



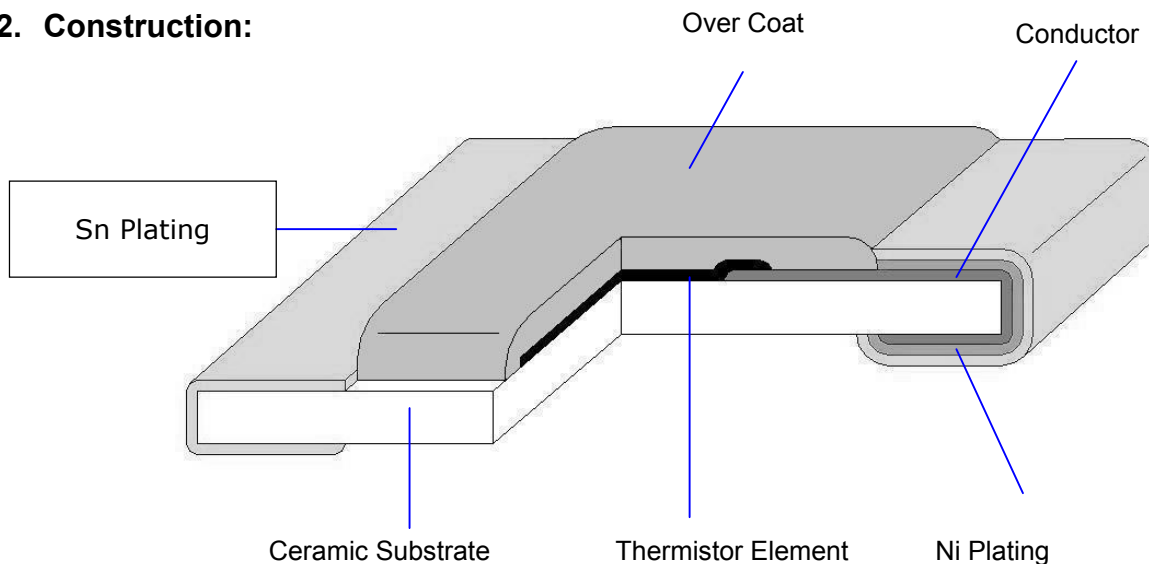
Chip NTC Thermistor

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1. Scope :

This specification applies for the Lead-Free NTC thermistor series of chip NTC thermistor made by TA-I.

2. Construction:



3. Type Designation:

NT	04	J	T	103	3435
NTC Thermistor	Size 04:0402(1005)	Tolerance of Resistance at 25°C F:±1.0% G:±2.0% H:±3.0% J:±5.0% K:±10.0%	Packaging T: Paper Tape	Resistance at 25°C 102:1KΩ 103:10KΩ	B Value (K)



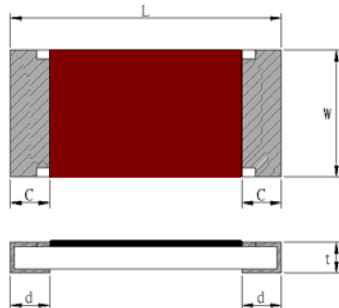
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4. Dimensions:



Unit: mm

Type (Inch Size code)	Dimensions (mm)				
	L	W	C	d	t
NT04 (0402)	1.00±0.05	0.50±0.05	0.20±0.10	0.25±0.10	0.35±0.05

5. Applications and ratings

Part Designation	Zero Power Resistance at 25°C (KΩ)	Tolerance of Resistance (±%)	*B _{25/85} value (K)	*Tolerance of B value (±%)	**Zero power current at 25°C (mA)	Power Rated at 25°C (mW)	Typical Thermal Time Constant (sec)	Typical Dissipation Constant (mW/°C)	Operation Temperature range (°C)
NT04□T102_2800	1	1、2、3、5、10	2800	3	0.100	5	≤5	3.0	-40~125
NT04□T152_2800	1.5		2800		0.081				
NT04□T202_2800	2.0		2800		0.070				
NT04□T222_2800	2.2		2800		0.067				
NT04□T332_3100	3.3		3100		0.055				
NT04□T472_3300	4.7		3300		0.046				
NT04□T502_3435	5.0		3435		0.044				
NT04□T682_3435	6.8		3435		0.038				
NT04□T103_3435	10		3435		0.031				
NT04□T223_3700	22		3700		0.021				
NT04□T333_3950	33		3950		0.017				
NT04□T473_3950	47		3950		0.014				
NT04□T503_4000	50		4000		0.014				
NT04□T683_4000	68		4000		0.012				
NT04□T104_4000	100		4000		0.010				
NT04□T224_4000	220		4000		0.006				
NT04□T474_4400	470		4400		0.004				

Note* : 1.□ : Resistance Tolerance Code.

$$2. B_{25/85} = \frac{\ln\left(\frac{R_{25}}{R_{85}}\right)}{\frac{1}{298.15} - \frac{1}{358.15}}$$

R₂₅=Resistance at 25°C

R₈₅=Resistance at 85°C



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6. Reliability Tests:

Items	Standard	Requirements	Test Conditions
Solderability	IEC68-2-20	More than 95% of the terminal electrode Shall be covered with new solder.	235±5℃, 2±0.5sec 245℃±5℃, 2±0.5second (Lead Free)
Resistance to solder heat	IEC68-2-20	1.No serious mechanical damage 2. $\Delta R \leq \pm 3\%$ (ref. to initial value)	260±5℃, 5±1sec
Damp Heat	IEC68-2-3	1.No serious mechanical damage 2. $\Delta R \leq 3\%$ (ref. to initial value)	1. 40 ±2℃, 90%~95%RH, 1000 ± 24 hr 2. measuring resistance after sample kept at room temp. for 24 hr
Thermal Shock	IEC68-2-14	1.No serious mechanical damage 2. $\Delta R \leq 3\%$	1.cycle : min. -40 ± 5℃ (30min) → 25℃ ±5℃ (5min) → max. 125± 5℃ (30min) → 25± 5℃ (5min) 2.the cycles are repeated 100 times
High Temp. Storage	IEC68-2-20	1.No serious mechanical damage 2. $\Delta R \leq 5\%$	1.Temp.: max. 125 ± 2℃ 2.Time : 1000Hrs ± 2Hrs measuring resistance after sample kept at room temp. for 24 hr
Life Test	CNS5550	1.No serious mechanical damage 2. $\Delta R \leq 3\%$	1.Temp.:max 25± 5℃ Loading Zero power current 2.Time : 1000Hrs ± 24Hrs Let it sit at R.T, for 24Hrs then Measure
Robustness of Termination (Bending)	JIS-C5202-6.1	1. $\Delta R \leq 3\%$	3mm deflection, duration 30 sec.

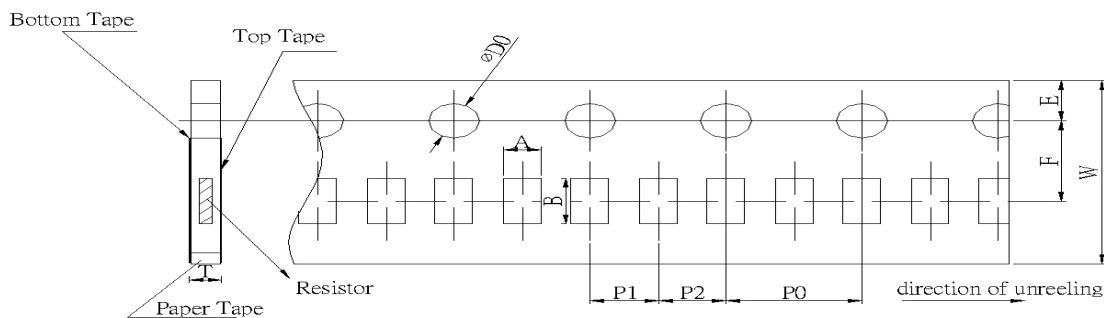
7. Marking

No marking for NT series

8. Taping & Reel

8.1.1 Taping Dimensions

8.1.2 2 mm pitch paper





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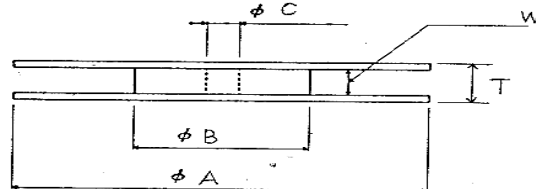
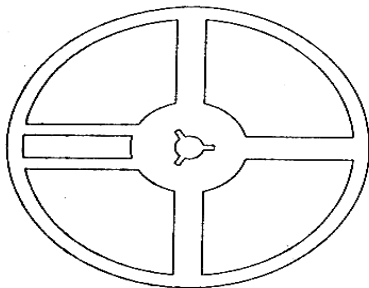
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Packing	Type	A	B	W	F	E	P ₁	P ₂	P ₀	D ₀	T
Paper Tape	NT04	0.7±0.05	1.2±0.05	8.0±0.2	3.5±0.05	1.75±0.1	2.0±0.1	2.0±0.05	4.0±0.1	$\phi 1.5^{+0.1}_{-0}$	0.45±0.1

Package Style Size		Paper Tape
		2 mm pitch
		180mm/R
NT	04	10000

Unit: mm

8.2 Reel Specifications



Unit: mm

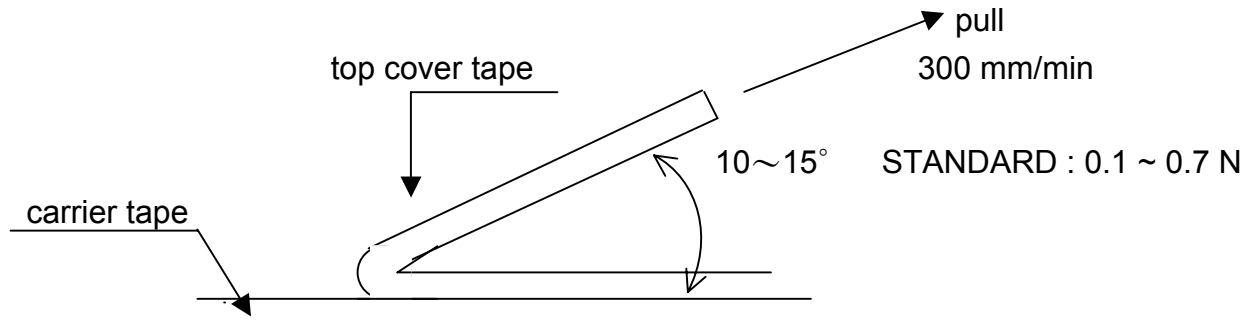
Series	ϕA	ϕB	ϕC	W	T
NT06	178.0 ± 1.0	60.0 ± 1.0	13.0 ± 1.0	9.0±1.0	11.5±2.0



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8.3 Peel –off force :



9. Storage Conditions:

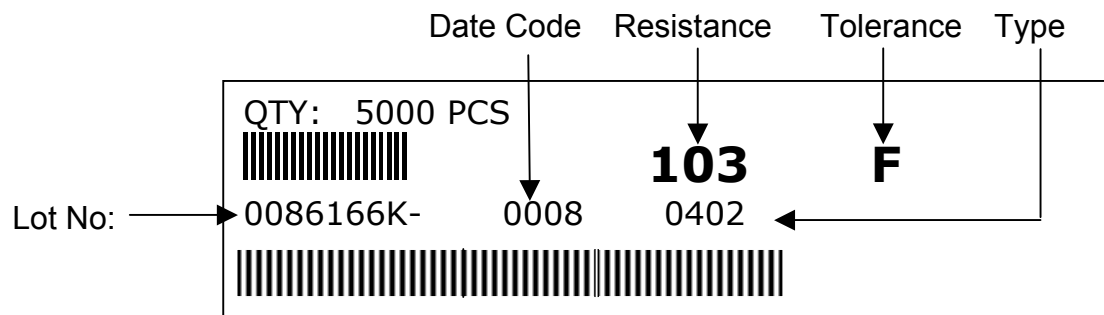
Temperature: 5°C~35°C, Humidity: 40%~75%

10. Shelf Life:

2 years from manufacturing date

11. Label

11.1 Manufacture Label :



11.2 Customer Label:

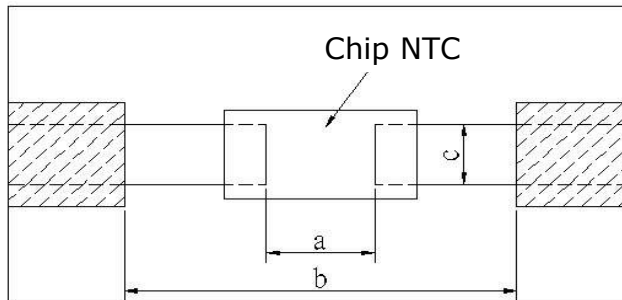




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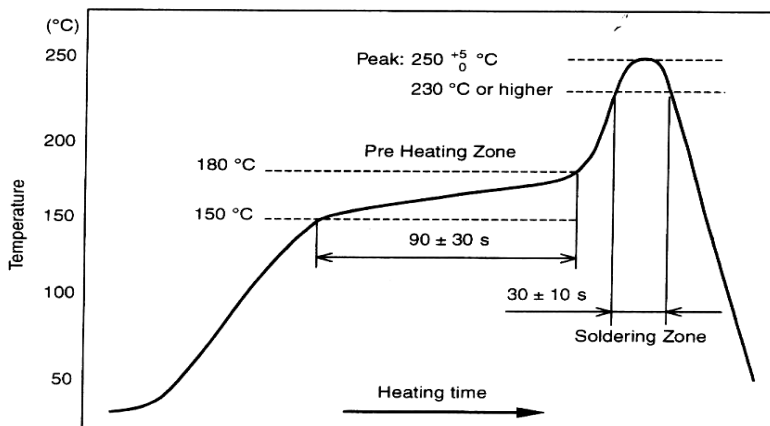
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12. Recommended land patterns



Type	Land pattern Size	Dimension		
		a	b	c
NT	04 (0402)	0.50~0.6	1.4~1.6	0.4~0.6

13. Recommend IR – Reflow profile : (solder : Sn96.5 / Ag3 / Cu0.5)



Peak : $250 \begin{matrix} +5 \\ -0 \end{matrix}^{\circ}\text{C}$, 5 sec

Pre – heat Zone : 150 to 180 °C , 90±30 sec

Soldering Zone : 230°C or higher , 30±10 sec



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14. ECN

Engineering Change Notice: The customer will be informed with ECN if there is significant modification on the characteristics and materials described in Approval Sheet.

15. Manufacturing Country & City :

TA-I TECHNOLOGY CO., LTD. (Taiwan – Tao Yuan)
Tel: 886-3-3246169 Fax : 886-3-3247410

Associated companies :

(1) FORTUNE TASK RESISTOR FACTORY (China – Dong Guan)
Tel : 86-769-83394790 Fax : 86-769-83394794

(2) TA-I TECHNOLOGY (SU ZHOU) CO., LTD. (China – Su Zhou)
Tel :86- 512-63457879 Fax : 86-512-63457869

(3) TAI OHM ELECTRONICS (M) SDN. BHD. (Malaysia – Pulaupinang)
Tel :604- 3900480 Fax : 604-3901481

(4) P.T.TAI ELECTRONICS Indonesia (Indonesia – Jakarta)
Tel :002-62-21-44820254 Fax : 002-62-21-44820256