



THINKING ELECTRONIC INDUSTRIAL CO., LTD.

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SPECIFICATION FOR APPROVAL

CUSTOMER	Ozdisan
CERTIFIED	
MODEL/TYPE	NTS(Q)482
PART NO.	NTSF0482XZ023(RoHS)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	Aug.5.2025
REV. NO.	1.0
REV. DATE	

FOR CUSTOMER APPROVAL	CHECKED BY
	Hu Feng
	APPROVED BY
	Hu Feng



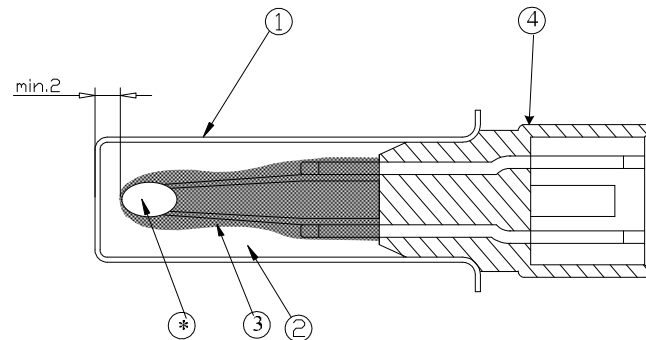
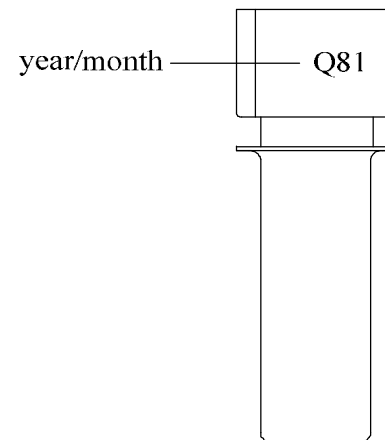
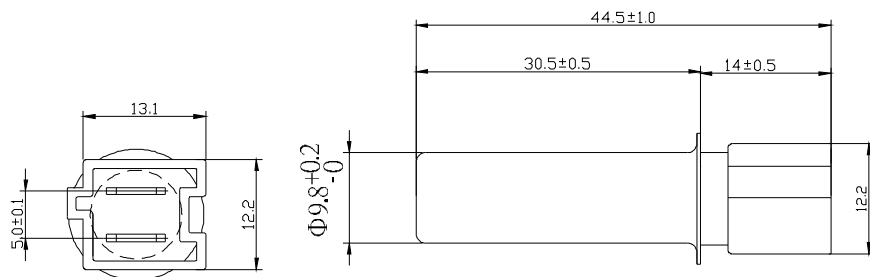
THINKING ELECTRONIC INDUSTRIAL CO., LTD.

CUSTOMER: Ozdisan

THINKING P/N: NTSF0482XZ023

REVISED RECORD SHEET

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A. Material List

NO.	ITEM	DESCRIPTION
*	THERMISTOR	NTC Thermistor
※ 1	CAP	$\Phi 9.8 \times 30.5$ mm Steel Sleeve(304L)
2	RESIN	FILLING EPOXY(BLACK)
※ 3	RESIN	COATING EPOXY (BLACK)
※ 4	PLUG	RAST 5.0(WHITE)

B. Electrical Characteristic

ITEM	VALUE
R63°C	1.082K $\Omega \pm 2\%$
B _{25/100} °C	3980K $\pm 1.5\%$

Date code: "Q81"
Q--Year of production
2010 to 2029 using A to U
8--Month of production
Jan to Sep using 1 to 9
Oct to Dec using x,y and z
1--Date of production
1 to 9 using 1 to 9
after 10 to 31 using A to W
without I

							Customer	Ozdisan
							Customer P/N	
							Thinking P/N	NTSF0482XZ023
							Drawing NO.	SF2508007
							Date	2025/8/5
							Tol: ± 0.3 mm	Unit: mm Scale:
1.0	2025/8/5	New released		ZhouShaoXing	Hu Feng	Hu Feng	THINKING ELECTRONIC INDUSTRIAL CO.,LTD	
Rev.	Date	Subjects of Change	ECN No.	Designed by	Checked by	Approved by		

SUBJECT: CERTIFICATION OF MATERIALS

CUSTOMER: Ozdisan

THINKING P/N: NTSF0482XZ023

NO	PART NAME	PART P/N	Q'TY	MANUFACTURER OF MATERIAL	FLAMMABILITY SOLID BURNING CLASS	UL FILE NO
*	THERMISTOR	NTC Thermistor	1	THINKING	---	---
1	CAP	Φ9.8×30.5mm Steel Sleeve(304L)	1	SOMAR	---	---
2	RESIN	FILLING EPOXY(BLACK)	----	PELNOX	---	---
3	RESIN	COATING EPOXY (BLACK)	----	XINDELI	---	---
4	PLUG	RAST 5.0(WHITE)	1	THINKING	---	---
REMARK						

Approved by: Hu Feng

Checked by: Hu Feng

Designed by: Hu Feng

Specification of NTC Thermistor for Temperature Measurement and Control

PART NO . NTSF0482XZ023

CUSTOMER P/N .

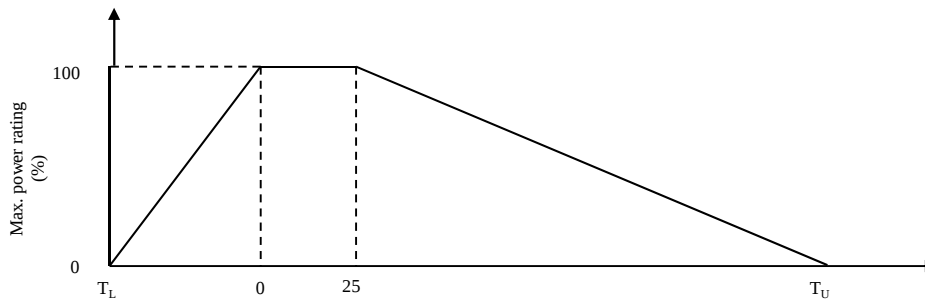
1. Electrical characteristics

	Parameter	Symbol	Test Conditions	Min.	Nor.	Max.	Unit.
a.	Resistance At 63°C	R_{63}	$T_a=63^{\circ}\text{C}\pm 0.05^{\circ}\text{C}$ $P_T\leq 0.1\text{mW}$	1.0604	1.0820	1.1036	$\text{K}\Omega$
b.	B Constant	$B_{25/100}$	$(1483.396 * \ln(R_{25}/R_{100}))$	3920	3980	4040	K
c.	Dissipation Factor	δ_{th}	$T_a=25^{\circ}\text{C}\pm 0.05^{\circ}\text{C}$ in water	-----	Approx.20	-----	mW/K
d.	Thermal Time Constant	τ_a	in water	-----	Approx.20	-----	Sec
e.	Hi-Pot Test	-----	3750V AC 1 sec	No flash-over			
f.	Insulation test	-----	DC 100V	1000	-----	-----	$\text{M}\Omega$

2.Maximum Ratings

	Parameter	Specification	Unit
a.	Operation Temperature Limit	-10----- +100	$^{\circ}\text{C}$
b.	Maximum power rating	150	m W

Max. Power Dissipation Derating Curve

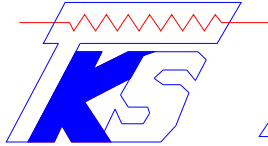


Note: T_L = Minimum Temp. of Operating Temp. Range ($^{\circ}\text{C}$)

T_U = Maximum Temp. of Operating Temp. Range ($^{\circ}\text{C}$)

3. Reliability Test

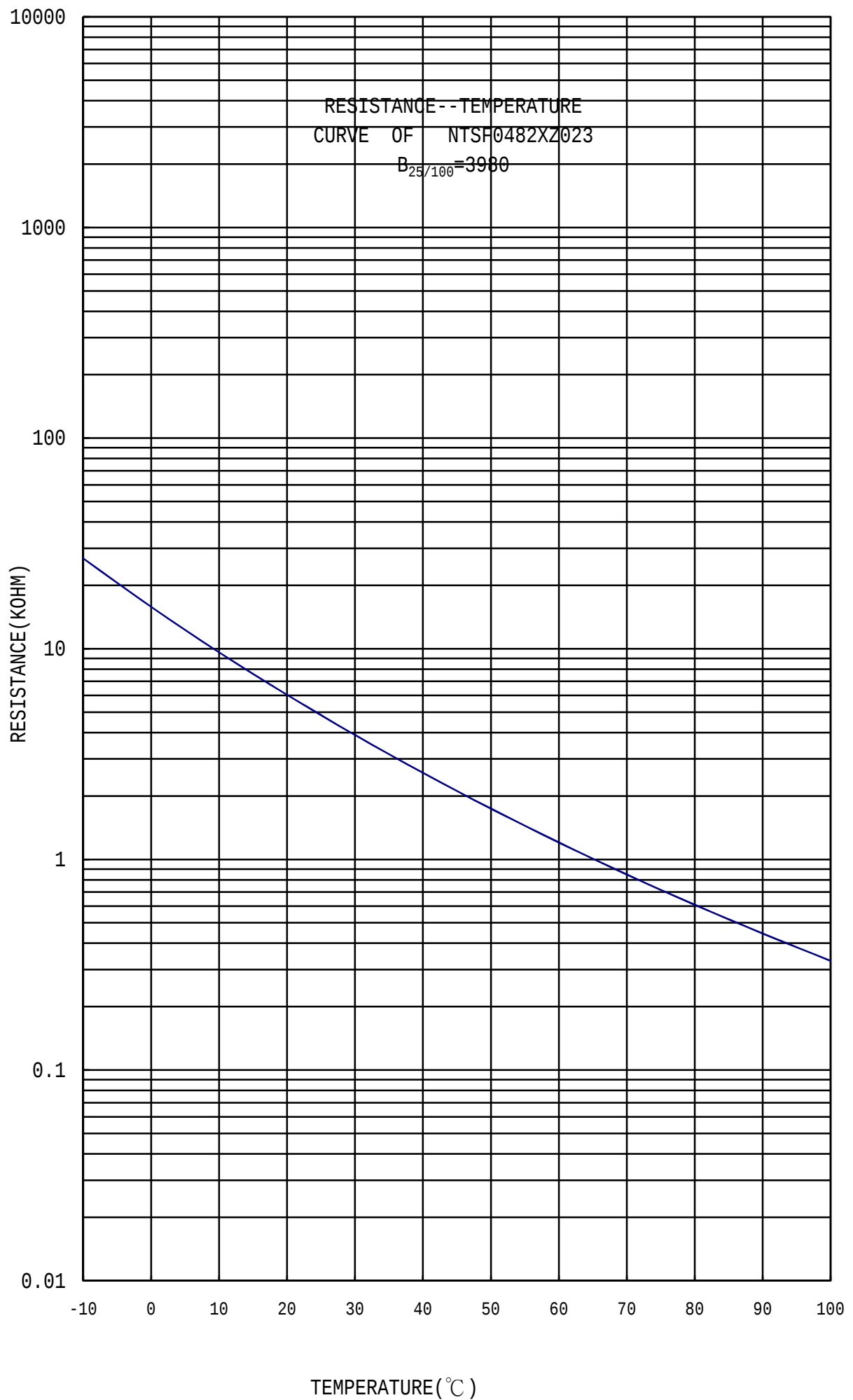
Item	Test Conditions	Variable
Temp. cycle test	$-10^{\circ}\text{C} \times 30\text{min} \rightarrow +25^{\circ}\text{C} \times 1\text{min}$ $+100^{\circ}\text{C} \times 30\text{min} \rightarrow +25^{\circ}\text{C} \times 1\text{min}$ } X 10Cycles	Within $\pm 3\%$
Low temp.test	$-10\pm 5^{\circ}\text{C} \times 1000 \text{ HRS}$	Within $\pm 3\%$
High temp.test	$100\pm 5^{\circ}\text{C} \times 1000 \text{ HRS}$	Within $\pm 3\%$
Humidity test	$60\pm 2^{\circ}\text{C} \ 90\text{-}95\% \text{ RH} \times 1000 \text{ HRS}$	Within $\pm 3\%$



Specification of NTC Thermistor for Temperature Measurement and Control

3. Reliability Test

Item	Test Conditions	$\Delta R_{25}/R_{25}$ (typical)	Remarks
Storage in dry heat	Storage at upper category temperature Temperature: 100°C duration: 1000h Standard: IEC 60068-2-2	< 2 %	No visible damage
Storage in coldness	Storage at upper category temperature Temperature: -10°C duration: 1000h Standard: IEC 60068-2-2	< 1 %	No visible damage
Storage in damp heat, steady state	Temperature of air : 40 °C Relative humidity of air: 93 % Duration: 56 days Standard: IEC 60068-2-3	< 1 %	No visible damage
Rapid change of temperature	Lower test temperature: -10 °C (time: 5 min) Upper test temperature : 100 °C (time: 5 min) Number of cycles: 10 Standard: IEC 60068-2-14	< 1 %	No visible damage
Insulation test	The sensors are placed in vessel containing metallic balls of 1 mm diameter(with total immersed head) The applied voltage is 500 V _{DC}	---	ABOVE 100MΩ
Voltage proof (insulation)	3750V _{AC} / 50Hz / 1 s		No visible damage
Robustness of terminations	Pull-out force (both connectors together) F=50N	---	No visible damage



THINKING ELECTRONIC INDUSTRIAL CO., LTD.

R-T TABLE

Part No: NTSF0482XZ023

$R_{63^{\circ}\text{C}}=1.082\text{K}\Omega\pm2\%$

$B_{25/100^{\circ}\text{C}}=3980\text{K}\pm1.5\%$

T	Rmax.	Rnor.	Rmin.	Temp. Tolerance		Resistance.Tolerance	
(°C)	(KΩ)	(KΩ)	(KΩ)	(°C)		(%)	
-10	28.7593	26.8690	25.0930	-1.3	1.2	7.03%	-6.61%
-9	27.2094	25.4419	23.7797	-1.2	1.2	6.95%	-6.53%
-8	25.7525	24.0992	22.5430	-1.2	1.2	6.86%	-6.46%
-7	24.3825	22.8356	21.3783	-1.2	1.2	6.77%	-6.38%
-6	23.0936	21.6459	20.2807	-1.2	1.2	6.69%	-6.31%
-5	21.8807	20.5253	19.2462	-1.2	1.1	6.60%	-6.23%
-4	20.7388	19.4696	18.2707	-1.2	1.1	6.52%	-6.16%
-3	19.6634	18.4745	17.3506	-1.2	1.1	6.44%	-6.08%
-2	18.6502	17.5363	16.4823	-1.2	1.1	6.35%	-6.01%
-1	17.6953	16.6514	15.6627	-1.2	1.1	6.27%	-5.94%
0	16.7951	15.8164	14.8888	-1.2	1.1	6.19%	-5.86%
1	15.9460	15.0283	14.1578	-1.2	1.1	6.11%	-5.79%
2	15.1449	14.2843	13.4671	-1.2	1.1	6.03%	-5.72%
3	14.3889	13.5814	12.8142	-1.2	1.1	5.95%	-5.65%
4	13.6751	12.9174	12.1968	-1.2	1.1	5.87%	-5.58%
5	13.0009	12.2898	11.6129	-1.1	1.1	5.79%	-5.51%
6	12.3640	11.6964	11.0604	-1.1	1.1	5.71%	-5.44%
7	11.7621	11.1352	10.5375	-1.1	1.1	5.63%	-5.37%
8	11.1931	10.6042	10.0424	-1.1	1.1	5.55%	-5.30%
9	10.6549	10.1017	9.5735	-1.1	1.1	5.48%	-5.23%
10	10.1458	9.6260	9.1292	-1.1	1.1	5.40%	-5.16%
11	9.6640	9.1755	8.7082	-1.1	1.0	5.32%	-5.09%
12	9.2079	8.7487	8.3091	-1.1	1.0	5.25%	-5.02%
13	8.7760	8.3443	7.9306	-1.1	1.0	5.17%	-4.96%
14	8.3669	7.9609	7.5716	-1.1	1.0	5.10%	-4.89%
15	7.9792	7.5974	7.2309	-1.1	1.0	5.03%	-4.82%
16	7.6118	7.2526	6.9076	-1.1	1.0	4.95%	-4.76%
17	7.2635	6.9255	6.6006	-1.0	1.0	4.88%	-4.69%
18	6.9331	6.6150	6.3090	-1.0	1.0	4.81%	-4.63%
19	6.6196	6.3203	6.0320	-1.0	1.0	4.74%	-4.56%
20	6.3221	6.0403	5.7688	-1.0	1.0	4.67%	-4.50%
21	6.0398	5.7744	5.5186	-1.0	1.0	4.59%	-4.43%
22	5.7716	5.5218	5.2807	-1.0	1.0	4.52%	-4.37%
23	5.5169	5.2816	5.0544	-1.0	1.0	4.45%	-4.30%
24	5.2749	5.0533	4.8391	-1.0	0.9	4.39%	-4.24%
25	5.0449	4.8362	4.6342	-1.0	0.9	4.32%	-4.18%
26	4.8262	4.6295	4.4391	-1.0	0.9	4.25%	-4.11%
27	4.6181	4.4328	4.2532	-1.0	0.9	4.18%	-4.05%
28	4.4201	4.2455	4.0762	-0.9	0.9	4.11%	-3.99%

THINKING ELECTRONIC INDUSTRIAL CO., LTD.

R-T TABLE

Part No: NTSF0482XZ023

$R_{63^{\circ}\text{C}}=1.082\text{K}\Omega\pm2\%$

$B_{25/100^{\circ}\text{C}}=3980\text{K}\pm1.5\%$

T	Rmax.	Rnor.	Rmin.	Temp. Tolerance		Resistance.Tolerance	
(°C)	(KΩ)	(KΩ)	(KΩ)	(°C)		(%)	
29	4.2317	4.0671	3.9074	-0.9	0.9	4.05%	-3.93%
30	4.0523	3.8972	3.7465	-0.9	0.9	3.98%	-3.87%
31	3.8814	3.7352	3.5931	-0.9	0.9	3.91%	-3.80%
32	3.7187	3.5809	3.4468	-0.9	0.9	3.85%	-3.74%
33	3.5636	3.4337	3.3073	-0.9	0.9	3.78%	-3.68%
34	3.4158	3.2934	3.1741	-0.9	0.9	3.72%	-3.62%
35	3.2750	3.1596	3.0470	-0.9	0.9	3.65%	-3.56%
36	3.1407	3.0319	2.9257	-0.9	0.8	3.59%	-3.50%
37	3.0126	2.9100	2.8098	-0.9	0.8	3.53%	-3.44%
38	2.8905	2.7937	2.6992	-0.8	0.8	3.46%	-3.38%
39	2.7739	2.6827	2.5935	-0.8	0.8	3.40%	-3.33%
40	2.6626	2.5767	2.4925	-0.8	0.8	3.33%	-3.27%
41	2.5564	2.4754	2.3960	-0.8	0.8	3.27%	-3.21%
42	2.4550	2.3786	2.3037	-0.8	0.8	3.21%	-3.15%
43	2.3582	2.2862	2.2155	-0.8	0.8	3.15%	-3.09%
44	2.2657	2.1978	2.1311	-0.8	0.8	3.09%	-3.04%
45	2.1773	2.1133	2.0503	-0.8	0.8	3.03%	-2.98%
46	2.0928	2.0325	1.9731	-0.8	0.7	2.97%	-2.92%
47	2.0121	1.9552	1.8992	-0.7	0.7	2.91%	-2.87%
48	1.9349	1.8813	1.8284	-0.7	0.7	2.85%	-2.81%
49	1.8611	1.8105	1.7607	-0.7	0.7	2.79%	-2.75%
50	1.7904	1.7428	1.6958	-0.7	0.7	2.73%	-2.70%
51	1.7228	1.6780	1.6336	-0.7	0.7	2.67%	-2.64%
52	1.6582	1.6159	1.5741	-0.7	0.7	2.62%	-2.59%
53	1.5963	1.5565	1.5170	-0.7	0.7	2.56%	-2.53%
54	1.5370	1.4995	1.4623	-0.7	0.7	2.50%	-2.48%
55	1.4803	1.4449	1.4099	-0.7	0.7	2.44%	-2.42%
56	1.4259	1.3926	1.3596	-0.6	0.6	2.39%	-2.37%
57	1.3738	1.3425	1.3114	-0.6	0.6	2.33%	-2.32%
58	1.3239	1.2945	1.2652	-0.6	0.6	2.27%	-2.26%
59	1.2761	1.2484	1.2208	-0.6	0.6	2.22%	-2.21%
60	1.2302	1.2042	1.1782	-0.6	0.6	2.16%	-2.16%
61	1.1863	1.1618	1.1373	-0.6	0.6	2.11%	-2.10%
62	1.1441	1.1211	1.0981	-0.6	0.6	2.05%	-2.05%
63	1.1036	1.0820	1.0604	-0.6	0.6	2.00%	-2.00%
64	1.0660	1.0445	1.0231	-0.6	0.6	2.05%	-2.05%
65	1.0298	1.0085	0.9873	-0.6	0.6	2.11%	-2.10%
66	0.9950	0.9739	0.9530	-0.6	0.6	2.16%	-2.15%
67	0.9616	0.9407	0.9200	-0.6	0.6	2.21%	-2.21%

THINKING ELECTRONIC INDUSTRIAL CO., LTD.

R-T TABLE

Part No: NTSF0482XZ023

$R_{63^{\circ}\text{C}} = 1.082\text{K}\Omega \pm 2\%$

$B_{25/100^{\circ}\text{C}} = 3980\text{K} \pm 1.5\%$

T	Rmax.	Rnor.	Rmin.	Temp. Tolerance		Resistance.Tolerance	
(°C)	(KΩ)	(KΩ)	(KΩ)	(°C)		(%)	
68	0.9294	0.9088	0.8883	-0.7	0.7	2.27%	-2.26%
69	0.8985	0.8782	0.8579	-0.7	0.7	2.32%	-2.31%
70	0.8688	0.8487	0.8287	-0.7	0.7	2.37%	-2.36%
71	0.8403	0.8204	0.8007	-0.7	0.7	2.42%	-2.41%
72	0.8128	0.7932	0.7737	-0.7	0.7	2.48%	-2.46%
73	0.7864	0.7670	0.7478	-0.8	0.7	2.53%	-2.50%
74	0.7609	0.7418	0.7228	-0.8	0.8	2.58%	-2.55%
75	0.7364	0.7176	0.6989	-0.8	0.8	2.63%	-2.60%
76	0.7129	0.6942	0.6758	-0.8	0.8	2.68%	-2.65%
77	0.6902	0.6718	0.6537	-0.8	0.8	2.73%	-2.70%
78	0.6683	0.6502	0.6324	-0.9	0.8	2.78%	-2.75%
79	0.6472	0.6294	0.6118	-0.9	0.9	2.83%	-2.79%
80	0.6270	0.6094	0.5921	-0.9	0.9	2.88%	-2.84%
81	0.6074	0.5901	0.5731	-0.9	0.9	2.93%	-2.89%
82	0.5886	0.5715	0.5548	-0.9	0.9	2.98%	-2.93%
83	0.5704	0.5537	0.5372	-1.0	0.9	3.03%	-2.98%
84	0.5529	0.5364	0.5202	-1.0	1.0	3.08%	-3.03%
85	0.5361	0.5198	0.5038	-1.0	1.0	3.13%	-3.07%
86	0.5198	0.5038	0.4881	-1.0	1.0	3.18%	-3.12%
87	0.5041	0.4883	0.4729	-1.0	1.0	3.22%	-3.16%
88	0.4889	0.4734	0.4583	-1.1	1.0	3.27%	-3.21%
89	0.4743	0.4591	0.4441	-1.1	1.1	3.32%	-3.25%
90	0.4602	0.4452	0.4305	-1.1	1.1	3.37%	-3.30%
91	0.4466	0.4319	0.4174	-1.1	1.1	3.41%	-3.34%
92	0.4335	0.4190	0.4048	-1.1	1.1	3.46%	-3.38%
93	0.4208	0.4065	0.3926	-1.2	1.1	3.51%	-3.43%
94	0.4085	0.3945	0.3808	-1.2	1.2	3.56%	-3.47%
95	0.3967	0.3829	0.3694	-1.2	1.2	3.60%	-3.52%
96	0.3853	0.3717	0.3585	-1.2	1.2	3.65%	-3.56%
97	0.3742	0.3609	0.3479	-1.3	1.2	3.69%	-3.60%
98	0.3635	0.3504	0.3377	-1.3	1.2	3.74%	-3.64%
99	0.3532	0.3403	0.3278	-1.3	1.3	3.79%	-3.69%
100	0.3432	0.3306	0.3183	-1.3	1.3	3.83%	-3.73%

THINKING ELECTRONIC INDUSTRIAL CO.,LTD

THINKING P/N: NTSF0482XZ023

Safety Approvals (Model No : NTS(Q)482)



* UL 1434 recognized (File # E138827)

* cUL/ IEC60730-1 Annex J.→File No. E138827

Certificates

- (1) IATF 16949 certificate
- (2) ISO 9001 certificate

Test Report

- (1) RoHS test report