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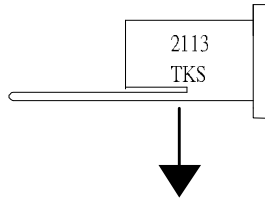
**SPECIFICATION FOR APPROVAL**

<b>CUSTOMER</b>	OZDISAN
<b>CERTIFIED MODEL/TYPE</b>	NTSF0103
<b>PART NO.</b>	NTSF0103XZ739A(RoHS)
<b>APPLICATION</b>	
<b>CUSTOMER P/N</b>	
<b>ISSUE DATE</b>	Jun.5.2015
<b>REV. NO</b>	1.0
<b>REV. DATE</b>	

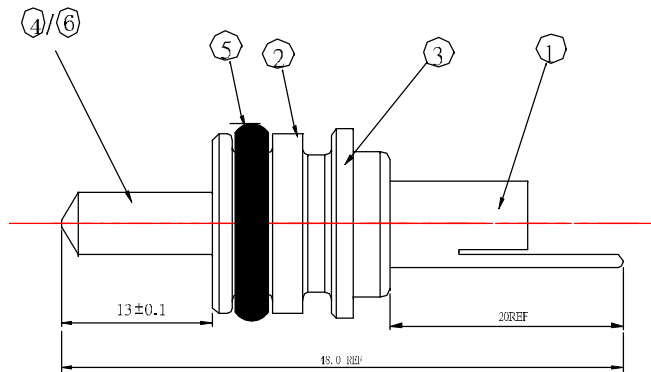
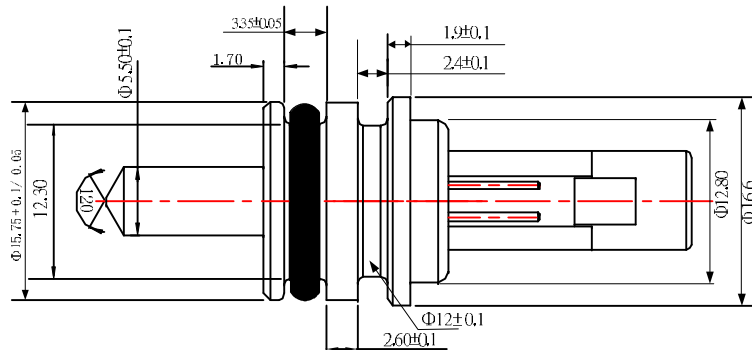
FOR CUSTOMER APPROVAL	CHECKED BY
	HuFeng
	APPROVED BY
	GuangXuLiu







Date Code 2113: 21 represents week 21 while 13 refers to year 2013



A. Material List

NO.	ITEM	DESCRIPTION
1	CONNECTOR	PA66+30% GF ( RED )
2	CAP	16.6*28.35(brass ADZ)
3	WASHER	NBR(50A±10)
4	FILLING	SILICON
5	O-RING	E8001Z59 (EPDM shore 83±5 BLACK)(11.91±0.0.19 x 2.62±0.09 ) This is compliant to Italian maker, Daimar EP856 specification.
6	TUBE	Φ2.0mm Heat shrink tube
*	ELEMENT	NTC Thermistor

B. Electrical Characteristic

ITEM	VALUE
R <sub>25°C</sub>	10KΩ±3.8%
B <sub>25/85°C</sub>	3435K±1.5%

							Customer	OZDISAN
							Customer P/N	
							Thinking P/N	NTSF0103XZ739A
							Drawing NO.	SF1305020
							Date	2015/6/5
							.= ± 0.5mm .0= ± 0.3mm .00=±0.2mm	Unit: mm Scale:
1.0	2015/6/5	NEW RELEASED		XMG Zhu	HuFeng	IM Lu	<i>THINKING ELECTRONIC INDUSTRIAL CO.,LTD</i>	
Rev.	Date	Subjects of Change	ECN.NO	Designed by	Checked by	Approved by		



THINKING ELECTRONIC INDUSTRIAL CO.,LTD

**SUBJECT: CERTIFICATION OF MATERIALS**

CUSTOMER: OZDISAN

THINKING P/N: NTSF0103XZ739A

NO	PART NAME	PART P/N	Q'TY	FLAMMABILITY SOLID BURNING CLASS	UL FILE NO
1	CONNECTOR	PA66+30% GF ( RED )	1		
2	CAP	16.6*28.35(brass ADZ )	1		
3	WASHER	NBR(50A±10)	1	VW-1	UL APPROVED
4	FILLING	SILICON			
5	O-RING	E8001Z59 (EPDM shore 83±5 BLACK)(11.91±0.0.19 x 2.62±0.09 ) This is compliant to Italian maker, Daimar EP856 specification.	1		
6	TUBE	Φ 2.0mm Heat shrink tube	1		
*	ELEMENT	NTC Thermistor	1		
REMARK					

Approved by: IM Lu

Checked by: HuFeng

Designed by: XMG Zhu

**Specification of NTC Thermistor for Temperature Measurement and Control**

**PART NO .** NTSF0103XZ739A

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

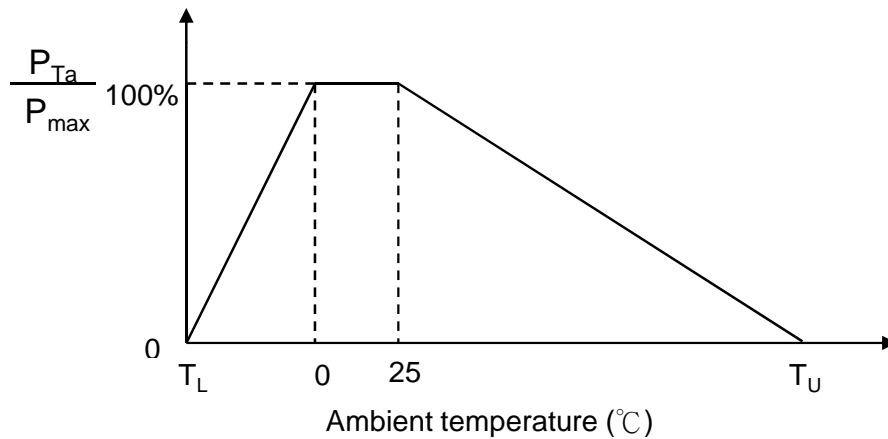
**1. Electrical characteristics**

	Parameter	Symbol	Test Conditions	Min.	Nor.	Max.	Unit.
a.	Resistance At25°C	R <sub>25</sub>	T <sub>a</sub> =25°C±0.05°C P <sub>T</sub> ≤0.1mW	9.620	10.000	10.380	KOHM
b.	B Constant	B <sub>25/85</sub>	1779.707* Ln(R25/R85)	3383	3435	3487	K
c.	Thermal Dissipation Constant(in air)	δ	T <sub>a</sub> =25°C	-----	Approx5	-----	mW/°C
d.	Thermal Time Constant(in water)	τ	25°C→85°C T1=25+(85-25)*63.2%=62.9°C	-----	-----	3	Sec
e.	Hi-Pot test	-----	2000V AC AC 2sec	-----	0.5	-----	mA

**2.Maximun Ratings**

	Parameter	Specification	Unit
a.	Operation Temperature Range	-20----- +110	°C
b.	Max. Power Dissipation at 25°C	45	m W

Max. Power Dissipation Derating Curve



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

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

**3. Reliability Test**

Item	Test Conditions	Variable
Temp. cycle test	-20°C x 30min → +25 °C x 5min +110°C x 30min → +25 °C x 5min } X 5Cycles	Within ± 3 %
Low temp.test	-20± 3°C X 1000 HRS	Within ± 3 %
High temp.test	110± 3°C X 1000 HRS	Within ± 3 %
Humidity test	40 °C 95 % RH x 1000 HRS	Within ± 3 %

## **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.

## **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:

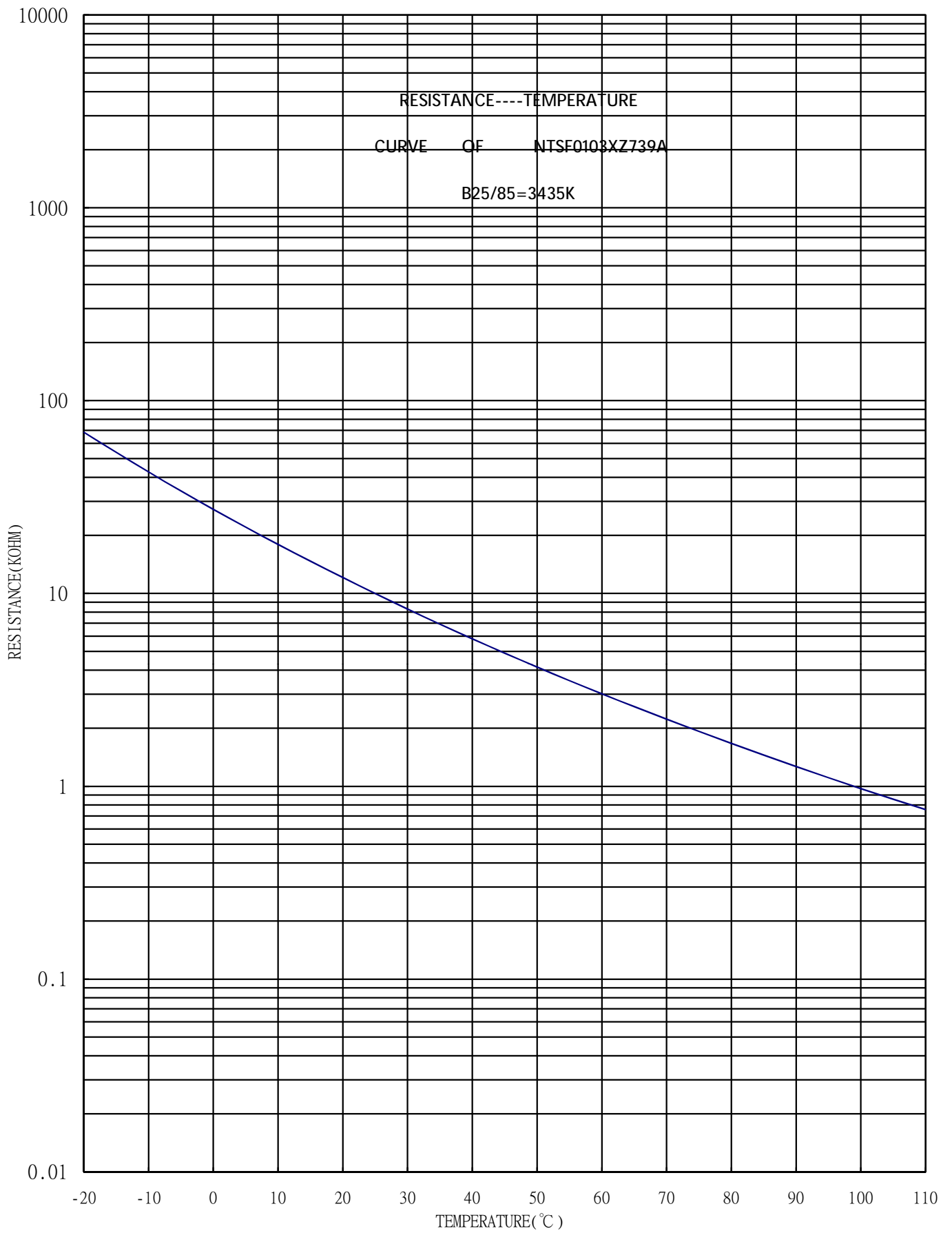
Do not store this product in corrosive gas (Sulfuric acid gas, Chlorine gas, etc.) or in direct sunlight.

## **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.





## R - T Table

Part No:NTSF0103XZ739A

R25 =10 KOhm  $\pm$ 3.8%

B25/85=3435K $\pm$ 1.5%

Temperature (°C)	Rmax. (KΩ)	Rnor. (KΩ)	Rmin. (KΩ)	Temperature Tol. (°C)	
-20	73.10	68.424	63.95	-1.36	1.37
-19	69.57	65.17	60.95	-1.35	1.37
-18	66.24	62.09	58.11	-1.35	1.36
-17	63.08	59.17	55.42	-1.34	1.36
-16	60.09	56.41	52.87	-1.33	1.35
-15	57.26	53.79	50.45	-1.33	1.34
-14	54.58	51.30	48.16	-1.32	1.34
-13	52.04	48.95	45.98	-1.31	1.33
-12	49.63	46.72	43.92	-1.30	1.32
-11	47.35	44.60	41.96	-1.30	1.32
-10	45.19	42.60	40.10	-1.29	1.31
-9	43.14	40.69	38.33	-1.28	1.31
-8	41.191	38.883	36.651	-1.28	1.30
-7	39.345	37.165	35.056	-1.27	1.29
-6	37.593	35.534	33.540	-1.26	1.29
-5	35.929	33.984	32.098	-1.25	1.28
-4	34.349	32.511	30.728	-1.25	1.27
-3	32.847	31.111	29.423	-1.24	1.27
-2	31.420	29.779	28.182	-1.23	1.26
-1	30.064	28.511	27.000	-1.22	1.25
0	28.773	27.305	25.875	-1.22	1.25
1	27.546	26.157	24.803	-1.21	1.24
2	26.377	25.064	23.781	-1.20	1.23
3	25.265	24.022	22.808	-1.19	1.22
4	24.206	23.030	21.879	-1.19	1.22
5	23.197	22.084	20.994	-1.18	1.21
6	22.235	21.182	20.149	-1.17	1.20
7	21.319	20.321	19.342	-1.16	1.19
8	20.445	19.500	18.572	-1.15	1.18
9	19.612	18.717	17.837	-1.14	1.18
10	18.817	17.969	17.135	-1.13	1.17
11	18.058	17.255	16.464	-1.12	1.16
12	17.334	16.573	15.823	-1.12	1.15
13	16.642	15.922	15.210	-1.11	1.14





### R - T Table

Part No:NTSF0103XZ739A

R25 =10 KOhm  $\pm$ 3.8%

B25/85=3435K $\pm$ 1.5%

Temperature ( $^{\circ}$ C)	Rmax. (K $\Omega$ )	Rnor. (K $\Omega$ )	Rmin. (K $\Omega$ )	Temperature Tol. ( $^{\circ}$ C)	
14	15.982	15.299	14.624	-1.10	1.13
15	15.351	14.704	14.063	-1.09	1.13
16	14.748	14.135	13.527	-1.08	1.12
17	14.172	13.590	13.014	-1.07	1.11
18	13.621	13.070	12.523	-1.06	1.10
19	13.095	12.572	12.053	-1.05	1.09
20	12.591	12.095	11.603	-1.04	1.08
21	12.109	11.639	11.171	-1.03	1.07
22	11.648	11.202	10.758	-1.02	1.06
23	11.207	10.784	10.363	-1.01	1.05
24	10.784	10.384	9.983	-1.00	1.04
25	10.380	10.000	9.620	-0.99	1.03
26	10.004	9.632	9.261	-1.01	1.05
27	9.644	9.280	8.917	-1.03	1.07
28	9.298	8.942	8.588	-1.05	1.09
29	8.966	8.619	8.273	-1.07	1.11
30	8.648	8.308	7.971	-1.09	1.14
31	8.343	8.011	7.681	-1.12	1.16
32	8.050	7.725	7.403	-1.14	1.18
33	7.769	7.451	7.137	-1.16	1.20
34	7.499	7.189	6.881	-1.18	1.22
35	7.240	6.936	6.6364	-1.20	1.24
36	6.9907	6.6944	6.4014	-1.22	1.26
37	6.7517	6.4620	6.1759	-1.25	1.28
38	6.5220	6.2389	5.9595	-1.27	1.30
39	6.3013	6.0246	5.7518	-1.29	1.33
40	6.0892	5.8188	5.5524	-1.31	1.35
41	5.8853	5.6210	5.3609	-1.34	1.37
42	5.6893	5.4310	5.1770	-1.36	1.39
43	5.5008	5.2485	5.0004	-1.38	1.41
44	5.3196	5.0729	4.8307	-1.41	1.44
45	5.1453	4.9042	4.6677	-1.43	1.46
46	4.9775	4.7420	4.5110	-1.45	1.48
47	4.8162	4.5859	4.3604	-1.48	1.50



## R - T Table

Part No:NTSF0103XZ739A

R25 =10 KOhm  $\pm$ 3.8%

B25/85=3435K $\pm$ 1.5%

Temperature (°C)	Rmax. (K $\Omega$ )	Rnor. (K $\Omega$ )	Rmin. (K $\Omega$ )	Temperature Tol. (°C)	
48	4.6609	4.4358	4.2155	-1.50	1.53
49	4.5114	4.2914	4.0763	-1.52	1.55
50	4.3674	4.1524	3.9423	-1.55	1.57
51	4.2288	4.0187	3.8135	-1.57	1.59
52	4.0954	3.8899	3.6895	-1.60	1.62
53	3.9668	3.7660	3.5702	-1.62	1.64
54	3.8429	3.6466	3.4553	-1.64	1.66
55	3.7235	3.5316	3.3448	-1.67	1.69
56	3.6084	3.4209	3.2383	-1.69	1.71
57	3.4975	3.3141	3.1358	-1.72	1.73
58	3.3906	3.2113	3.0370	-1.74	1.76
59	3.2874	3.1121	2.9419	-1.77	1.78
60	3.1879	3.0165	2.8502	-1.79	1.80
61	3.0920	2.9243	2.7618	-1.82	1.83
62	2.9993	2.8354	2.6766	-1.84	1.85
63	2.9100	2.7497	2.5944	-1.87	1.88
64	2.8237	2.6669	2.5152	-1.89	1.90
65	2.7404	2.5870	2.4388	-1.92	1.92
66	2.6599	2.5100	2.3650	-1.95	1.95
67	2.5822	2.4355	2.2939	-1.97	1.97
68	2.5072	2.3637	2.2252	-2.00	2.00
69	2.4347	2.2943	2.1589	-2.02	2.02
70	2.3646	2.2273	2.0949	-2.05	2.04
71	2.2968	2.1625	2.0331	-2.07	2.07
72	2.2314	2.0999	1.9734	-2.10	2.09
73	2.1681	2.0395	1.9157	-2.13	2.12
74	2.1068	1.9810	1.8600	-2.15	2.14
75	2.0476	1.9245	1.8062	-2.18	2.17
76	1.9903	1.8698	1.7541	-2.20	2.19
77	1.9349	1.8170	1.7038	-2.23	2.21
78	1.8813	1.7659	1.6552	-2.26	2.24
79	1.8294	1.7164	1.6081	-2.28	2.26
80	1.7791	1.6686	1.5626	-2.31	2.29
81	1.7305	1.6222	1.5186	-2.34	2.31



## R - T Table

Part No:NTSF0103XZ739A

R25 =10 KOhm  $\pm$ 3.8%

B25/85=3435K $\pm$ 1.5%

Temperature (°C)	Rmax. (K $\Omega$ )	Rnor. (K $\Omega$ )	Rmin. (K $\Omega$ )	Temperature Tol. (°C)	
82	1.6834	1.5774	1.4760	-2.36	2.34
83	1.6377	1.5340	1.4348	-2.39	2.36
84	1.5936	1.4920	1.3949	-2.42	2.39
85	1.5508	1.4513	1.3564	-2.44	2.41
86	1.5093	1.4120	1.3190	-2.47	2.44
87	1.4691	1.3738	1.2828	-2.50	2.46
88	1.4302	1.3368	1.2478	-2.53	2.49
89	1.3924	1.3010	1.2139	-2.55	2.51
90	1.3558	1.2663	1.1810	-2.58	2.54
91	1.3204	1.2327	1.1492	-2.61	2.56
92	1.2860	1.2001	1.1184	-2.64	2.59
93	1.2527	1.1686	1.0885	-2.66	2.61
94	1.2203	1.1379	1.0596	-2.69	2.64
95	1.1890	1.1083	1.0315	-2.72	2.67
96	1.1586	1.0795	1.0044	-2.75	2.69
97	1.1291	1.0516	0.97803	-2.78	2.72
98	1.1005	1.02455	0.95250	-2.81	2.75
99	1.07269	0.99831	0.92775	-2.84	2.77
100	1.04575	0.97287	0.90375	-2.86	2.80
101	1.01962	0.94819	0.88049	-2.89	2.83
102	0.99426	0.92425	0.85793	-2.92	2.86
103	0.96965	0.90103	0.83605	-2.96	2.88
104	0.94576	0.87850	0.81484	-2.99	2.91
105	0.92259	0.85665	0.79427	-3.02	2.94
106	0.90009	0.83544	0.77432	-3.05	2.97
107	0.87825	0.81487	0.75497	-3.08	3.00
108	0.85705	0.79491	0.73620	-3.11	3.03
109	0.83648	0.77554	0.71799	-3.15	3.06
110	0.81651	0.75674	0.70034	-3.18	3.09