

JCR474J495HB55L3005

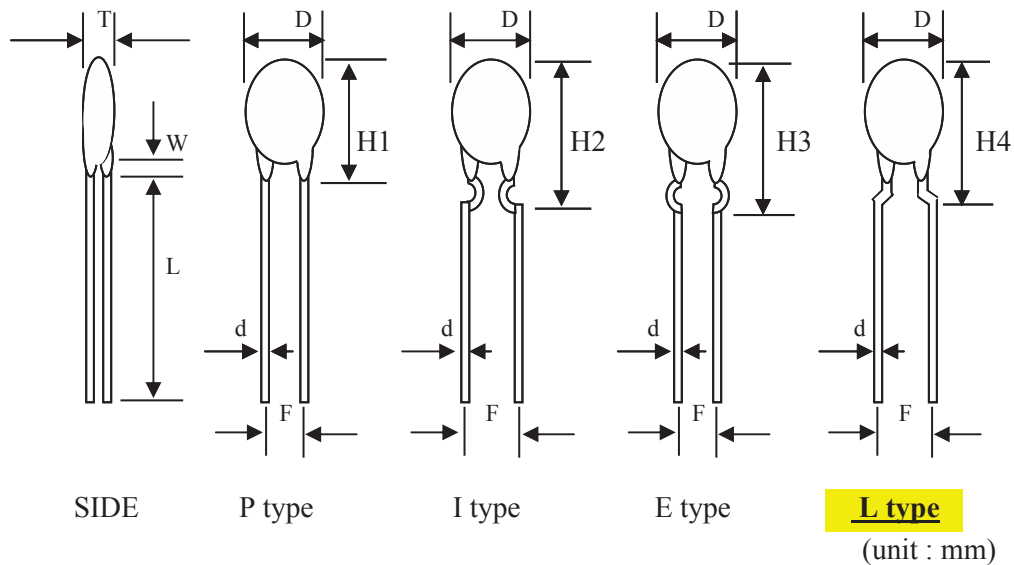
JOYIN	SPECIFICATION	SENSOR
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1. APPEARANCE

1-1. APPEARANCE

No conspicuous flaws, cracks and rust.

1-2. SHAPE & DIMENSIONS

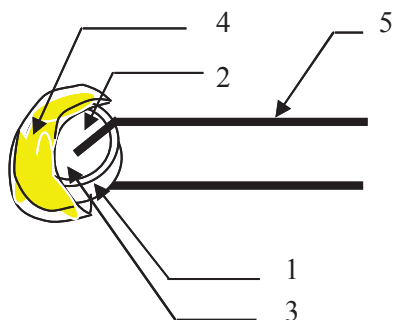


Series	D	T	L	d	F			W	H1	H2	H3	H4
					P/E	I	L					
3	max. 3.8	max. 3.2	min. $\phi 0.50$		2.5	5	5.0	3.0	7.0	8.0	8.0	8.0
5	max. 6.0	max. 3.5	30.0	± 0.05	-0.2 +0.5	-0.2 +0.5	5.0	3.0	10.0	11.0	11.0	10.0

* F : Lead wire space ** W : Lead coating length

*** Lead cut length is variable upon request L= min.3.0 ~ max.8.0mm

1-3. CONSTRUCTION & MATERIALS



No	PARTS	MATERIALS
1	Element	Metal oxide
2	Electrode	Ag
3	Solder	Sn-Ag
4	Coating	Epoxy Resin Black
5	Lead wire	Sn / Cu plated Steel wire

1-4. MARKING

First line: 104

Second line: Code (YWW) Y: Year code 1= 2011 WW: weeks code



JOYIN	SPECIFICATION	SENSOR
2. ELECTRICAL RATING		
ITEMS	RATED VALUE	TEST METHOD OR TEST CONDITION
2-1. RESISTANCE VALUE	470 Kohms \pm 5%	No load resistance shall be measured at 25°C Oil Bath Circulator.
2-2. B CONSTANT	4950K \pm 3%	<p>After the no load resistance values at 25°C and 85°C are measured respectively, the Constant B is calculated by the following equation</p> $B = \frac{\ln(R_{25}/R_{85})}{1/298.15 - 1/358.15}$
2-3. HEAT DISSIPATION COEFFICIENT	7.5 mW/°C	The electrical power equivalent to the temperature rise of 1 degree shall be measured at still air ambient of 25°C
2-4. MAX. RATED POWER	450 mW	At 25°C
2-5. THERMAL TIME CONSTANT	18sec	Time when thermistor temperature reaches 63.2% of the temperature difference. The value is measured in the air

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3. ENVIRONMENTAL RATING

ITEMS	CONDITION	RATED VALUE
3-1 HIGH TEMPERATURE LOAD LIFE	100°C x 1,000Hrs	< ± 3%
3-2. HUMIDITY	40°C, 93%RH x 1,000Hrs	< ± 3%
3-3. LIFE (ENDURANCE)	P max . = 450mW 1,000Hrs at room temp.	< ± 3%
3-4. TEMPERATURE CYCLE	(25°C x 5 min → -30°C x 30 min → 25°C x 5 min → 100°C x 30min) x 5cycle	< ±2%
3-5. INSULATION	DC 500V	> 50MΩ
3-6. SOLDERING HEAT RESISTANCE	The lead wire of the Thermistor shall be dipped with 5j 1mm space from the body into solder bath of 270j 5j for 3sec.	< ±2%
3-7. SOLDERABILITY	The lead wire of the Thermistor was dipped into solder bath of 270±5j for 3sec. Immersion in 25% resin flux.	More then 95% solderability

Note : Each test shall be performed new sample individually.

4. OPERATING TEMPERATURE RANGE

-30 ~ +120°C

5. STORAGE TEMPERATURE RANGE

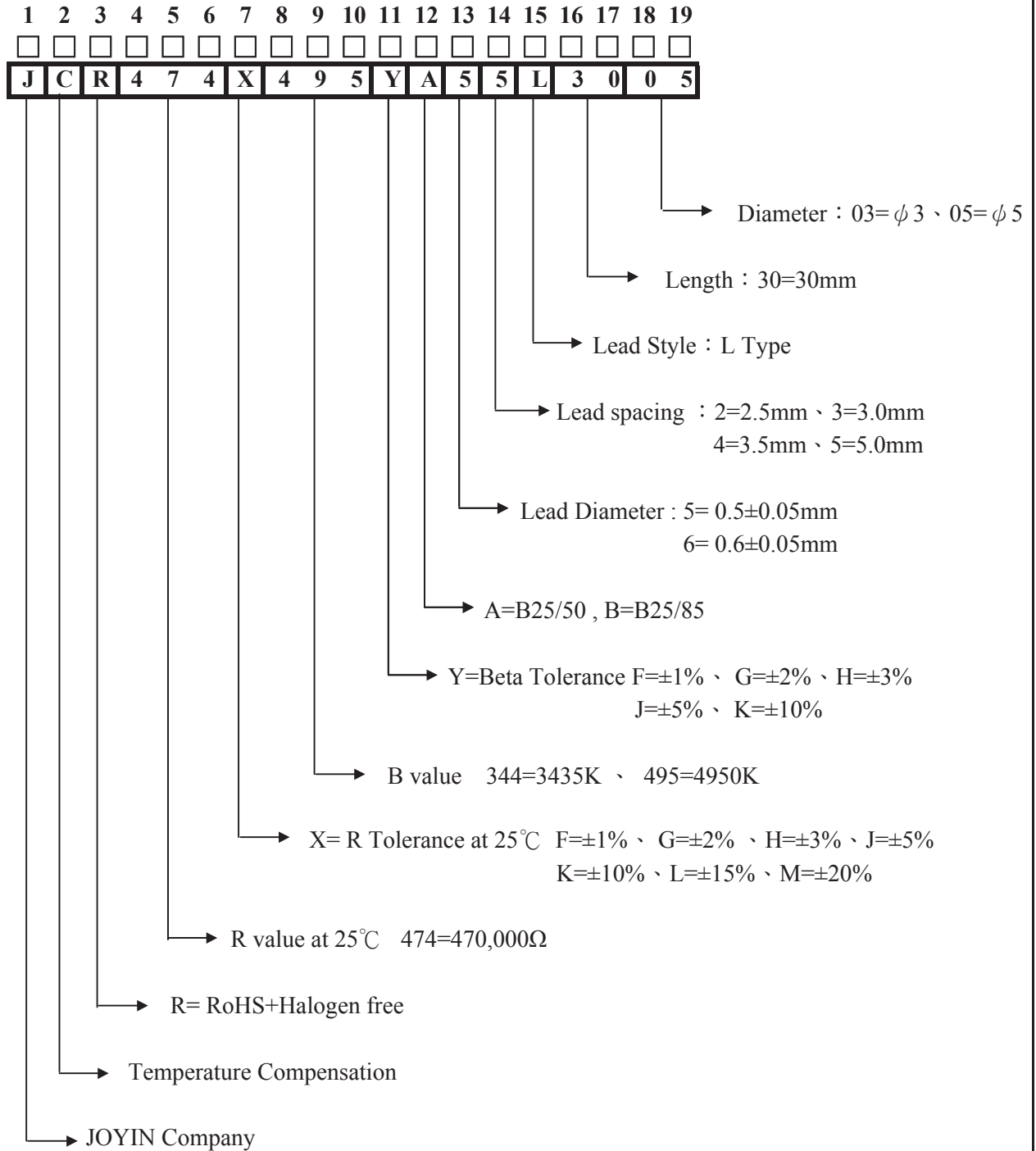
-10 ~ +45°C (No load)

JOYIN

SPECIFICATION

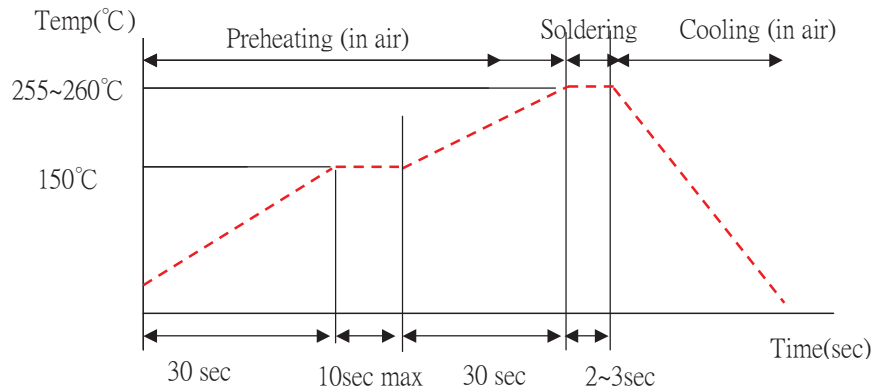
SENSOR

6. ORDERING CODE (PART NUMBER)



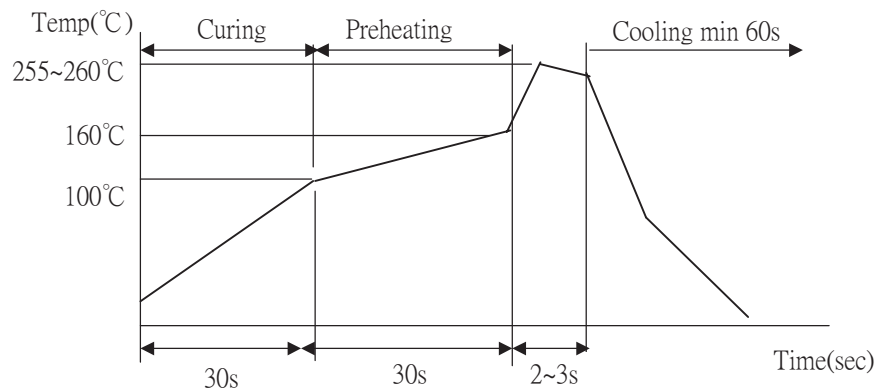
Recommend for Soldering conditions for Leaded type NTC thermistor

1. Reflow Soldering Method



* Take care of temperature in summer & winter seasons

2. Flow Soldering Method



When soldering, care must be taken that the NTC thermistor are not damaged by excessive heat. The following maximum temperatures, maximum time spans and minimum distances have to be observed:

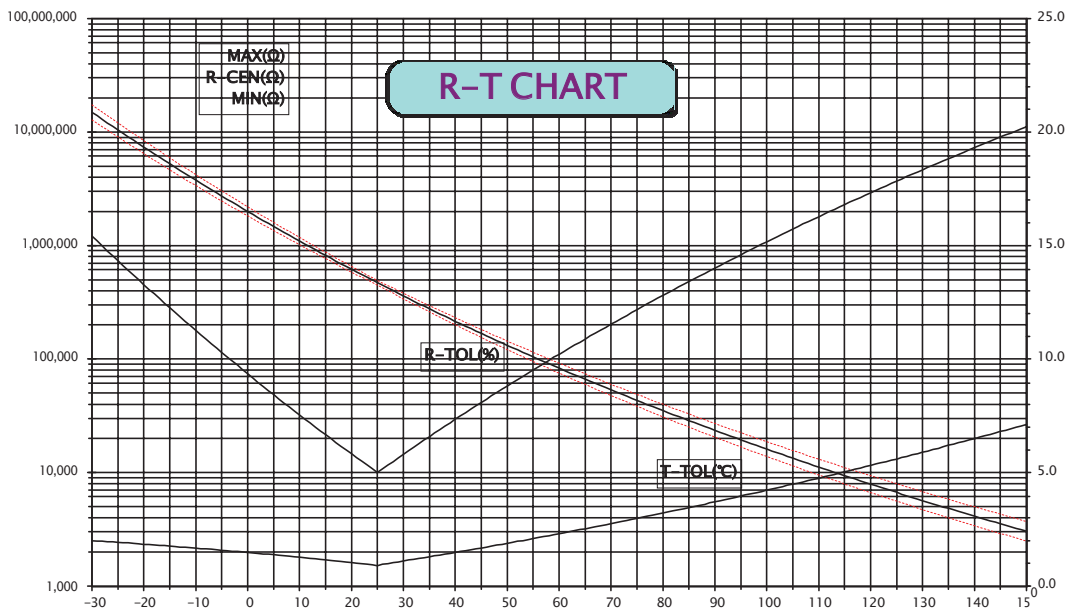
	Dip soldering	Iron soldering
Bath temperature	max.260°C	max.360°C
Soldering time	max.3sec	max.2sec
Distance form thermistor	min. 6 mm	min. 6 mm

Under more severe soldering conditions the resistance may change and appearance damage.

R-T Characteristics & Tolerance

Part Name NTC
 Customer N/A
 Part No. JCR474J495HB55L3005
 Usage / Remark N/A

Center-Temp / R-Value 25.0°C/470000.00Ω
 R-Tolerance of Center-Temp 5.00%
 Test Conditon Zero Power
 β-Range (25/85)°C
 β-Value 4950K
 β-Tolerance 3.00%



L : 0.0°C=1,997,085.30Ω
 M : 25.0°C=470,000.00Ω
 H : 85.0°C=28,721.80Ω

TEMP. (°C)	RESISTANCE (Ω)			RESIST.-TOL. (%)		TEMP.-TOL. (°C)	
	MIN	CENTER	MAX	MAX	MIN	MAX	MIN
-30.0	12785426.64	14929669.34	17389938.98	16.48	14.36	2.14	1.86
-29.0	11918905.39	13887647.74	16141129.29	16.23	14.18	2.12	1.85
-28.0	11115194.85	12923248.33	14987845.37	15.98	13.99	2.10	1.84
-27.0	10369476.75	12030361.04	13922376.83	15.73	13.81	2.08	1.83
-26.0	9677320.68	11203379.91	12937664.91	15.48	13.62	2.06	1.82
-25.0	9034651.50	10437159.82	12027245.26	15.23	13.44	2.04	1.80
-24.0	8437719.70	9726977.02	11185195.77	14.99	13.25	2.03	1.79
-23.0	7883074.28	9068493.20	10406089.31	14.75	13.07	2.01	1.78
-22.0	7367537.92	8457722.70	9684950.57	14.51	12.89	1.99	1.77
-21.0	6888184.36	7891002.61	9017216.89	14.27	12.71	1.97	1.75
-20.0	6442317.70	7364965.53	8398702.61	14.04	12.53	1.95	1.74
-19.0	6027453.44	6876514.67	7825566.54	13.80	12.35	1.93	1.73
-18.0	5641301.14	6422801.16	7294282.42	13.57	12.17	1.91	1.71
-17.0	5281748.64	6001203.28	6801611.96	13.34	11.99	1.89	1.70
-16.0	4946847.48	5609307.61	6344580.29	13.11	11.81	1.87	1.68
-15.0	4634799.66	5244891.66	5920453.58	12.88	11.63	1.85	1.67
-14.0	4343945.51	4905908.11	5526718.64	12.65	11.45	1.83	1.66
-13.0	4072752.46	4590470.38	5161064.29	12.43	11.28	1.81	1.64
-12.0	3819804.96	4296839.39	4821364.41	12.21	11.10	1.79	1.63
-11.0	3583795.01	4023411.50	4505662.42	11.99	10.93	1.77	1.61
-10.0	3363513.68	3768707.48	4212157.15	11.77	10.75	1.75	1.60
-9.0	3157843.18	3531362.39	3939189.91	11.55	10.58	1.72	1.58

TEMP. (°C)	RESISTANCE (Ω)			RESIST.-TOL. (%)		TEMP.-TOL. (°C)	
	MIN	CENTER	MAX	MAX	MIN	MAX	MIN
-8.0	2965749.71	3310116.30	3685232.69	11.33	10.40	1.70	1.56
-7.0	2786276.79	3103805.88	3448877.36	11.12	10.23	1.68	1.55
-6.0	2618539.20	2911356.58	3228825.88	10.90	10.06	1.66	1.53
-5.0	2461717.43	2731775.53	3023881.19	10.69	9.89	1.64	1.52
-4.0	2315052.55	2564145.05	2832939.05	10.48	9.71	1.62	1.50
-3.0	2177841.47	2407616.67	2654980.44	10.27	9.54	1.60	1.48
-2.0	2049432.66	2261405.62	2489064.69	10.07	9.37	1.57	1.47
-1.0	1929222.18	2124785.82	2334323.15	9.86	9.20	1.55	1.45
0.0	1816649.98	1997085.30	2189953.42	9.66	9.03	1.53	1.43
1.0	1711196.58	1877681.91	2055213.99	9.45	8.87	1.51	1.41
2.0	1612379.98	1765999.48	1929419.45	9.25	8.70	1.48	1.39
3.0	1519752.78	1661504.22	1811936.01	9.05	8.53	1.46	1.38
4.0	1432899.61	1563701.45	1702177.39	8.86	8.36	1.44	1.36
5.0	1351434.67	1472132.58	1599601.10	8.66	8.20	1.42	1.34
6.0	1274999.55	1386372.35	1503705.02	8.46	8.03	1.39	1.32
7.0	1203261.16	1306026.28	1414024.18	8.27	7.87	1.37	1.30
8.0	1135909.83	1230728.29	1330127.93	8.08	7.70	1.34	1.28
9.0	1072657.62	1160138.60	1251617.24	7.89	7.54	1.32	1.26
10.0	1013236.66	1093941.70	1178122.27	7.70	7.38	1.30	1.24
11.0	957397.70	1031844.53	1109300.11	7.51	7.21	1.27	1.22
12.0	904908.75	973574.80	1044832.73	7.32	7.05	1.25	1.20
13.0	855553.80	918879.45	984425.06	7.13	6.89	1.23	1.18
14.0	809131.67	867523.19	927803.25	6.95	6.73	1.20	1.16
15.0	765454.93	819287.20	874713.08	6.77	6.57	1.18	1.14
16.0	724348.91	773967.92	824918.44	6.58	6.41	1.15	1.12
17.0	685650.77	731375.91	778200.01	6.40	6.25	1.13	1.10
18.0	649208.68	691334.82	734353.97	6.22	6.09	1.10	1.08
19.0	614880.99	653680.44	693190.85	6.04	5.94	1.08	1.06
20.0	582535.56	618259.83	654534.48	5.87	5.78	1.05	1.04
21.0	552049.04	584930.47	618220.98	5.69	5.62	1.03	1.01
22.0	523306.28	553559.53	584097.88	5.52	5.47	1.00	0.99
23.0	496199.73	524023.18	552023.25	5.34	5.31	0.98	0.97
24.0	470628.93	496205.91	521864.98	5.17	5.15	0.95	0.95
25.0	446500.00	470000.00	493500.00	5.00	5.00	0.89	0.89
26.0	422355.22	445304.90	468327.85	5.17	5.15	0.96	0.96
27.0	399632.56	422026.77	444561.69	5.34	5.31	1.00	0.99
28.0	378241.92	400077.98	422116.71	5.51	5.46	1.04	1.03
29.0	358099.26	379376.68	400913.57	5.68	5.61	1.07	1.06
30.0	339126.22	359846.42	380878.02	5.84	5.76	1.11	1.10
31.0	321249.68	341415.73	361940.56	6.01	5.91	1.15	1.13
32.0	304401.38	324017.81	344036.13	6.18	6.05	1.19	1.17
33.0	288517.61	307590.19	327103.77	6.34	6.20	1.23	1.20
34.0	273538.87	292074.45	311086.38	6.51	6.35	1.27	1.24
35.0	259409.57	277415.92	295930.47	6.67	6.49	1.31	1.27
36.0	246077.77	263563.44	281585.86	6.84	6.63	1.35	1.31
37.0	233494.93	250469.10	268005.54	7.00	6.78	1.39	1.34
38.0	221615.64	238088.06	255145.39	7.16	6.92	1.43	1.38
39.0	210397.46	226378.30	242964.03	7.33	7.06	1.47	1.42
40.0	199800.68	215300.45	231422.63	7.49	7.20	1.51	1.45
41.0	189788.12	204817.63	220484.74	7.65	7.34	1.55	1.49
42.0	180324.99	194895.23	210116.14	7.81	7.48	1.59	1.53
43.0	171378.74	185500.84	200284.69	7.97	7.61	1.64	1.56
44.0	162918.83	176604.03	190960.18	8.13	7.75	1.68	1.60
45.0	154916.71	168176.24	182114.26	8.29	7.88	1.72	1.64
46.0	147345.57	160190.70	173720.24	8.45	8.02	1.76	1.67
47.0	140180.32	152622.25	165753.06	8.60	8.15	1.81	1.71
48.0	133397.42	145447.27	158189.14	8.76	8.28	1.85	1.75
49.0	126974.78	138643.59	151006.29	8.92	8.42	1.89	1.79
50.0	120891.70	132190.37	144183.66	9.07	8.55	1.94	1.83
51.0	115128.73	126068.01	137701.60	9.23	8.68	1.98	1.86
52.0	109667.63	120258.11	131541.61	9.38	8.81	2.03	1.90
53.0	104491.28	114743.35	125686.30	9.54	8.93	2.07	1.94
54.0	99583.58	109507.47	120119.26	9.69	9.06	2.12	1.98
55.0	94929.42	104535.13	114825.05	9.84	9.19	2.16	2.02
56.0	90514.60	99811.94	109789.10	10.00	9.31	2.21	2.06
57.0	86325.77	95324.31	104997.70	10.15	9.44	2.25	2.10
58.0	82350.38	91059.49	100437.91	10.30	9.56	2.30	2.14
59.0	78576.64	87005.44	96097.53	10.45	9.69	2.35	2.18
60.0	74993.44	83150.83	91965.05	10.60	9.81	2.39	2.22
61.0	71590.33	79484.99	88029.62	10.75	9.93	2.44	2.25
62.0	68357.49	75997.86	84280.98	10.90	10.05	2.49	2.29

TEMP. (°C)	RESISTANCE (Ω)			RESIST.-TOL. (%)		TEMP.-TOL. (°C)	
	MIN	CENTER	MAX	MAX	MIN	MAX	MIN
63.0	65285.66	72679.96	80709.47	11.05	10.17	2.54	2.34
64.0	62366.13	69522.35	77305.95	11.20	10.29	2.58	2.38
65.0	59590.70	66516.58	74061.80	11.34	10.41	2.63	2.42
66.0	56951.63	63654.72	70968.87	11.49	10.53	2.68	2.46
67.0	54441.64	60929.24	68019.47	11.64	10.65	2.73	2.50
68.0	52053.86	58333.07	65206.31	11.78	10.76	2.78	2.54
69.0	49781.82	55859.52	62522.53	11.93	10.88	2.83	2.58
70.0	47619.42	53502.27	59961.61	12.07	11.00	2.88	2.62
71.0	45560.88	51255.36	57517.41	12.22	11.11	2.93	2.66
72.0	43600.80	49113.15	55184.12	12.36	11.22	2.98	2.70
73.0	41734.02	47070.32	52956.22	12.50	11.34	3.03	2.75
74.0	39955.73	45121.84	50828.51	12.65	11.45	3.08	2.79
75.0	38261.34	43262.94	48796.06	12.79	11.56	3.13	2.83
76.0	36646.55	41489.13	46854.20	12.93	11.67	3.18	2.87
77.0	35107.27	39796.16	44998.51	13.07	11.78	3.23	2.91
78.0	33639.66	38179.99	43224.80	13.21	11.89	3.29	2.96
79.0	32240.07	36636.82	41529.10	13.35	12.00	3.34	3.00
80.0	30905.08	35163.05	39907.65	13.49	12.11	3.39	3.04
81.0	29631.42	33755.26	38356.90	13.63	12.22	3.44	3.09
82.0	28416.01	32410.22	36873.45	13.77	12.32	3.50	3.13
83.0	27255.96	31124.87	35454.11	13.91	12.43	3.55	3.17
84.0	26148.50	29896.31	34095.84	14.05	12.54	3.60	3.22
85.0	25091.04	28721.80	32795.75	14.18	12.64	3.66	3.26
86.0	24081.10	27598.73	31551.11	14.32	12.75	3.71	3.30
87.0	23116.36	26524.63	30359.32	14.46	12.85	3.77	3.35
88.0	22194.60	25497.16	29217.92	14.59	12.95	3.82	3.39
89.0	21313.72	24514.11	28124.57	14.73	13.06	3.88	3.44
90.0	20471.75	23573.37	27077.05	14.86	13.16	3.93	3.48
91.0	19666.81	22672.94	26073.24	15.00	13.26	3.99	3.53
92.0	18897.10	21810.94	25111.14	15.13	13.36	4.04	3.57
93.0	18160.96	20985.55	24188.84	15.26	13.46	4.10	3.62
94.0	17456.76	20195.08	23304.54	15.40	13.56	4.16	3.66
95.0	16783.00	19437.91	22456.51	15.53	13.66	4.21	3.71
96.0	16138.24	18712.49	21643.12	15.66	13.76	4.27	3.75
97.0	15521.10	18017.36	20862.80	15.79	13.85	4.33	3.80
98.0	14930.29	17351.13	20114.08	15.92	13.95	4.39	3.84
99.0	14364.58	16712.49	19395.55	16.05	14.05	4.44	3.89
100.0	13822.80	16100.17	18705.86	16.18	14.15	4.50	3.94
101.0	13303.84	15512.99	18043.75	16.31	14.24	4.56	3.98
102.0	12806.65	14949.81	17408.00	16.44	14.34	4.62	4.03
103.0	12330.22	14409.55	16797.44	16.57	14.43	4.68	4.07
104.0	11873.60	13891.19	16210.99	16.70	14.52	4.74	4.12
105.0	11435.89	13393.75	15647.59	16.83	14.62	4.80	4.17
106.0	11016.23	12916.30	15106.23	16.95	14.71	4.86	4.22
107.0	10613.80	12457.96	14585.98	17.08	14.80	4.92	4.26
108.0	10227.82	12017.88	14085.92	17.21	14.89	4.98	4.31
109.0	9857.56	11595.26	13605.18	17.33	14.99	5.04	4.36
110.0	9502.32	11189.34	13142.95	17.46	15.08	5.10	4.41
111.0	9161.41	10799.40	12698.43	17.58	15.17	5.16	4.45
112.0	8834.21	10424.74	12270.87	17.71	15.26	5.23	4.50
113.0	8520.11	10064.70	11859.57	17.83	15.35	5.29	4.55
114.0	8218.54	9718.65	11463.83	17.96	15.44	5.35	4.60
115.0	7928.94	9385.99	11083.01	18.08	15.52	5.41	4.65
116.0	7650.79	9066.15	10716.48	18.20	15.61	5.48	4.70
117.0	7383.59	8758.58	10363.66	18.33	15.70	5.54	4.75
118.0	7126.87	8462.78	10023.97	18.45	15.79	5.60	4.79
119.0	6880.18	8178.23	9696.87	18.57	15.87	5.67	4.84
120.0	6643.08	7904.46	9381.85	18.69	15.96	5.73	4.89