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SPECIFICATION FOR APPROVAL

CUSTOMER	RC MICRO
MODEL NO.	NTSG2103
PART NO.	NTSG2103JZ305 (RoHS)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	Mar.06.2020
REV. NO	1.1
REV. DATE	Jun.02.2020

FOR CUSTOMER APPROVAL	CHECKED BY
	Hu Feng
	APPROVED BY
	FM Chu



THINKING ELECTRONIC INDUSTRIAL CO.,LTD

CUSTOMER: RC MICRO

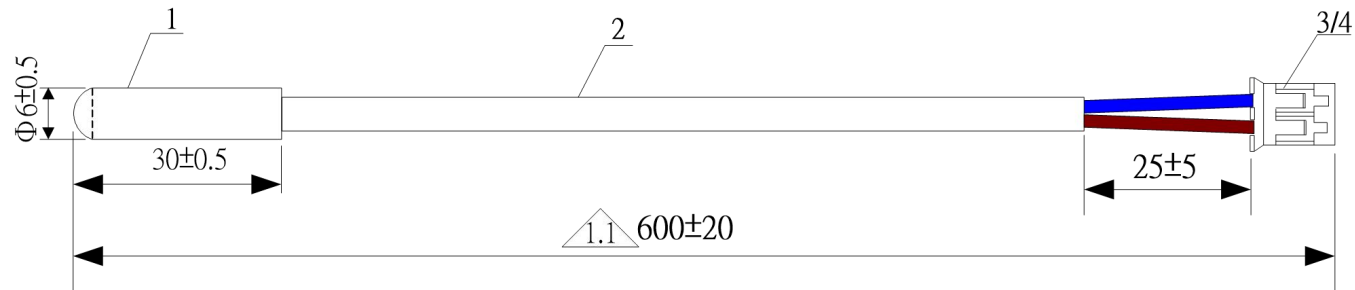
CUSTOMER P/N:

THINKING P/N: NTSG2103JZ305

REVISED RECORD SHEET

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A. Material List		
NO.	ITEM	DESCRIPTION
1	PLASTIC	Φ6*30 ABS PLASTIC (WHITE)
2	LEAD WIRE	UL2464#26 White wire(core wire:blue,brown)
3	TERMINAL	A2001T0P-2(JWT) OR I20001PS-2 (WST)
4	HOUSING	A2001H02-2P(JWT) OR P2-I20001(WST)
*	THERMISTOR	NTC Thermistor
B. Electrical Characteristic		
ITEM		VALUE
R _{25℃}		10KΩ±5%
B _{25/85}		3977K±0.75%



						Customer	RC MICRO	
						Customer P/N		
						Thinking P/N	NTSG2103JZ305	
						Drawing NO.	SG2003002	
						Date	2020/6/2	
1.1	2020/6/2	Change the total length from 1055mm to 600mm	Li Qiu Ping	Hu Feng	FM Chu	Tol: ±mm	Unit: mm	Scale:
1.0	2020/3/6	New Released	Li Qiu Ping	Hu Feng	FM Chu	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: RC MICRO

CUSTOMER P/N:

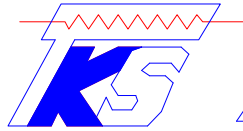
THINKING P/N: NTSG2103JZ305

NO	PART NAME	PART P/N	Q'TY	FLAMMABILITY SOLID BURNING CLASS	UL FILE NO
1	PLASTIC	Φ6*30 ABS PLASTIC (WHITE)	1		
2	LEAD WIRE	UL2464#26 White wire(core wire:blue,brown)	1		
3	TERMINAL	A2001T0P-2(JWT) OR I20001PS-2 (WST)	2		
4	HOUSING	A2001H02-2P(JWT) OR P2-I20001(WST)	1		
*	THERMISTOR	NTC Thermistor	1		
REMARK					

Approved by: FM Chu

Checked by: Hu Feng

Designed by: Li Qiu Ping



Specification of NTC Thermistor for Sensor

PART NO. : NTSG2103JZ305

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 I<0.5mA	9.5	10	10.5	KΩ
b.	B Constant	B _{25/85}	1779.707 Ln (R25/R85)	3947	3977	4007	K
c.	Thermal Dissipation Constant(in air)	δ	Ta=25°C	-----	Approx5.0	-----	mW/°C
d.	Thermal Time Constant(in water)	τ	25°C→85°C T1=25+(25-85)*63.2%=62.9°C	-----	Approx20	-----	Sec
e.	Hi-Pot Test	----	1200V AC 2sec	-----	----	10	mA
f.	Insulation test	----	DC 500 V 3 sec	MIN: 100 MΩ			

2. Maximum Ratings

	Parameter	Specification	Unit
a.	Operation Temperature Range	- 30--- +80	°C
b.	Maximum Power Rating (At 25°C)	150	mW

3. Reliability Test

Item	Test Conditions	Variable
Temp. cycle test	$\left. \begin{array}{l} -30^{\circ}\text{C} \quad 30\text{min} \rightarrow +25^{\circ}\text{C} \quad 5\text{min} \\ +80^{\circ}\text{C} \quad 30\text{min} \rightarrow +25^{\circ}\text{C} \quad 5\text{min} \end{array} \right\} \times 5\text{Cycles}$	$\Delta R / R_{25} \leq \pm 3\%$
Low temp.test	-30± 5°C X 1000±24 HRS	$\Delta R / R_{25} \leq \pm 3\%$
High temp.test	80± 5°C X 1000±24 HRS	$\Delta R / R_{25} \leq \pm 3\%$
Humidity test	60±2 °C 95 % RH 1000±24 HRS	$\Delta R / R_{25} \leq \pm 3\%$

4. Mechanical Characteristics

Leads Terminal Tensile Strength

NO	Item	Conditions	Test Result
4-1.	Tensile tests	Fasten body with a Load Applied to each lead 9.8N for 1minute.	No break out and damage
4-2.	The ground test	From height 1m drop on thickness 10mm board placed on concrete floor 5 times.	No abnormal found

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:

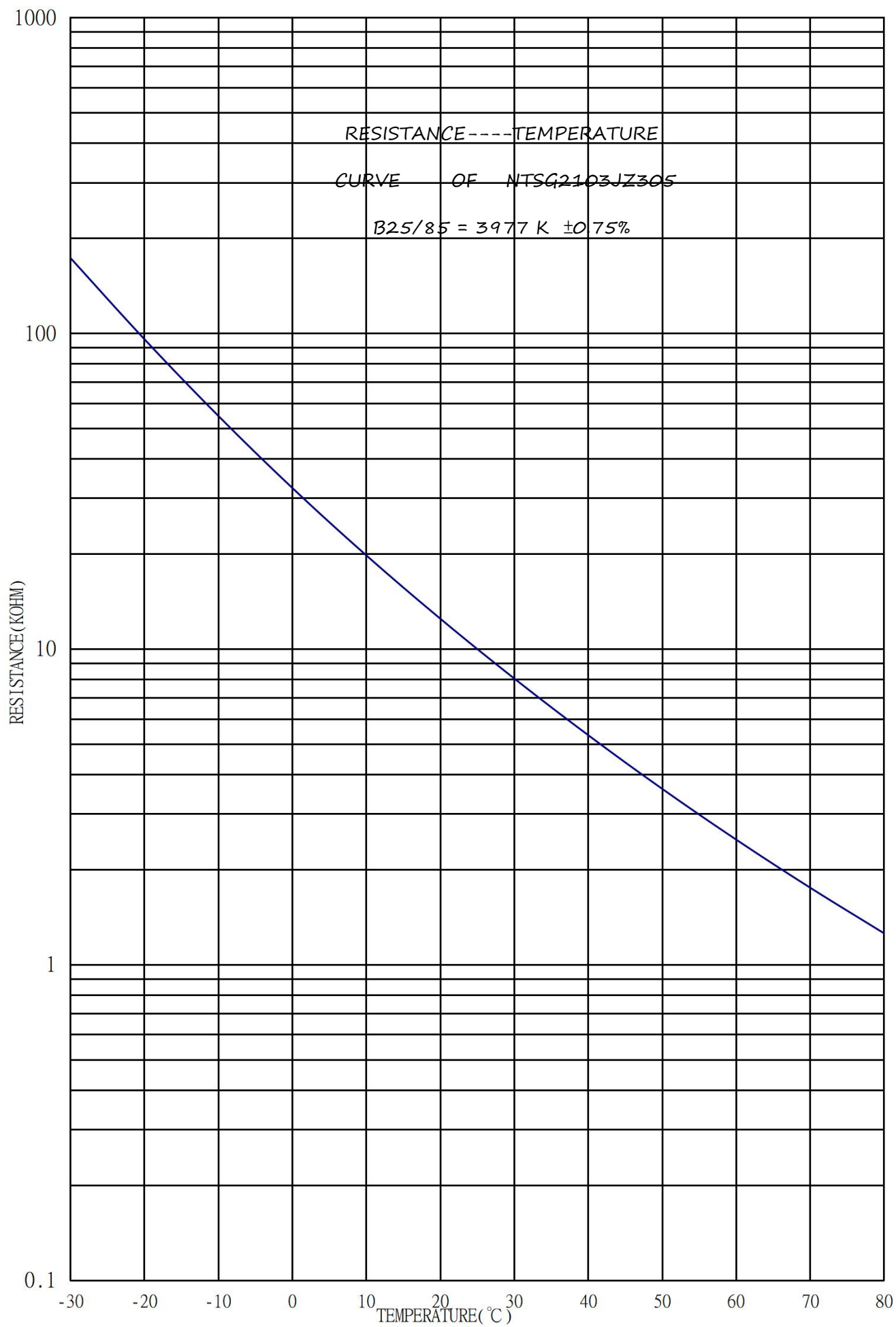
Do not store this product in corrosive gas (Sulfuric acid gas, Chlorine gas, etc.) or in direct sunlight.

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.



R - T TABLE

Part No. : NTSG2103JZ305

R25 = 10 K Ω $\pm$ 5%

B25/85 = 3977 K $\pm$ 0.75%

Temperature (°C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. (°C)	
-30	185.9448	173.3416	161.1888	-1.14	1.19
-29	174.8787	163.1001	151.7345	-1.14	1.19
-28	164.5392	153.5266	142.8930	-1.14	1.19
-27	154.8718	144.5715	134.6187	-1.14	1.19
-26	145.8270	136.1892	126.8704	-1.14	1.19
-25	137.3595	128.3384	119.6101	-1.14	1.19
-24	129.4281	120.9815	112.8034	-1.14	1.19
-23	121.9953	114.0839	106.4189	-1.14	1.19
-22	115.0266	107.6143	100.4279	-1.14	1.19
-21	108.4906	101.5437	94.8040	-1.14	1.19
-20	102.3583	95.8456	89.5229	-1.14	1.19
-19	96.6031	90.4955	84.5622	-1.14	1.19
-18	91.2003	85.4709	79.9012	-1.14	1.19
-17	86.1271	80.7508	75.5208	-1.13	1.19
-16	81.3622	76.3157	71.4032	-1.13	1.19
-15	76.8859	72.1474	67.5317	-1.13	1.19
-14	72.6798	68.2291	63.8909	-1.13	1.19
-13	68.7268	64.5450	60.4662	-1.13	1.19
-12	65.0108	61.0804	57.2442	-1.13	1.18
-11	61.5168	57.8214	54.2121	-1.13	1.18
-10	58.2307	54.7551	51.3582	-1.13	1.18
-9	55.1394	51.8694	48.6713	-1.13	1.18
-8	52.2306	49.1529	46.1409	-1.13	1.18
-7	49.4929	46.5952	43.7574	-1.13	1.19
-6	46.9153	44.1861	41.5116	-1.13	1.19
-5	44.4878	41.9163	39.3948	-1.13	1.19
-4	42.2009	39.7773	37.3991	-1.13	1.19
-3	40.0458	37.7607	35.5170	-1.13	1.19
-2	38.0142	35.8589	33.7413	-1.13	1.19
-1	36.0984	34.0648	32.0655	-1.13	1.19
0	34.2911	32.3717	30.4834	-1.13	1.19
1	32.5856	30.7734	28.9893	-1.13	1.19
2	30.9755	29.2638	27.5777	-1.13	1.19
3	29.4549	27.8377	26.2436	-1.13	1.19
4	28.0184	26.4899	24.9822	-1.13	1.19

5	26.6606	25.2156	23.7892	-1.13	1.19
6	25.3769	24.0103	22.6604	-1.13	1.19
7	24.1628	22.8698	21.5920	-1.13	1.19
8	23.0139	21.7904	20.5803	-1.13	1.19
9	21.9265	20.7682	19.6220	-1.13	1.19
10	20.8968	19.8000	18.7139	-1.13	1.19
11	19.9214	18.8826	17.8531	-1.13	1.19
12	18.9972	18.0128	17.0368	-1.13	1.19
13	18.1210	17.1881	16.2625	-1.13	1.19
14	17.2901	16.4058	15.5277	-1.13	1.19
15	16.5020	15.6634	14.8302	-1.13	1.19
16	15.7541	14.9587	14.1679	-1.13	1.19
17	15.0442	14.2895	13.5387	-1.12	1.19
18	14.3700	13.6538	12.9409	-1.12	1.19
19	13.7297	13.0498	12.3726	-1.12	1.18
20	13.1213	12.4758	11.8323	-1.12	1.18
21	12.5431	11.9300	11.3185	-1.12	1.18
22	11.9933	11.4109	10.8296	-1.12	1.18
23	11.4705	10.9171	10.3644	-1.12	1.18
24	10.9732	10.4472	9.9216	-1.12	1.18
25	10.5000	10.0000	9.5000	-1.11	1.18
26	10.0562	9.5742	9.0925	-1.13	1.19
27	9.6334	9.1687	8.7046	-1.14	1.21
28	9.2305	8.7824	8.3352	-1.16	1.22
29	8.8465	8.4144	7.9833	-1.17	1.24
30	8.4805	8.0636	7.6481	-1.18	1.25
31	8.1314	7.7292	7.3286	-1.20	1.26
32	7.7985	7.4104	7.0241	-1.21	1.28
33	7.4808	7.1064	6.7338	-1.22	1.29
34	7.1778	6.8164	6.4569	-1.24	1.31
35	6.8885	6.5396	6.1929	-1.25	1.32
36	6.6124	6.2755	5.9410	-1.27	1.34
37	6.3487	6.0234	5.7006	-1.28	1.35
38	6.0969	5.7828	5.4711	-1.30	1.37
39	5.8564	5.5529	5.2521	-1.31	1.38
40	5.6266	5.3334	5.0429	-1.33	1.40
41	5.4069	5.1237	4.8432	-1.34	1.41
42	5.1970	4.9233	4.6523	-1.35	1.43
43	4.9963	4.7318	4.4700	-1.37	1.44
44	4.8044	4.5487	4.2958	-1.38	1.46
45	4.6209	4.3736	4.1292	-1.40	1.48
46	4.4453	4.2062	3.9700	-1.41	1.49
47	4.2773	4.0461	3.8178	-1.43	1.51
48	4.1165	3.8929	3.6721	-1.45	1.52

49	3.9626	3.7462	3.5328	-1.46	1.54
50	3.8153	3.6059	3.3995	-1.48	1.55
51	3.6742	3.4716	3.2719	-1.49	1.57
52	3.5391	3.3429	3.1498	-1.51	1.59
53	3.4096	3.2198	3.0329	-1.52	1.60
54	3.2855	3.1017	2.9209	-1.54	1.62
55	3.1667	2.9887	2.8136	-1.56	1.64
56	3.0527	2.8803	2.7109	-1.57	1.65
57	2.9434	2.7764	2.6124	-1.59	1.67
58	2.8386	2.6769	2.5180	-1.60	1.69
59	2.7381	2.5814	2.4275	-1.62	1.70
60	2.6417	2.4898	2.3407	-1.64	1.72
61	2.5491	2.4019	2.2575	-1.65	1.74
62	2.4603	2.3176	2.1777	-1.67	1.76
63	2.3750	2.2367	2.1011	-1.69	1.77
64	2.2931	2.1590	2.0276	-1.70	1.79
65	2.2145	2.0844	1.9570	-1.72	1.81
66	2.1389	2.0127	1.8892	-1.74	1.82
67	2.0663	1.9439	1.8242	-1.75	1.84
68	1.9966	1.8778	1.7617	-1.77	1.86
69	1.9295	1.8143	1.7016	-1.79	1.88
70	1.8650	1.7532	1.6439	-1.80	1.89
71	1.8030	1.6945	1.5885	-1.82	1.91
72	1.7434	1.6380	1.5351	-1.84	1.93
73	1.6860	1.5837	1.4839	-1.85	1.95
74	1.6308	1.5315	1.4346	-1.87	1.96
75	1.5777	1.4812	1.3871	-1.89	1.98
76	1.5265	1.4328	1.3415	-1.90	2.00
77	1.4773	1.3862	1.2975	-1.92	2.02
78	1.4298	1.3414	1.2553	-1.94	2.03
79	1.3842	1.2982	1.2146	-1.95	2.05
80	1.3401	1.2566	1.1754	-1.97	2.07