



THINKING ELECTRONIC INDUSTRIAL CO., LTD.

HEAD OFFICE: 12F, No.93, Dashun 1st Rd., Zuoying Dist., Kaohsiung, Taiwan
TEL: 886-7-5577660 FAX: 886-7-5570560

MANUFACTURING SITE

- ☒ KAOHSIUNG FACTORY: No.6, Xinjian S. Rd., Nanzi Dist., Kaohsiung City 811644, Taiwan
TEL: 886-7-9616668 FAX: 886-7-3866990
- ☒ KAOHSIUNG FACTORY 2: No. 2-2, Xinjian S. Rd., N.E.P.Z., Kaohsiung City 81170, Taiwan
TEL: 886-7-9630001 FAX: 886-7-3635113
- ☒ CHANGZHOU FACTORY: No.6 Longmen Rd., Wujin High & New-Tech Industrial
Development Zone, Changzhou, Jiangsu, China 213161
TEL: 86-519-86578999 FAX: 86-519-86558643
- ☒ DONG GUAN FACTORY: No.45, East Rd., Sha-Tao Dist., Chang-An Town,
Dongguan City, Guangdong, China 523863
TEL: 86-769-85542016 FAX: 86-769-85546890
- ☒ YICHANG FACTORY: No. 283 Xiaoting Avenue, Xiaoting Dist., Yichang
City 443007, Hubei, China
TEL: 86-717-6510010 FAX: 86-717-6511430
- ☐ JIANGXI FACTORY: Tangying Road, Ceramics Industry Garden, Jingdezhen City,
Jiangxi, China 333400
TEL: 86-798-2621372 FAX: 86-798-2126372

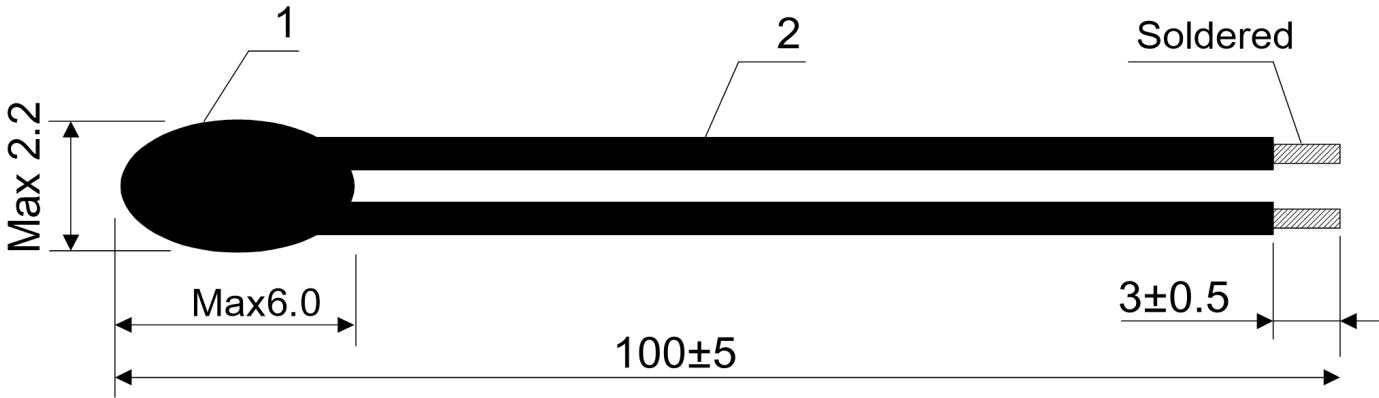


SPECIFICATION FOR APPROVAL

CUSTOMER	Blume-FSM AG
CERTIFIED	
MODEL/TYPE	NTS(Q)103
PART NO.	NTSE0103JZJ79(RoHS)
APPLICATION	
CUSTOMER P/N	
ISSUE DATE	Sep.09.2025
REV. NO.	1.0
REV. DATE	

FOR CUSTOMER APPROVAL	CHECKED BY
	<i>Hu Feng</i>
	APPROVED BY
	<i>Hu Feng</i>



							A. Material List		
							NO.	ITEM	DESCRIPTION
							1	COATING RESIN	BLACK EPOXY
							2	LEAD WIRE	UL3302#32 TS (Black)
							*	ELEMENT	NTC Thermistor
							B. Electrical Characteristic		
							ITEM		VALUE
							R25℃		10KΩ±5%
							B25/85		3988 K ± 1%
							Customer	Blume-FSM AG	
							Customer P/N		
							Thinking P/N	NTSE0103JZJ79	
							Drawing NO.	SE1703028	
							Date	2025/9/9	
							Tol: ±mm	Unit: mm	Scale: mm
1.0	2025/9/9	New Released		Luo Chun Long	Hu Feng	Hu Feng	THINKING ELECTRONIC INDUSTRIAL CO.,LTD		
Rev.	Date	Subjects of Change	ECN.NO	Designed by	Checked by	Approved by			

THINKING ELECTRONIC INDUSTRIAL CO.,LTD

CUSTOMER:Blume-FSM AG

THINKING P/N:NTSE0103JZJ79

REVISED RECORD SHEET

REV. NO	REV. DATE	REVISED CONTENT
1.0	2025/9/9	New Released

SUBJECT: CERTIFICATION OF MATERIALS

CUSTOMER: Blume-FSM AG

THINKING P/N: NTSE0103JZJ79

NO	PART NAME	PART P/N	Q'TY	FLAMMABILITY SOLID BURNING CLASS	UL FILE NO
1	COATING RESIN	BLACK EPOXY			
2	LEAD WIRE	UL3302#32 TS (Black)	2	VW-1	UL APPROVED
*	ELEMENT	NTC Thermistor	1		
REMAKR					

Approved by: Hu Feng Checked by: Hu Feng Designed by: Luo Chun Long

Specification of NTC Thermistor for Temperature Measurement and Control

PART NO . NTSE0103JZJ79

CUSTOMER P/N .

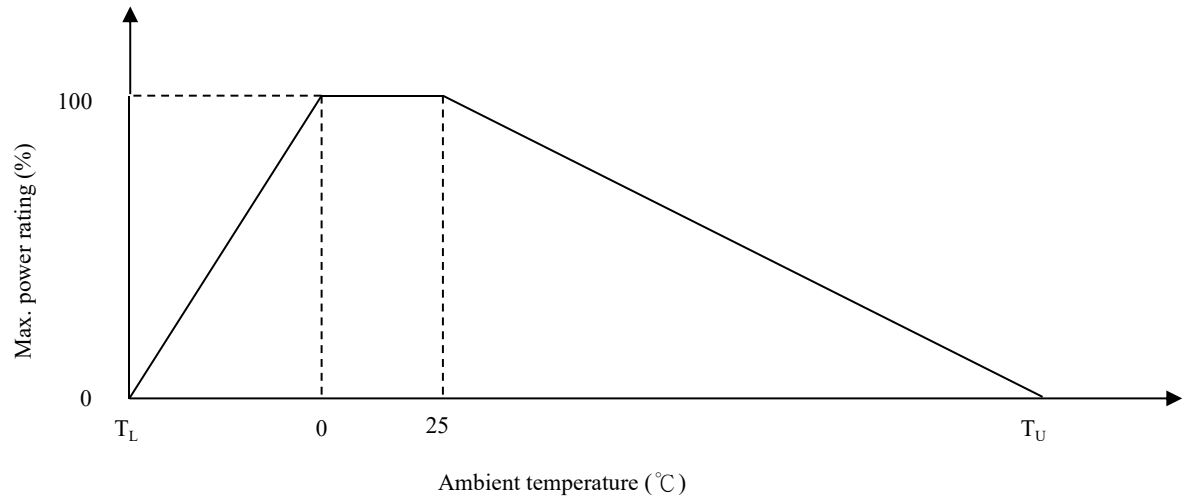
1. Electrical characteristics

	Parameter	Symbol	Test Conditions	Min.	Nor.	Max.	Unit
a.	Resistance At 25°C	R ₂₅	Ta=25°C±0.05°C P _T ≤0.02mW	9.5	10	10.5	KΩ
b.	B Constant	R _{25/85}	1779.707*Ln(R25/R85)	3948	3988	4028	K
c.	Thermal Dissipation Constant (in air)	δ	Ta=25°C	-----	Approx2.0	-----	mW/°C
d.	Thermal Time Constant (in water)	τ	25°C→85°C T1=25+(85-25)*63.2%=62.92°C	-----	Approx10	-----	Sec
e.	Insulation test	-----	100V DC 3Sec	Min:50MΩ			

2.Maximun Ratings

	Parameter	Specification	Unit
a.	Operation Temperature Range	-10 ----- +105	°C
b.	Max' Power Rating (in air at 25°C)	210	m W

Maximum power rating (Pmax)



Note: T_L = Minimum Temp. of Operating Temp. Range (°C)

T_U = Maximum Temp. of Operating Temp. Range (°C)

3. Reliability Test

Item	Test Conditions	Variable
Temp. cycle test	-10 °C 30min → +25 °C 5min +105 °C 30min → +25 °C 5min } X 5Cycles	Within ± 3 %
Low temp.test	-10± 5°C X 1000 HRS	Within ± 3 %
High temp.test	105± 5°C X 1000 HRS	Within ± 3 %
Humidity test	40 °C 95 % RH 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.

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.

Restriction of Weapon and Military End-Use

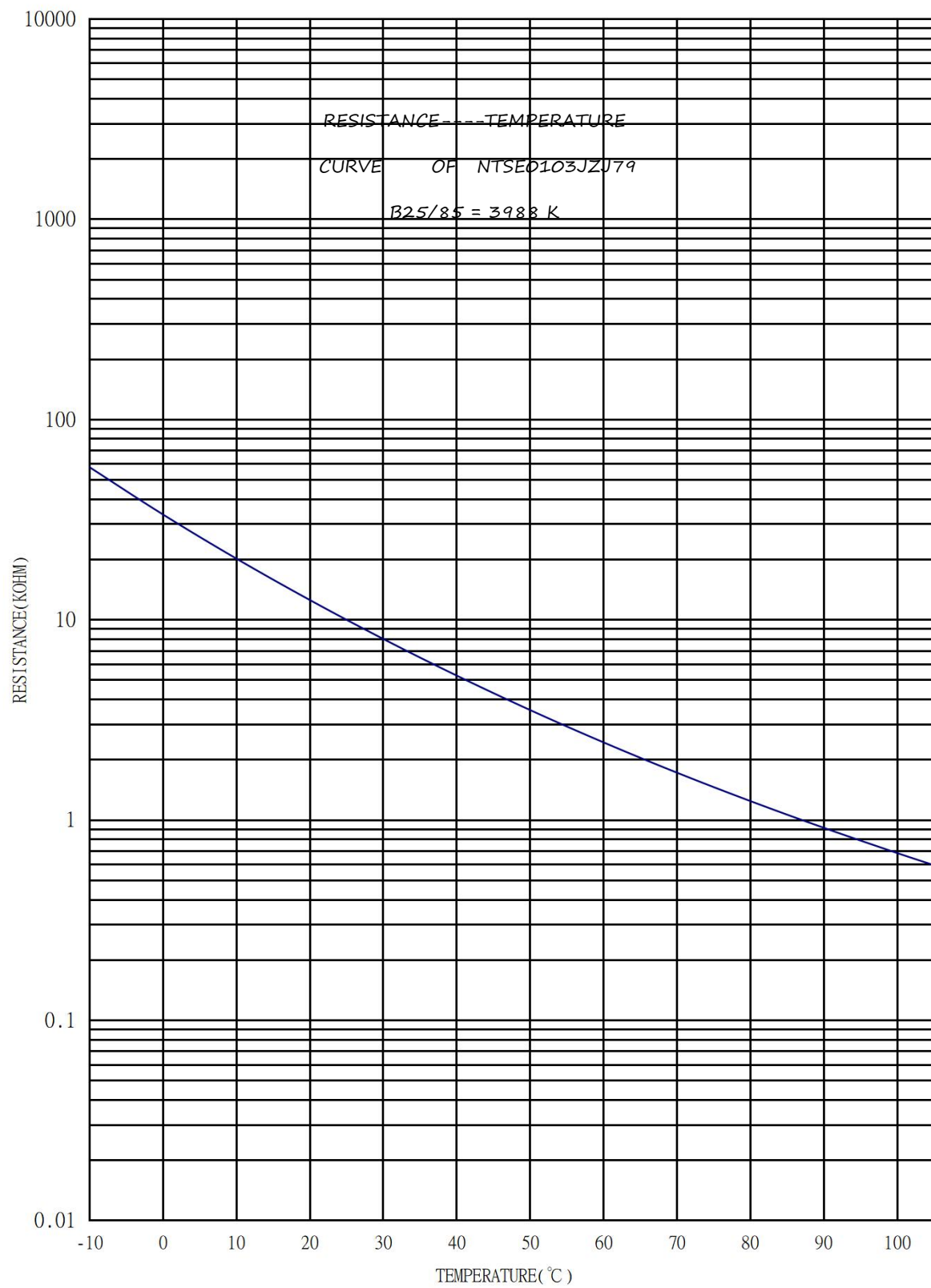
Thinking has established and implemented the fundamental policy on none of our product should be used or sold,

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.



R - T Table

Part No. : NTSE0103JZJ79

R25 =10 K Ω $\pm$ 5%

B25/85 = 3988 K $\pm$ 1%

Temperature (°C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. (°C)	
-10	61.760	57.796	53.951	-1.18	1.22
-9	58.352	54.638	51.032	-1.18	1.22
-8	55.156	51.674	48.291	-1.17	1.22
-7	52.157	48.892	45.716	-1.17	1.22
-6	49.342	46.278	43.296	-1.17	1.21
-5	46.697	43.821	41.020	-1.17	1.21
-4	44.212	41.512	38.879	-1.17	1.21
-3	41.876	39.339	36.864	-1.17	1.21
-2	39.678	37.295	34.967	-1.17	1.21
-1	37.610	35.369	33.179	-1.16	1.21
0	35.663	33.556	31.494	-1.16	1.21
1	33.829	31.847	29.906	-1.16	1.20
2	32.100	30.235	28.408	-1.16	1.20
3	30.471	28.716	26.994	-1.16	1.20
4	28.935	27.281	25.659	-1.15	1.20
5	27.485	25.928	24.398	-1.15	1.20
6	26.117	24.650	23.207	-1.15	1.19
7	24.825	23.442	22.081	-1.15	1.19
8	23.604	22.301	21.016	-1.14	1.19
9	22.451	21.222	20.010	-1.14	1.19
10	21.361	20.202	19.057	-1.14	1.19
11	20.331	19.236	18.156	-1.13	1.18
12	19.356	18.323	17.302	-1.13	1.18
13	18.434	17.458	16.493	-1.13	1.18
14	17.561	16.640	15.727	-1.13	1.18
15	16.734	15.864	15.001	-1.12	1.17
16	15.951	15.129	14.313	-1.12	1.17
17	15.210	14.432	13.660	-1.12	1.17
18	14.507	13.772	13.041	-1.11	1.17
19	13.840	13.145	12.454	-1.11	1.16
20	13.208	12.551	11.896	-1.11	1.16
21	12.609	11.986	11.367	-1.10	1.16
22	12.040	11.451	10.864	-1.10	1.15
23	11.500	10.942	10.386	-1.10	1.15
24	10.987	10.459	9.9317	-1.09	1.15
25	10.500	10.000	9.5000	-1.09	1.15
26	10.046	9.5637	9.0814	-1.11	1.16
27	9.6148	9.1488	8.6836	-1.12	1.18
28	9.2043	8.7543	8.3055	-1.14	1.20
29	8.8136	8.3790	7.9460	-1.16	1.21
30	8.4416	8.0219	7.6041	-1.18	1.23
31	8.0875	7.6821	7.2788	-1.19	1.25
32	7.7502	7.3585	6.9692	-1.21	1.26

R - T Table

Part No. : NTSE0103JZJ79

R25 =10 K Ω $\pm$ 5%

B25/85 = 3988 K $\pm$ 1%

Temperature (°C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. (°C)	
33	7.4289	7.0504	6.6746	-1.23	1.28
34	7.1227	6.7570	6.3940	-1.25	1.30
35	6.8309	6.4774	6.1268	-1.26	1.32
36	6.5526	6.2109	5.8724	-1.28	1.33
37	6.2873	5.9570	5.6299	-1.30	1.35
38	6.0342	5.7148	5.3988	-1.32	1.37
39	5.7928	5.4839	5.1785	-1.34	1.39
40	5.5624	5.2636	4.9684	-1.36	1.40
41	5.3425	5.0534	4.7681	-1.38	1.42
42	5.1325	4.8529	4.5770	-1.39	1.44
43	4.9320	4.6614	4.3947	-1.41	1.46
44	4.7405	4.4787	4.2207	-1.43	1.48
45	4.5576	4.3041	4.0546	-1.45	1.50
46	4.3828	4.1374	3.8960	-1.47	1.52
47	4.2157	3.9781	3.7445	-1.49	1.53
48	4.0560	3.8259	3.5999	-1.51	1.55
49	3.9033	3.6804	3.4616	-1.53	1.57
50	3.7572	3.5414	3.3295	-1.55	1.59
51	3.6175	3.4084	3.2033	-1.57	1.61
52	3.4839	3.2812	3.0826	-1.59	1.63
53	3.3559	3.1595	2.9672	-1.61	1.65
54	3.2335	3.0431	2.8567	-1.64	1.67
55	3.1163	2.9317	2.7511	-1.66	1.69
56	3.0040	2.8250	2.6501	-1.68	1.71
57	2.8965	2.7229	2.5533	-1.70	1.73
58	2.7935	2.6251	2.4607	-1.72	1.75
59	2.6948	2.5314	2.3720	-1.74	1.78
60	2.6001	2.4417	2.2871	-1.77	1.80
61	2.5094	2.3556	2.2057	-1.79	1.82
62	2.4225	2.2732	2.1278	-1.81	1.84
63	2.3390	2.1941	2.0530	-1.83	1.86
64	2.2590	2.1183	1.9814	-1.86	1.88
65	2.1822	2.0456	1.9127	-1.88	1.90
66	2.1085	1.9758	1.8468	-1.90	1.93
67	2.0377	1.9088	1.7836	-1.92	1.95
68	1.9698	1.8445	1.7229	-1.95	1.97
69	1.9045	1.7828	1.6647	-1.97	1.99
70	1.8418	1.7235	1.6088	-2.00	2.01
71	1.7815	1.6666	1.5551	-2.02	2.04
72	1.7236	1.6118	1.5036	-2.04	2.06
73	1.6679	1.5593	1.4540	-2.07	2.08
74	1.6144	1.5087	1.4064	-2.09	2.10
75	1.5629	1.4601	1.3606	-2.11	2.13

R - T Table

Part No. : NTSE0103JZJ79

R25 =10 K Ω $\pm$ 5%

B25/85 = 3988 K $\pm$ 1%

Temperature (°C)	Rmax. (K Ω)	Rnor. (K Ω)	Rmin. (K Ω)	Temperature Tol. (°C)	
76	1.5133	1.4133	1.3166	-2.14	2.15
77	1.4656	1.3683	1.2743	-2.16	2.17
78	1.4197	1.3250	1.2336	-2.19	2.19
79	1.3755	1.2834	1.1944	-2.21	2.22
80	1.3329	1.2432	1.1567	-2.24	2.24
81	1.2919	1.2046	1.1204	-2.26	2.26
82	1.2524	1.1674	1.0855	-2.28	2.29
83	1.2143	1.1316	1.0518	-2.31	2.31
84	1.1776	1.0970	1.0194	-2.33	2.33
85	1.1422	1.0637	0.98814	-2.36	2.35
86	1.1081	1.0316	0.95802	-2.38	2.38
87	1.0752	1.0007	0.92899	-2.41	2.40
88	1.0434	0.97080	0.90100	-2.43	2.42
89	1.0127	0.94200	0.87400	-2.46	2.45
90	0.98316	0.91420	0.84796	-2.48	2.47
91	0.95459	0.88738	0.82284	-2.51	2.49
92	0.92702	0.86149	0.79860	-2.53	2.52
93	0.90038	0.83649	0.77519	-2.56	2.54
94	0.87465	0.81235	0.75260	-2.58	2.56
95	0.84980	0.78904	0.73079	-2.61	2.59
96	0.82578	0.76652	0.70972	-2.63	2.61
97	0.80257	0.74475	0.68938	-2.66	2.63
98	0.78013	0.72372	0.66972	-2.68	2.66
99	0.75844	0.70340	0.65073	-2.71	2.68
100	0.73746	0.68375	0.63237	-2.73	2.71
101	0.71718	0.66476	0.61463	-2.76	2.73
102	0.69756	0.64639	0.59748	-2.79	2.75
103	0.67858	0.62863	0.58090	-2.81	2.78
104	0.66021	0.61145	0.56487	-2.84	2.80
105	0.64244	0.59483	0.54936	-2.86	2.83

THINKING ELECTRONIC INDUSTRIAL CO.,LTD

THINKING P/N:NTSE0103JZJ79

Safety Approvals (Certified Model/Type :NTS (Q)103)



*UL 1434/cUL recognized (File # E138827)

Certificates

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

Test Report

- (1) RoHS test report