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**SPECIFICATION FOR APPROVAL**

CUSTOMER	Blume-Newmatik-IVRA
CERTIFIED	
MODEL/TYPE	TTC03-103
PART NO.	TTC3A103J3933EY1(RoHS+HF)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	Feb.01.2024
REV. NO.	
REV. DATE	

FOR CUSTOMER APPROVAL	CHECKED BY
	<i>Haili Gong</i>
	APPROVED BY
	<i>Huaifang Zhang</i>





NTC Thermistor TTC 03 Type
Part No.: TTC3A103J3933EY1

REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT



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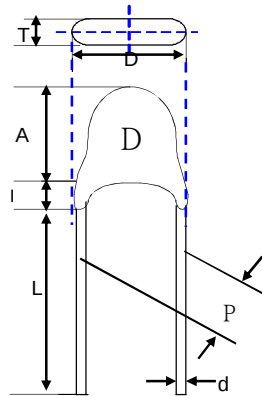
Part Number Code

Example :

TTC **3** **A** **103** **J** **393** **3** **E** **Y1**
(1) **(2)** **(3)** **(4)** **(5)** **(6)** **(7)** **(8)** **(9)**

No.	Item	Digit	Specification
(1)	Product Type	TTC	Thinking NTC thermistor TTC type
(2)	Body Size	3	φ4 mm x H 5.0 mm (max.)
(3)	Definition of B Value	A	Refer to "Optional Suffix"
(4)	Zero Power Resistance at 25°C	103	$10 \times 10^3 \Omega = 10 \text{ K}\Omega$
(5)	Tolerance of $R_{25^\circ\text{C}}$	J	± 5%
(6)	B Value	393	Refer to "Optional Suffix"
(7)	Tolerance of B Value	3	Refer to "Optional Suffix"
(8)	Appearance	E	Straight lead epoxy coating (Green)
(9)	Optional Suffix	Y1	RoHS+HF compliance B25/100:3950K±3%

Structure and Dimensions



(unit:mm)

Item	D	d	P	A	L	T	I
Max	4	0.52	3.04	5	40	3	3
Min	2.5	0.48	2.04	2.5	30	1.5	---

Electrical Characteristics

Part No.	Zero Power Resistance at 25°C	Tolerance of R _{25°C}	B _{25/100} Value	Tolerance of B Value	Max. Power Rating at 25°C	Dissipation Factor	Thermal Time Constant	Operating Temperature Range
	R _{25°C} (KΩ)	(± %)	(K)	(± %)	P _{max} (mW)	δ(mW/°C)	τ (sec.)	T _L ~T _U (°C)
TTC3A103J3933EY1	10	5	3950	3	150	≥2.5	≤18	-40 ~+125

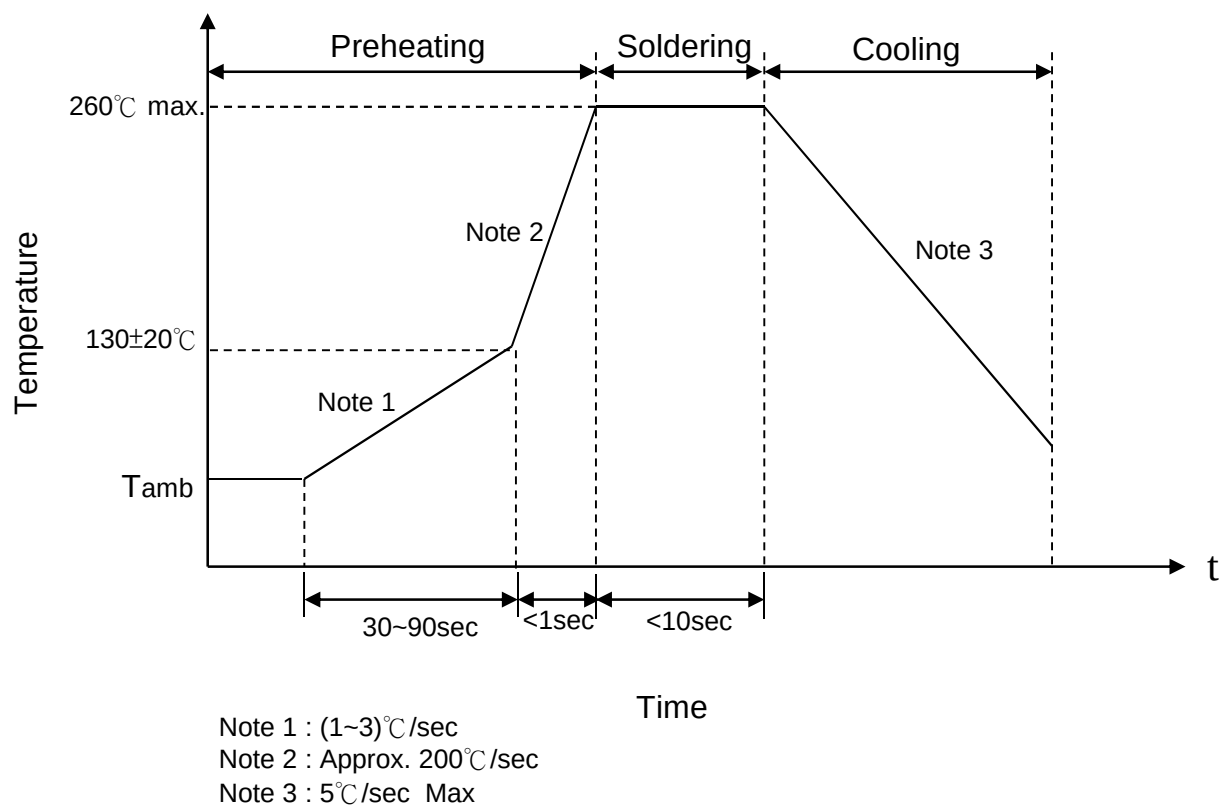


Reliability

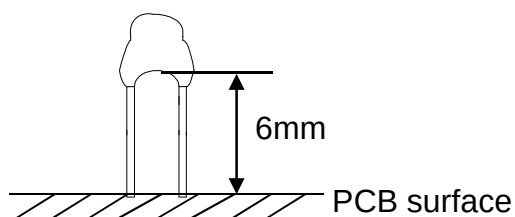
Item	Standard	Test conditions / Methods	Specifications															
Tensile Strength of Terminals	IEC60068-2-21	Gradually applying the force specified and keeping the unit fixed for 10±1 sec. <table><tr><td>Terminal diameter (mm)</td><td>Force (Kg)</td></tr><tr><td>0.3<d≤0.5</td><td>0.5</td></tr><tr><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	IEC60068-2-21	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><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>0.50</td></tr></table>	Terminal diameter (mm)	Force (Kg)	0.3<d≤0.5	0.25	0.5<d≤0.8	0.50	No visible damage									
Terminal diameter (mm)	Force (Kg)																	
0.3<d≤0.5	0.25																	
0.5<d≤0.8	0.50																	
Solderability	IEC60068-2-20	245 ± 3 °C , 3 ± 0.3 sec	At least 95% of terminal electrode is covered by new solder															
Resistance to Soldering Heat	IEC60068-2-20	260 ± 3 °C , 10 ± 1 sec	No visible damage ΔR ₂₅ /R ₂₅ ≤ 3 %															
High Temperature Storage	IEC60068-2-2	125 ± 5 °C , 1000 ± 24 hrs	No visible damage ΔR ₂₅ /R ₂₅ ≤ 5 %															
Damp Heat, Steady State	IEC 60068-2-78	40 ± 2 °C , 9 0 ~ 95 % RH , 1000 ± 24 hrs	No visible damage ΔR ₂₅ /R ₂₅ ≤ 3 %															
Rapid Change of Temperature	IEC60068-2-14	The conditions shown below shall be repeated 5 cycles <table><tr><td>Step</td><td>Temperature (°C)</td><td>Period (minutes)</td></tr><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></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 ΔR ₂₅ /R ₂₅ ≤ 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																
Max. Power Dissipation	IEC60539-1 4.26.3	25 ± 5 °C , Pmax. , 1000 ±24 hrs	No visible damage ΔR ₂₅ /R ₂₅ ≤ 5 %															
Dissipation Factor (δ)	Specifcation	Dissipation factor is ration of thermistor's temperature change caused by its dissipation power under specific ambienttemperature. which stands for dissipation power for thermistor's increase of 1°C. δ =V*I / T2-T1(mW/°C)	≥ 2.5mW/°C															
Thermal Time Constant(τ)	Specifcation	The thermal time constant is a 63.2% change of thermistor's body temperature from its initial temperature (T0) tospecific temperature (T1) under zero-power conditions.	≤ 18Sec															

Soldering Recommendation

Wave Soldering Profile



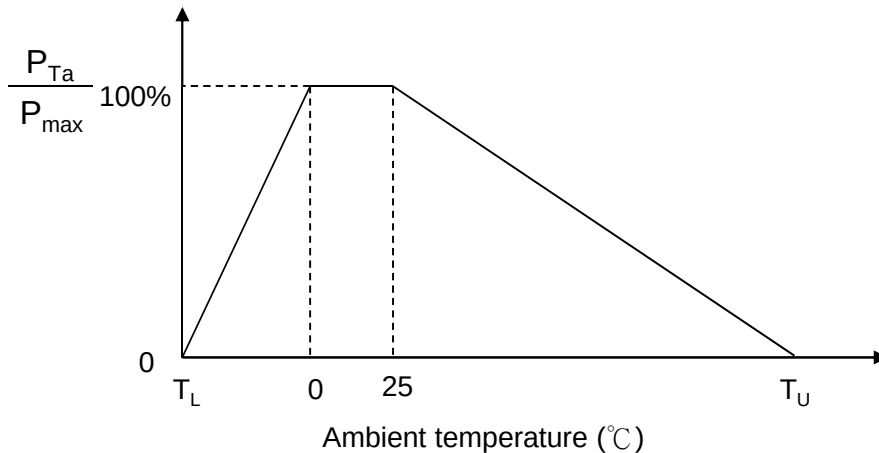
Caution: It is better to keep the minimum distance as 6mm between the bottom of the thermistor body and PCB surface to prevent component damage.



Recommended Reworking Conditions with Soldering Iron

Item	Conditions
Temperature of Soldering Iron-tip	360°C (max.)
Soldering Time	3 sec (max.)
Distance from Thermistor	6 mm (min.)

Max. Power Dissipation 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)= 125°C

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

RoHS Compliant Declaration

We hereby declare that the components delivered to your company are compliant with RoHS directive 2015/863/EU.

Restriction of Weapon and Military End-Use

Thinking has established and implemented the fundamental policy on none of our product should be used or sold, through any channels, for use in the design, development, production, utilization, maintenance or operation of, or otherwise contribution to any weapons (Weapons of Mass Destruction [nuclear, chemical or biological weapons or missiles] or conventional weapons) or goods or systems specially designed or intended for military end-use or utilization by military end-users.

Warehouse Storage Conditions of Products

(I) Storage Conditions :

- 1.Storage Temperature : -10°C ~+40°C
- 2.Relative Humidity : $\leq 75\%RH$ (not dewing condition)
- 3.Keep away from corrosive atmosphere and sunlight

(II) Period of Storage : 1 year

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 2mm 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.

Storage place condition

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.
10. This series is manufactured and promoted for applying in general electronics devices such as audio-video equipment, home electric appliance, office automation equipment, communication equipment, power module, LED lighting, measurement hardware, machine accessory, etc.
11. This series cannot be applied in area like automotive product, military, aerospace, etc. except general electronic device. Thinking shall not be held liable for any malfunction or breakdown caused by using product in the condition which is inconsistent with that recommended by Thinking.

Safety Approvals (Certified Model/Type : TTC03-103)



* UL 1434 / cUL recognized (File # E138827)



* CQC GB/T 6663.1-2007 recognized (File# CQC04001011945)

* CQC GB6663-86 recognized (File# CQC04001011966)



* TÜV recognized (File # R 50050155)

Certificates

(1) IATF 16949 certificate

(2) ISO 9001 certificate

Test Report

(1) RoHS test report

(2) Halogen-free test report

R - T Table

Part No. : TTC3A103J3933EY1

R25=10KOhm $\pm$ 5%

B25/100 = 3950 K $\pm$ 3%

Temperature (°C)	Rmax. (KΩ)	Rnor. (KΩ)	Rmin. (KΩ)	Temperature Tol. (°C)		Resistance Tol. (%)	
-40	364.386	312.973	268.142	-2.56	2.34	16.4%	-14.3%
-39	341.435	293.817	252.208	-2.49	2.30	16.2%	-14.2%
-38	319.791	275.717	237.123	-2.44	2.27	16.0%	-14.0%
-37	299.512	258.726	222.935	-2.40	2.25	15.8%	-13.8%
-36	280.585	242.837	209.643	-2.38	2.24	15.5%	-13.7%
-35	262.959	228.013	197.217	-2.36	2.23	15.3%	-13.5%
-34	246.560	214.195	185.613	-2.34	2.22	15.1%	-13.3%
-33	231.304	201.315	174.777	-2.33	2.21	14.9%	-13.2%
-32	217.105	189.307	164.655	-2.31	2.20	14.7%	-13.0%
-31	203.881	178.102	155.193	-2.30	2.19	14.5%	-12.9%
-30	191.555	167.638	146.341	-2.29	2.18	14.3%	-12.7%
-29	180.054	157.858	138.051	-2.27	2.16	14.1%	-12.5%
-28	169.314	148.707	130.283	-2.25	2.15	13.9%	-12.4%
-27	159.275	140.140	122.995	-2.23	2.14	13.7%	-12.2%
-26	149.886	132.112	116.155	-2.21	2.12	13.5%	-12.1%
-25	141.097	124.585	109.730	-2.19	2.10	13.3%	-11.9%
-24	132.867	117.523	103.692	-2.17	2.09	13.1%	-11.8%
-23	125.156	110.896	98.0146	-2.15	2.07	12.9%	-11.6%
-22	117.929	104.673	92.6751	-2.13	2.05	12.7%	-11.5%
-21	111.152	98.8286	87.6516	-2.11	2.04	12.5%	-11.3%
-20	104.798	93.3383	82.9243	-2.09	2.02	12.3%	-11.2%
-19	98.8367	88.1795	78.4748	-2.07	2.00	12.1%	-11.0%
-18	93.2442	83.3313	74.2861	-2.04	1.98	11.9%	-10.9%
-17	87.9966	78.7744	70.3424	-2.02	1.97	11.7%	-10.7%
-16	83.0716	74.4904	66.6286	-2.00	1.95	11.5%	-10.6%
-15	78.4487	70.4625	63.1310	-1.98	1.94	11.3%	-10.4%
-14	74.1087	66.6747	59.8364	-1.96	1.92	11.1%	-10.3%
-13	70.0334	63.1121	56.7326	-1.94	1.90	11.0%	-10.1%
-12	66.2059	59.7606	53.8079	-1.92	1.89	10.8%	-10.0%
-11	62.6103	56.6070	51.0514	-1.90	1.87	10.6%	-9.8%
-10	59.2318	53.6391	48.4530	-1.88	1.86	10.4%	-9.7%
-9	56.0564	50.8450	46.0028	-1.87	1.84	10.2%	-9.5%
-8	53.0710	48.2139	43.6919	-1.85	1.82	10.1%	-9.4%
-7	50.2633	45.7356	41.5117	-1.83	1.81	9.9%	-9.2%
-6	47.6220	43.4004	39.4541	-1.81	1.79	9.7%	-9.1%
-5	45.1363	41.1993	37.5117	-1.79	1.78	9.6%	-9.0%
-4	42.7962	39.1239	35.6774	-1.77	1.76	9.4%	-8.8%
-3	40.5923	37.1663	33.9444	-1.75	1.74	9.2%	-8.7%
-2	38.5159	35.3191	32.3068	-1.73	1.73	9.1%	-8.5%
-1	36.5588	33.5754	30.7585	-1.71	1.71	8.9%	-8.4%

R - T Table

Part No. : TTC3A103J3933EY1

R25=10KOhm $\pm 5\%$ B25/100 = 3950 K $\pm 3\%$

Temperature (°C)	Rmax. (KΩ)	Rnor. (KΩ)	Rmin. (KΩ)	Temperature Tol. (°C)		Resistance Tol. (%)	
0	34.7134	31.9288	29.2941	-1.69	1.69	8.7%	-8.3%
1	32.9727	30.3732	27.9087	-1.67	1.68	8.6%	-8.1%
2	31.3301	28.9030	26.5974	-1.65	1.66	8.4%	-8.0%
3	29.7793	27.5130	25.3557	-1.63	1.64	8.2%	-7.8%
4	28.3146	26.1983	24.1795	-1.61	1.62	8.1%	-7.7%
5	26.9307	24.9542	23.0650	-1.59	1.60	7.9%	-7.6%
6	25.6226	23.7766	22.0084	-1.57	1.59	7.8%	-7.4%
7	24.3857	22.6615	21.0065	-1.55	1.57	7.6%	-7.3%
8	23.2157	21.6050	20.0559	-1.52	1.55	7.5%	-7.2%
9	22.1084	20.6039	19.1538	-1.50	1.53	7.3%	-7.0%
10	21.0602	19.6548	18.2973	-1.48	1.51	7.2%	-6.9%
11	20.0674	18.7547	17.4840	-1.46	1.49	7.0%	-6.8%
12	19.1270	17.9008	16.7112	-1.44	1.47	6.9%	-6.6%
13	18.2357	17.0904	15.9769	-1.41	1.45	6.7%	-6.5%
14	17.3908	16.3211	15.2788	-1.39	1.43	6.6%	-6.4%
15	16.5896	15.5905	14.6150	-1.37	1.41	6.4%	-6.3%
16	15.8295	14.8965	13.9835	-1.34	1.38	6.3%	-6.1%
17	15.1082	14.2371	13.3827	-1.32	1.36	6.1%	-6.0%
18	14.4236	13.6103	12.8108	-1.30	1.34	6.0%	-5.9%
19	13.7736	13.0144	12.2664	-1.27	1.32	5.8%	-5.7%
20	13.1562	12.4477	11.7479	-1.25	1.30	5.7%	-5.6%
21	12.5697	11.9086	11.2540	-1.23	1.28	5.6%	-5.5%
22	12.0124	11.3956	10.7835	-1.20	1.25	5.4%	-5.4%
23	11.4826	10.9074	10.3351	-1.18	1.23	5.3%	-5.2%
24	10.9790	10.4426	9.90759	-1.15	1.21	5.1%	-5.1%
25	10.5000	10.0000	9.50000	-1.13	1.19	5.0%	-5.0%
26	10.0704	9.57844	9.08777	-1.17	1.22	5.1%	-5.1%
27	9.66053	9.17682	8.69555	-1.20	1.26	5.3%	-5.2%
28	9.26949	8.79412	8.32227	-1.24	1.29	5.4%	-5.4%
29	8.89630	8.42935	7.96694	-1.28	1.33	5.5%	-5.5%
30	8.54007	8.08160	7.62861	-1.32	1.37	5.7%	-5.6%
31	8.19996	7.74999	7.30641	-1.36	1.40	5.8%	-5.7%
32	7.87515	7.43372	6.99948	-1.40	1.44	5.9%	-5.8%
33	7.56491	7.13199	6.70704	-1.43	1.48	6.1%	-6.0%
34	7.26851	6.84409	6.42834	-1.47	1.51	6.2%	-6.1%
35	6.98527	6.56931	6.16267	-1.51	1.55	6.3%	-6.2%
36	6.71456	6.30700	5.90937	-1.55	1.59	6.5%	-6.3%
37	6.45576	6.05655	5.66781	-1.59	1.63	6.6%	-6.4%
38	6.20830	5.81735	5.43739	-1.63	1.66	6.7%	-6.5%
39	5.97163	5.58886	5.21755	-1.68	1.70	6.8%	-6.6%

R - T Table

Part No. : TTC3A103J3933EY1

R25=10KOhm $\pm 5\%$ B25/100 = 3950 K $\pm 3\%$

Temperature (°C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. (°C)		Resistance Tol. (%)	
40	5.74523	5.37055	5.00775	-1.72	1.74	7.0%	-6.8%
41	5.52861	5.16192	4.80750	-1.76	1.78	7.1%	-6.9%
42	5.32130	4.96249	4.61630	-1.80	1.82	7.2%	-7.0%
43	5.12287	4.77182	4.43372	-1.84	1.85	7.4%	-7.1%
44	4.93288	4.58949	4.25932	-1.88	1.89	7.5%	-7.2%
45	4.75095	4.41508	4.09271	-1.93	1.93	7.6%	-7.3%
46	4.57668	4.24823	3.93349	-1.97	1.97	7.7%	-7.4%
47	4.40973	4.08856	3.78130	-2.01	2.01	7.9%	-7.5%
48	4.24975	3.93573	3.63580	-2.05	2.05	8.0%	-7.6%
49	4.09642	3.78942	3.49666	-2.10	2.09	8.1%	-7.7%
50	3.94943	3.64931	3.36357	-2.14	2.13	8.2%	-7.8%
51	3.80848	3.51512	3.23625	-2.19	2.17	8.3%	-7.9%
52	3.67330	3.38657	3.11441	-2.23	2.21	8.5%	-8.0%
53	3.54362	3.26339	2.99780	-2.27	2.25	8.6%	-8.1%
54	3.41920	3.14532	2.88615	-2.32	2.29	8.7%	-8.2%
55	3.29979	3.03214	2.77924	-2.36	2.33	8.8%	-8.3%
56	3.18517	2.92362	2.67684	-2.41	2.37	8.9%	-8.4%
57	3.07512	2.81954	2.57874	-2.46	2.41	9.1%	-8.5%
58	2.96943	2.71969	2.48473	-2.50	2.45	9.2%	-8.6%
59	2.86792	2.62389	2.39463	-2.55	2.49	9.3%	-8.7%
60	2.77039	2.53195	2.30825	-2.59	2.53	9.4%	-8.8%
61	2.67668	2.44370	2.22543	-2.64	2.58	9.5%	-8.9%
62	2.58660	2.35897	2.14599	-2.69	2.62	9.6%	-9.0%
63	2.50001	2.27759	2.06978	-2.73	2.66	9.8%	-9.1%
64	2.41674	2.19943	1.99665	-2.78	2.70	9.9%	-9.2%
65	2.33666	2.12434	1.92648	-2.83	2.74	10.0%	-9.3%
66	2.25963	2.05218	1.85911	-2.87	2.78	10.1%	-9.4%
67	2.18552	1.98282	1.79443	-2.92	2.83	10.2%	-9.5%
68	2.11420	1.91615	1.73231	-2.97	2.87	10.3%	-9.6%
69	2.04555	1.85204	1.67264	-3.02	2.91	10.4%	-9.7%
70	1.97946	1.79038	1.61532	-3.07	2.95	10.6%	-9.8%
71	1.91582	1.73107	1.56023	-3.12	2.99	10.7%	-9.9%
72	1.85454	1.67401	1.50728	-3.16	3.04	10.8%	-10.0%
73	1.79550	1.61910	1.45639	-3.21	3.08	10.9%	-10.0%
74	1.73863	1.56626	1.40745	-3.26	3.12	11.0%	-10.1%
75	1.68382	1.51538	1.36038	-3.31	3.16	11.1%	-10.2%
76	1.63100	1.46640	1.31511	-3.36	3.21	11.2%	-10.3%
77	1.58008	1.41922	1.27156	-3.41	3.25	11.3%	-10.4%
78	1.53099	1.37379	1.22965	-3.46	3.29	11.4%	-10.5%
79	1.48365	1.33002	1.18931	-3.51	3.34	11.6%	-10.6%

R - T Table

Part No. : TTC3A103J3933EY1

R25=10KOhm $\pm 5\%$ B25/100 = 3950 K $\pm 3\%$

Temperature (°C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. (°C)		Resistance Tol. (%)	
80	1.43799	1.28784	1.15049	-3.56	3.38	11.7%	-10.7%
81	1.39395	1.24720	1.11311	-3.61	3.42	11.8%	-10.8%
82	1.35146	1.20802	1.07711	-3.66	3.47	11.9%	-10.8%
83	1.31046	1.17026	1.04245	-3.71	3.51	12.0%	-10.9%
84	1.27089	1.13385	1.00905	-3.76	3.55	12.1%	-11.0%
85	1.23269	1.09873	0.97688	-3.81	3.60	12.2%	-11.1%
86	1.19582	1.06486	0.94588	-3.87	3.64	12.3%	-11.2%
87	1.16021	1.03219	0.91600	-3.92	3.69	12.4%	-11.3%
88	1.12583	1.00067	0.88721	-3.97	3.73	12.5%	-11.3%
89	1.09262	0.97026	0.85945	-4.02	3.78	12.6%	-11.4%
90	1.06055	0.94091	0.83268	-4.08	3.82	12.7%	-11.5%
91	1.02955	0.91257	0.80686	-4.13	3.86	12.8%	-11.6%
92	0.99961	0.88522	0.78197	-4.18	3.91	12.9%	-11.7%
93	0.97067	0.85882	0.75795	-4.24	3.96	13.0%	-11.7%
94	0.94270	0.83331	0.73478	-4.29	4.00	13.1%	-11.8%
95	0.91566	0.80869	0.71242	-4.34	4.05	13.2%	-11.9%
96	0.88952	0.78490	0.69085	-4.40	4.09	13.3%	-12.0%
97	0.86425	0.76192	0.67002	-4.45	4.14	13.4%	-12.1%
98	0.83981	0.73971	0.64992	-4.51	4.19	13.5%	-12.1%
99	0.81617	0.71826	0.63051	-4.56	4.23	13.6%	-12.2%
100	0.79330	0.69752	0.61177	-4.62	4.28	13.7%	-12.3%
101	0.77118	0.67748	0.59367	-4.68	4.33	13.8%	-12.4%
102	0.74978	0.65810	0.57619	-4.73	4.37	13.9%	-12.4%
103	0.72907	0.63937	0.55930	-4.79	4.42	14.0%	-12.5%
104	0.70902	0.62125	0.54299	-4.85	4.47	14.1%	-12.6%
105	0.68962	0.60374	0.52723	-4.90	4.52	14.2%	-12.7%
106	0.67084	0.58679	0.51199	-4.96	4.56	14.3%	-12.7%
107	0.65266	0.57040	0.49727	-5.02	4.61	14.4%	-12.8%
108	0.63505	0.55455	0.48304	-5.08	4.66	14.5%	-12.9%
109	0.61801	0.53921	0.46928	-5.14	4.71	14.6%	-13.0%
110	0.60149	0.52436	0.45598	-5.20	4.76	14.7%	-13.0%
111	0.58550	0.50999	0.44311	-5.26	4.81	14.8%	-13.1%
112	0.57000	0.49608	0.43067	-5.32	4.86	14.9%	-13.2%
113	0.55499	0.48262	0.41864	-5.38	4.91	15.0%	-13.3%
114	0.54045	0.46959	0.40700	-5.44	4.96	15.1%	-13.3%
115	0.52635	0.45696	0.39573	-5.50	5.01	15.2%	-13.4%
116	0.51269	0.44474	0.38483	-5.56	5.06	15.3%	-13.5%
117	0.49944	0.43290	0.37428	-5.62	5.11	15.4%	-13.5%
118	0.48660	0.42143	0.36408	-5.68	5.16	15.5%	-13.6%
119	0.47415	0.41032	0.35419	-5.74	5.21	15.6%	-13.7%

R - T Table

Part No. : TTC3A103J3933EY1

R25=10KOhm $\pm 5\%$

$$B_{25/100} = 3950 \text{ K} \pm 3\%$$
[illegible]