56	29870.59	3.30	-3.30
-1	39742.47	34116.81	28491.15	3.27	-3.27
0	37704.62	32443.30	27181.98	3.23	-3.23



R-T TABLE

PART NO. :JCR103K405JA54PU505Y

R25 =10000.0Ohm ± 10%

B25/50 = 4050 K ± 5%

T °C	R max Ω	R nor. Ω	R min Ω	Temp. Tolerance °C	
1	35781.47	30860.33	25939.18	3.19	-3.19
2	33966.01	29362.54	24759.07	3.16	-3.16
3	32251.67	27944.93	23638.20	3.12	-3.12
4	30632.30	26602.81	22573.31	3.08	-3.08
5	29102.18	25331.76	21561.34	3.05	-3.05
6	27655.93	24127.66	20599.39	3.01	-3.01
7	26288.54	22986.66	19684.77	2.97	-2.97
8	24995.31	21905.11	18814.90	2.93	-2.93
9	23771.85	20879.62	17987.38	2.89	-2.89
10	22614.04	19907.00	17199.95	2.86	-2.86
11	21518.03	18984.25	16450.47	2.82	-2.82
12	20480.21	18108.57	15736.93	2.78	-2.78
13	19497.21	17277.32	15057.43	2.74	-2.74
14	18565.87	16488.03	14410.19	2.70	-2.70
15	17683.22	15738.37	13793.53	2.66	-2.66
16	16846.47	15026.16	13205.85	2.62	-2.62
17	16053.02	14349.34	12645.66	2.58	-2.58
18	15300.43	13705.99	12111.56	2.54	-2.54
19	14586.40	13094.30	11602.20	2.50	-2.50
20	13908.77	12512.55	11116.33	2.46	-2.46
21	13265.52	11959.14	10652.76	2.42	-2.42
22	12654.75	11432.56	10210.37	2.38	-2.38
23	12074.68	10931.39	9788.11	2.34	-2.34
24	11523.62	10454.29	9384.97	2.29	-2.29
25	11000.00	10000.00	9000.00	2.25	-2.25
26	10545.78	9567.33	8588.87	2.31	-2.31
27	10112.10	9155.15	8198.19	2.38	-2.38
28	9697.94	8762.41	7826.87	2.44	-2.44
29	9302.35	8388.11	7473.87	2.50	-2.50
30	8924.41	8031.30	7138.19	2.56	-2.56
31	8563.28	7691.11	6818.94	2.62	-2.62
32	8218.15	7366.69	6515.23	2.68	-2.68
33	7888.23	7057.24	6226.25	2.75	-2.75
34	7572.82	6762.03	5951.23	2.81	-2.81
35	7271.21	6480.33	5689.45	2.87	-2.87
36	6982.75	6211.48	5440.20	2.93	-2.93
37	6706.82	5954.84	5202.85	3.00	-3.00
38	6442.84	5709.82	4976.79	3.06	-3.06
39	6190.25	5475.84	4761.44	3.12	-3.12
40	5948.51	5252.38	4556.24	3.18	-3.18
41	5717.13	5038.91	4360.70	3.25	-3.25
42	5495.62	4834.96	4174.31	3.31	-3.31



R-T TABLE

PART NO. :JCR103K405JA54PU505Y

R25 =10000.0Ohm ± 10%

B25/50 = 4050 K ± 5%

T °C	R max Ω	R nor. Ω	R min Ω	Temp. Tolerance °C	
43	5283.54	4640.08	3996.62	3.37	-3.37
44	5080.45	4453.82	3827.20	3.44	-3.44
45	4885.94	4275.78	3665.62	3.50	-3.50
46	4699.62	4105.56	3511.51	3.57	-3.57
47	4521.13	3942.81	3364.48	3.63	-3.63
48	4350.11	3787.15	3224.20	3.69	-3.69
49	4186.22	3638.28	3090.33	3.76	-3.76
50	4029.15	3495.85	2962.56	3.83	-3.83
51	3878.59	3359.59	2840.59	3.89	-3.89
52	3734.26	3229.20	2724.13	3.96	-3.96
53	3595.88	3104.40	2612.93	4.02	-4.02
54	3463.18	2984.95	2506.72	4.09	-4.09
55	3335.92	2870.60	2405.27	4.16	-4.16
56	3213.86	2761.10	2308.35	4.22	-4.22
57	3096.77	2656.26	2215.75	4.29	-4.29
58	2984.43	2555.84	2127.25	4.36	-4.36
59	2876.65	2459.66	2042.67	4.43	-4.43
60	2773.21	2367.51	1961.81	4.50	-4.50
61	2673.95	2279.23	1884.51	4.56	-4.56
62	2578.66	2194.63	1810.59	4.63	-4.63
63	2487.20	2113.55	1739.90	4.71	-4.71
64	2399.38	2035.83	1672.29	4.78	-4.78
65	2315.06	1961.33	1607.61	4.85	-4.85
66	2234.09	1889.91	1545.72	4.92	-4.92
67	2156.33	1821.42	1486.51	4.99	-4.99
68	2081.63	1755.73	1429.84	5.06	-5.06
69	2009.87	1692.74	1375.60	5.14	-5.14
70	1940.94	1632.30	1323.67	5.21	-5.21
71	1874.70	1574.33	1273.96	5.29	-5.29
72	1811.04	1518.70	1226.35	5.36	-5.36
73	1749.87	1465.31	1180.76	5.44	-5.44
74	1691.06	1414.08	1137.09	5.52	-5.52
75	1634.54	1364.90	1095.26	5.60	-5.60
76	1580.19	1317.69	1055.18	5.67	-5.67
77	1527.94	1272.36	1016.77	5.75	-5.75
78	1477.70	1228.83	979.96	5.84	-5.84
79	1429.37	1187.03	944.68	5.92	-5.92
80	1382.89	1146.88	910.86	6.00	-6.00
81	1338.18	1108.31	878.44	6.08	-6.08
82	1295.17	1071.26	847.34	6.17	-6.17
83	1253.78	1035.65	817.52	6.25	-6.25



R-T TABLE

PART NO. :JCR103K405JA54PU505Y

R25 =10000.0Ohm ± 10%

B25/50 = 4050 K ± 5%

T °C	R max Ω	R nor. Ω	R min Ω	Temp. Tolerance °C	
84	1213.96	1001.44	788.92	6.34	-6.34
85	1175.63	968.55	761.48	6.43	-6.43
86	1138.74	936.95	735.16	6.51	-6.51
87	1103.23	906.56	709.90	6.60	-6.60
88	1069.04	877.35	685.65	6.70	-6.70
89	1036.12	849.25	662.38	6.79	-6.79
90	1004.43	822.24	640.04	6.88	-6.88
91	973.90	796.25	618.60	6.98	-6.98
92	944.50	771.25	598.00	7.07	-7.07
93	916.18	747.20	578.22	7.17	-7.17
94	888.90	724.06	559.22	7.27	-7.27
95	862.61	701.79	540.97	7.37	-7.37
96	837.28	680.36	523.44	7.47	-7.47
97	812.87	659.73	506.59	7.57	-7.57
98	789.34	639.87	490.39	7.68	-7.68
99	766.67	620.75	474.83	7.79	-7.79
100	744.80	602.33	459.87	7.89	-7.89
101	723.72	584.60	445.48	8.00	-8.00
102	703.40	567.52	431.64	8.12	-8.12
103	683.79	551.07	418.34	8.23	-8.23
104	664.89	535.22	405.54	8.35	-8.35
105	646.65	519.94	393.23	8.46	-8.46
106	629.06	505.22	381.38	8.58	-8.58
107	612.09	491.04	369.99	8.71	-8.71
108	595.71	477.36	359.02	8.83	-8.83
109	579.90	464.18	348.46	8.96	-8.96
110	564.65	451.47	338.29	9.09	-9.09
111	549.93	439.22	328.50	9.22	-9.22
112	535.71	427.40	319.08	9.35	-9.35
113	521.99	416.00	310.00	9.49	-9.49
114	508.74	405.00	301.26	9.63	-9.63
115	495.95	394.39	292.84	9.77	-9.77
116	483.59	384.16	284.72	9.91	-9.91
117	471.66	374.28	276.90	10.06	-10.06
118	460.13	364.75	269.37	10.21	-10.21
119	448.99	355.55	262.10	10.36	-10.36
120	438.23	346.67	255.10	10.52	-10.52
121	427.84	338.09	248.35	10.68	-10.68
122	417.79	329.82	241.84	10.84	-10.84
123	408.08	321.82	235.56	11.01	-11.01
124	398.70	314.10	229.51	11.18	-11.18
125	389.63	306.65	223.67	11.36	-11.36