

A. Material List

NO.	ITEM	DESCRIPTION
1	TERMINAL	C50301BL-2
2	COATING RESIN	Black Epoxy
3	LEAD WIRE	Φ0.5mm CP Wire
*	ELEMENT	NTC THERMISTOR

B. Electrical Characteristic

ITEM	VALUE
R25°C	150KΩ±5%
B25/85°C	4529K±3%

						Customer	
						Customer P/N	
						Thinking P/N	NTSA0154JZ007
						Drawing NO.	SA0809018
						Date	2008/9/18
						Scale:	Tol: ±mm Unit: mm
1.0	2008/9/18	NEW DRAWING	LIMEI	JANG CHUN M	LU YI MU	THINKING ELECTRONIC INDUSTRIAL CO.,LTD	
Rev.	Date	Subjects of Change	Designed by	Checked by	Approved by		

# **THINKING ELECTRONIC INDUSTRIAL CO.,LTD**

## **SUBJECT: CERTIFICATION OF MATERIALS**

CUSTOMER:

THINKING P/N: NTSA0154JZ007

NO	PART NAME	PART P/N	Q'TY	FLAMMABILITY SOLID BURNING CLASS	UL FILE NO
1	TERMINAL	C50301BL-2	1	BRASS	
2	COATING RESIN	Black Epoxy			
3	LEAD WIRE	Φ0.5mm CP Wire	2		
*	ELEMENT	NTC THERMISTOR			
Remark					

Approved by: LU YI MU

Checked by HUANG CHUN

Designed by LIMEI

# Specification of NTC Thermistor for Temperature Measurement and Control

PART NO . NTSA0154JZ007

CUSTOMER P/N . \_\_\_\_\_

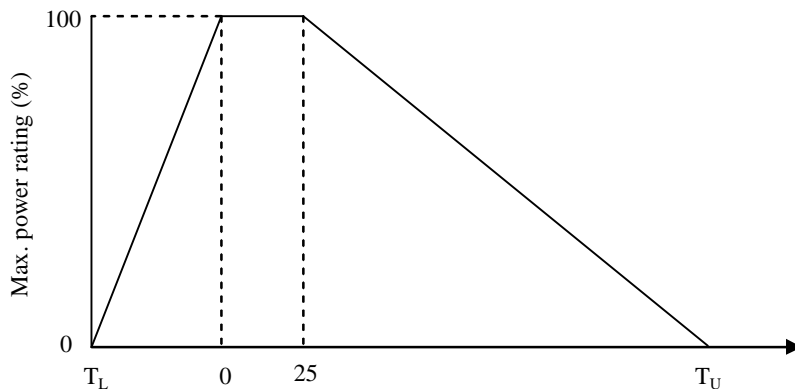
## 1. Electrical characteristics

	Parameter	Symbol	Test Conditions	Min.	Nor.	Max.	Unit.
a.	Resistance At 25°C	R <sub>25</sub>	T <sub>a</sub> =25°C±0.05°C P <sub>T</sub> ≤0.1mW	142.5	150.0	157.5	KOHM
b.	Resistance At 85°C	R <sub>85</sub>	T <sub>a</sub> =85°C±0.05°C P <sub>T</sub> ≤0.1mW	-----	11.773	-----	KOHM
c.	R <sub>25</sub> /R <sub>85</sub>	K	-----	-----	12.741	-----	-----
d.	B Constant	B <sub>25/85</sub>	(1779.707* LnK)	4393	4529	4665	K
e.	Thermal Dissipation Constant	δ	T <sub>a</sub> =25°C±0.05°C	-----	Approx.5	-----	mW/°C
f.	Thermal Time Constant	τ	T <sub>a</sub> =25°C±0.05°C	-----	Approx.11	-----	Sec
g.	Hi-Pot Test	-----	1800V AC 3 sec	-----	-----	10	mA

## 2. Maximum Ratings

	Parameter	Specification	Unit
a.	Operation Temperature Range	-20-----+125	°C
b.	Maximum Power Rating at(25°C)	150	mW

### Maximum power rating (Pmax)



Note: T<sub>L</sub> = Minimum Temp. of Operating Temp. Range (°C)

T<sub>U</sub> = Maximum Temp. of Operating Temp. Range (°C)

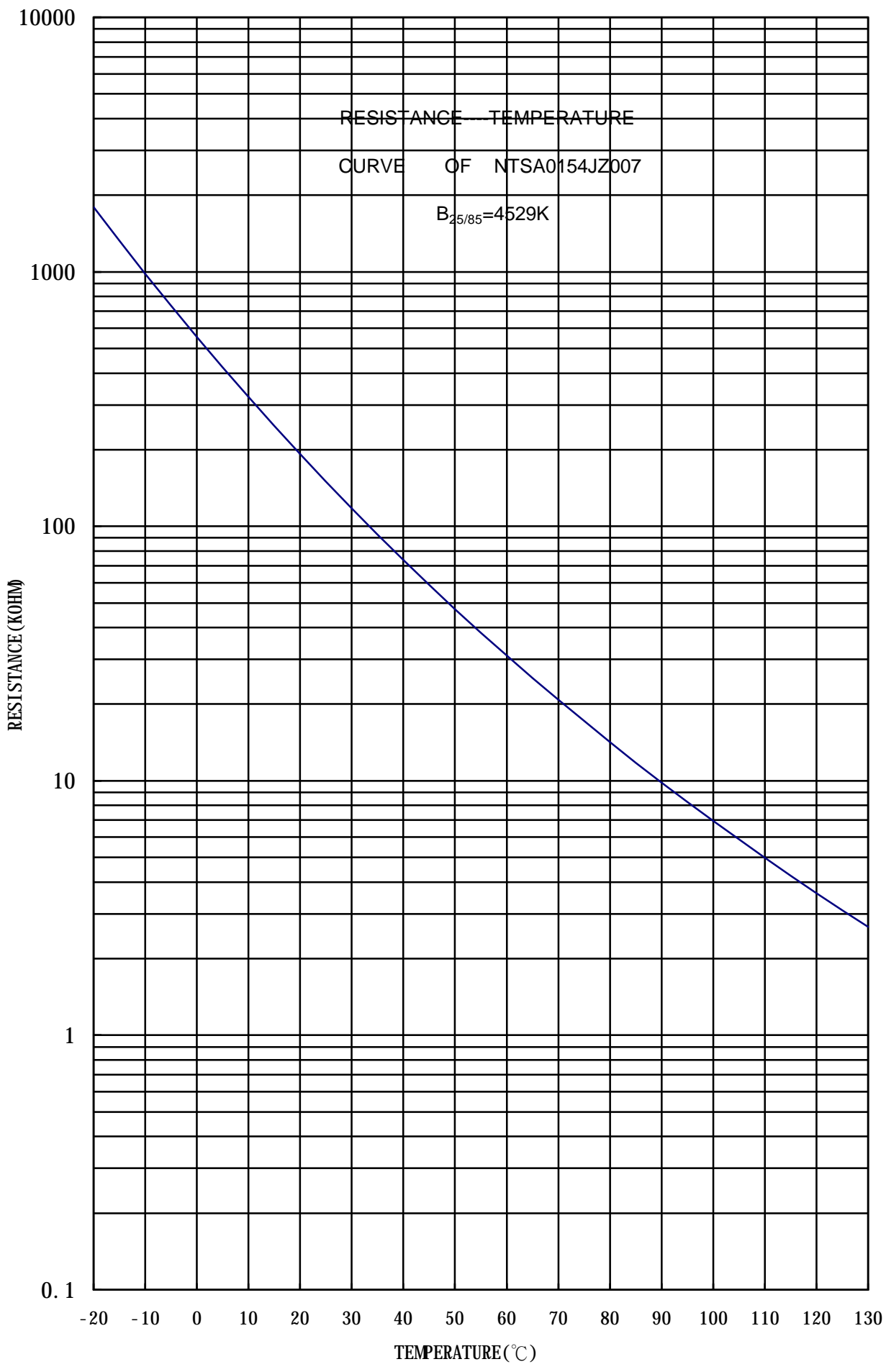
## 3. Mechanical Characteristics

### Leads Terminal Tensile Strength

Conditions	Test Result	
Fasten body with a Load Applied to each lead 2.0 kg for 5 sec.	No break out and damage	OK

## 4. Reliability Test

Item	Test Conditions	Variable
Temp. cycle test	-20°C X 30min → +25 °C X 5min X 10Cycles +125 °C X 30min → +25 °C X 5min	Within ± 5 %
Humidity test	40 °C 95 % RH X 1000 HRS	Within ± 5 %



**WELKIN ELECTRONIC INDUSTRIAL CO., LTD.**

**R-T TABLE**

Part No:NTSA0154JZ007

$R_{25^{\circ}\text{C}}=150\text{K}\Omega\pm 5\%$

$B_{25/85^{\circ}\text{C}}=4529\text{K}\pm 3\%$

<b>T</b>	<b>Rmax.</b>	<b>Rnor.</b>	<b>Rmin.</b>	<b>Temp. Tolerance</b>	
(°C)	(KΩ)	(KΩ)	(KΩ)	(°C)	
-20	2028.5427	1793.3603	1581.4806	-2.0	1.8
-19	1903.8641	1686.2491	1489.7741	-2.0	1.8
-18	1787.4689	1586.0697	1403.8443	-2.0	1.8
-17	1678.7659	1492.3392	1323.2987	-2.0	1.8
-16	1577.2091	1404.6109	1247.7733	-1.9	1.8
-15	1482.2937	1322.4709	1176.9306	-1.9	1.8
-14	1393.5532	1245.5361	1110.4575	-1.9	1.7
-13	1310.5562	1173.4514	1048.0633	-1.9	1.7
-12	1232.9032	1105.8879	989.4779	-1.9	1.7
-11	1160.2248	1042.5402	934.4506	-1.8	1.7
-10	1092.1786	983.1252	882.7483	-1.8	1.7
-9	1028.4475	927.3802	834.1544	-1.8	1.7
-8	968.7376	875.0612	788.4672	-1.8	1.6
-7	912.7763	825.9415	745.4992	-1.8	1.6
-6	860.3109	779.8107	705.0759	-1.7	1.6
-5	811.1068	736.4729	667.0347	-1.7	1.6
-4	764.9463	695.7462	631.2242	-1.7	1.6
-3	721.6271	657.4612	597.5034	-1.7	1.6
-2	680.9614	621.4605	565.7407	-1.7	1.5
-1	642.7745	587.5972	535.8135	-1.6	1.5
0	606.9043	555.7348	507.6074	-1.6	1.5
1	573.1996	525.7461	481.0155	-1.6	1.5
2	541.5201	497.5124	455.9384	-1.6	1.5
3	511.7351	470.9233	432.2828	-1.5	1.5
4	483.7228	445.8755	409.9620	-1.5	1.4
5	457.3700	422.2730	388.8945	-1.5	1.4
6	432.5709	400.0259	369.0046	-1.5	1.4
7	409.2272	379.0504	350.2212	-1.5	1.4
8	387.2471	359.2684	332.4779	-1.4	1.4
9	366.5450	340.6066	315.7126	-1.4	1.3
10	347.0410	322.9969	299.8670	-1.4	1.3
11	328.6608	306.3753	284.8869	-1.4	1.3
12	311.3346	290.6821	270.7211	-1.3	1.3
13	294.9976	275.8616	257.3220	-1.3	1.3
14	279.5891	261.8614	244.6446	-1.3	1.3
15	265.0523	248.6327	232.6472	-1.3	1.2
16	251.3342	236.1296	221.2903	-1.2	1.2
17	238.3853	224.3094	210.5370	-1.2	1.2
18	226.1592	213.1318	200.3527	-1.2	1.2
19	214.6126	202.5592	190.7049	-1.2	1.1
20	203.7048	192.5564	181.5631	-1.1	1.1

**WELKIN ELECTRONIC INDUSTRIAL CO., LTD.****R-T TABLE**

Part No:NTSA0154JZ007

 $R_{25^{\circ}\text{C}}=150\text{K}\Omega\pm 5\%$  $B_{25/85^{\circ}\text{C}}=4529\text{K}\pm 3\%$ 

<b>T</b>	<b>Rmax.</b>	<b>Rnor.</b>	<b>Rmin.</b>	<b>Temp. Tolerance</b>	
<b>(°C)</b>	<b>(KΩ)</b>	<b>(KΩ)</b>	<b>(KΩ)</b>	<b>(°C)</b>	
21	193.3979	183.0903	172.8987	-1.1	1.1
22	183.6563	174.1298	164.6847	-1.1	1.1
23	174.4466	165.6458	156.8958	-1.1	1.1
24	165.7376	157.6111	149.5084	-1.0	1.0
25	157.5000	150.0000	142.5000	-1.0	1.0
26	150.1735	142.8118	135.4715	-1.1	1.1
27	143.2238	136.0034	128.8241	-1.1	1.1
28	136.6299	129.5529	122.5354	-1.1	1.1
29	130.3718	123.4399	116.5843	-1.2	1.2
30	124.4311	117.6451	110.9512	-1.2	1.2
31	118.7900	112.1507	105.6177	-1.2	1.2
32	113.4322	106.9395	100.5665	-1.3	1.3
33	108.3421	101.9959	95.7814	-1.3	1.3
34	103.5052	97.3047	91.2471	-1.4	1.3
35	98.9077	92.8521	86.9493	-1.4	1.4
36	94.5366	88.6247	82.8748	-1.4	1.4
37	90.3799	84.6102	79.0107	-1.5	1.4
38	86.4261	80.7969	75.3455	-1.5	1.5
39	82.6642	77.1738	71.8678	-1.6	1.5
40	79.0842	73.7305	68.5674	-1.6	1.6
41	75.6765	70.4574	65.4343	-1.7	1.6
42	72.4320	67.3453	62.4594	-1.7	1.6
43	69.3420	64.3855	59.6338	-1.7	1.7
44	66.3987	61.5700	56.9496	-1.8	1.7
45	63.5944	58.8909	54.3990	-1.8	1.7
46	60.9219	56.3412	51.9746	-1.9	1.8
47	58.3744	53.9139	49.6699	-1.9	1.8
48	55.9455	51.6028	47.4782	-2.0	1.9
49	53.6292	49.4016	45.3936	-2.0	1.9
50	51.4197	47.3048	43.4103	-2.0	1.9
51	49.3118	45.3068	41.5230	-2.1	2.0
52	47.3002	43.4026	39.7267	-2.1	2.0
53	45.3801	41.5874	38.0165	-2.2	2.1
54	43.5470	39.8567	36.3879	-2.2	2.1
55	41.7965	38.2060	34.8367	-2.3	2.1
56	40.1246	36.6315	33.3588	-2.3	2.2
57	38.5274	35.1292	31.9506	-2.4	2.2
58	37.0013	33.6955	30.6083	-2.4	2.2
59	35.5427	32.3270	29.3287	-2.5	2.3
60	34.1484	31.0204	28.1085	-2.5	2.3

**WELKIN ELECTRONIC INDUSTRIAL CO., LTD.****R-T TABLE**

Part No:NTSA0154JZ007

R<sub>25°C</sub>=150KΩ±5%B<sub>25/85°C</sub>=4529K±3%

<b>T</b>	<b>Rmax.</b>	<b>Rnor.</b>	<b>Rmin.</b>	<b>Temp. Tolerance</b>	
<b>(°C)</b>	<b>(KΩ)</b>	<b>(KΩ)</b>	<b>(KΩ)</b>	<b>(°C)</b>	
61	32.8152	29.7727	26.9447	-2.5	2.4
62	31.5403	28.5809	25.8345	-2.6	2.4
63	30.3208	27.4424	24.7751	-2.6	2.5
64	29.1541	26.3544	23.7640	-2.7	2.5
65	28.0377	25.3146	22.7989	-2.7	2.5
66	26.9692	24.3206	21.8774	-2.8	2.6
67	25.9463	23.3702	20.9973	-2.8	2.6
68	24.9669	22.4613	20.1567	-2.9	2.7
69	24.0289	21.5919	19.3536	-2.9	2.7
70	23.1305	20.7601	18.5861	-3.0	2.7
71	22.2698	19.9642	17.8525	-3.0	2.8
72	21.4450	19.2024	17.1513	-3.1	2.8
73	20.6545	18.4731	16.4807	-3.1	2.9
74	19.8968	17.7748	15.8394	-3.2	2.9
75	19.1702	17.1060	15.2260	-3.2	3.0
76	18.4735	16.4655	14.6391	-3.3	3.0
77	17.8053	15.8518	14.0774	-3.3	3.0
78	17.1642	15.2638	13.5398	-3.4	3.1
79	16.5491	14.7002	13.0252	-3.5	3.1
80	15.9588	14.1599	12.5324	-3.5	3.2
81	15.3923	13.6420	12.0605	-3.6	3.2
82	14.8483	13.1452	11.6084	-3.6	3.3
83	14.3261	12.6688	11.1753	-3.7	3.3
84	13.8245	12.2118	10.7603	-3.7	3.3
85	13.3427	11.7733	10.3625	-3.8	3.4
86	12.8798	11.3525	9.9812	-3.8	3.4
87	12.4351	10.9486	9.6157	-3.9	3.5
88	12.0077	10.5608	9.2651	-3.9	3.5
89	11.5968	10.1885	8.9288	-4.0	3.6
90	11.2019	9.8310	8.6063	-4.1	3.6
91	10.8221	9.4876	8.2968	-4.1	3.7
92	10.4569	9.1576	7.9998	-4.2	3.7
93	10.1056	8.8406	7.7147	-4.2	3.8
94	9.7676	8.5360	7.4410	-4.3	3.8
95	9.4424	8.2432	7.1783	-4.3	3.8
96	9.1295	7.9617	6.9259	-4.4	3.9
97	8.8283	7.6910	6.6835	-4.4	3.9
98	8.5384	7.4308	6.4507	-4.5	4.0
99	8.2592	7.1804	6.2269	-4.6	4.0
100	7.9904	6.9396	6.0119	-4.6	4.1

