



**Thick Film Chip Resistor Arrays**  
 ( Lead-Free for CNC24 Concave Type )  
 Halogen-Free

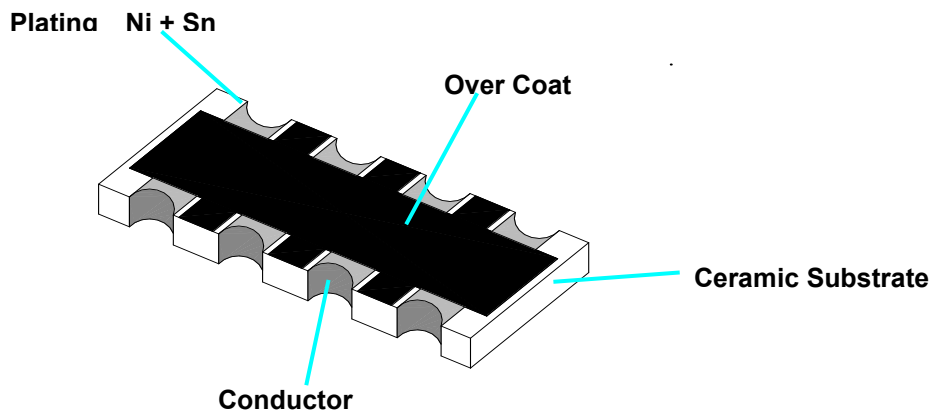
Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	1 / 8

**1. Scope :**

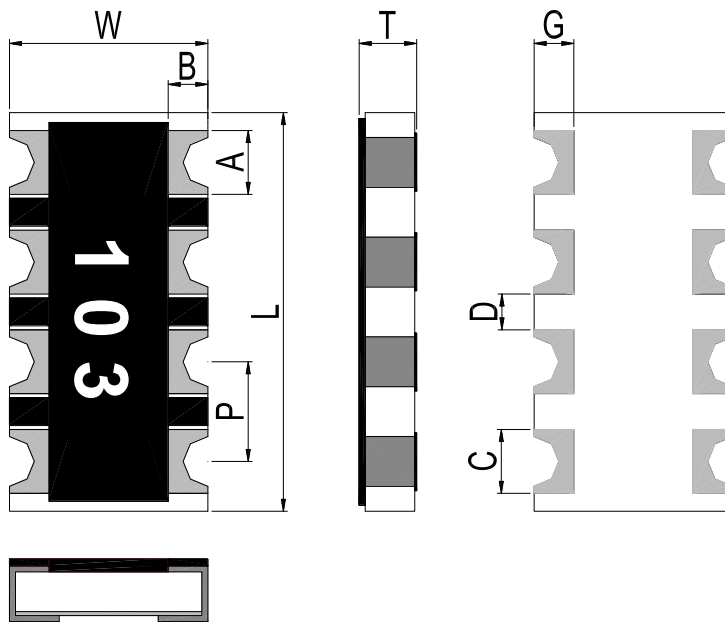
This specification applies for the CNC24 Concave Type of thick film chip resistor arrays made by TA-I.

**2. Construction , Dimensions , Schematic :**

**2.1 Construction :**



**2.1.1 Chip Resistor Arrays :**



**2.2 Dimension :**

UNIT:mm

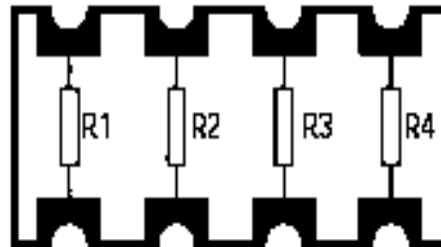
Type	L	W	T	P	A	B	C	D	G
CNC24	2.0±0.1	1.0±0.1	0.4±0.1	0.50±0.1	0.3±0.1	0.2±0.1	0.3±0.1	0.15±0.1	0.25±0.15



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Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	2 / 8

### 2.3 Schematic



$$R1 = R2 = R3 = R4$$

### 3. Type Designation:

#### 3.1 Chip Resistor Arrays

**CNC**

**24**

**J**

**T N**

**102**

**Product Code**                      **size**                      **Tolerance**                      **Packaging**                      **Nominal Resistance**  
CNC: Chip Resistor Arrays      Power Rating  
Concave type

24-0402\*4

J-±5%

T- Paper Tape  
N - Lead Free

3 digits e.g.,:  
(E-24) 102 = 1KΩ



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Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	3 / 8

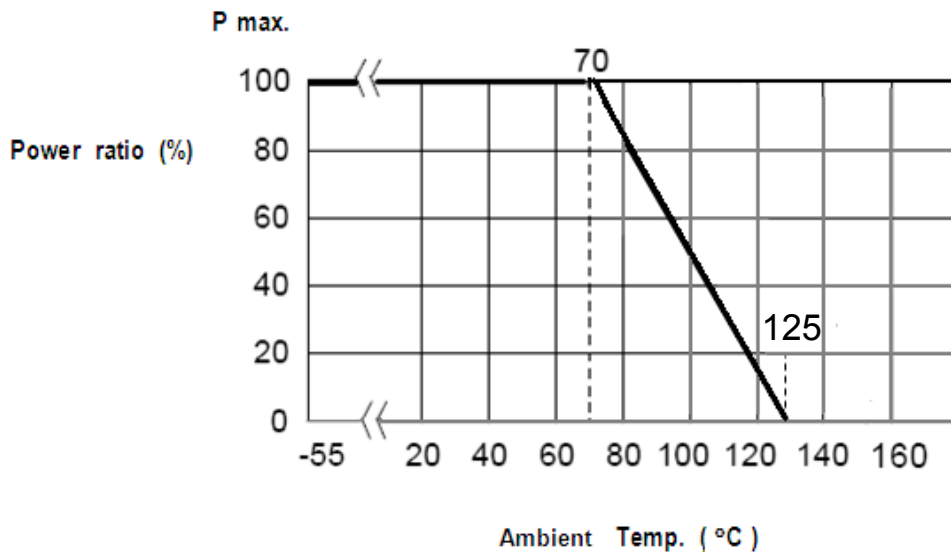
**4. Ratings & Characteristics :**

Type	PowerRating at 70°C	Rating Voltage	Max .Working Voltage	Max. OverLoad Voltage	Operating Temp.(°C)	Resistance Tolerance(%)	Resistance Range (Ω )	Temp Coefficient PPM/°C
CNC24	1/16W	Refer 4.2	25V	50V	-55-+125°C	±5%	10Ω ~1MΩ	≤±300

0Ω THICK FILE CHIP RESISTOR ARRAYS			
Type	Rated Current	Max Overload Current	Resistance Range
CNC 24	1A	2.5 A	50mΩ MAX

**4.1 Derating Curve :**

For resistors operated at ambient temperature over 70°C , power rating shall be derated in accordance with figure 1.



**Figure 1**

**4.2 Rated Voltage:**

The rated voltage is calculated by the following formula:

$$E = \sqrt{P * R}$$

E=Rated Voltage(V)  
 P=Rated Power(W)  
 R=Resistance Value(Ω)

E.G. : What is CNC24JTN102 the rated voltage ?

CNC24JTN102 P:1/16W ; R:102 = 1KΩ = 1000Ω

$$E = \sqrt{0.0625(W) * 1000(\Omega)} = 7.9 (V)$$



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Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	4 / 8

**5. Reliability Tests:**

Test Items	Reference standard	Condition of Test	Test Limits ( $\Delta R/R$ )
Temperature Coefficient of Resistance	IEC60115-1-4.8 JIS-C5201-1-4.8	-55~ +125 °C	Refer 4.0
Short Time Overload	IEC60115-1-4.13 JIS-C5201-1-4.13	2.5 X rated voltage for 5 sec	$\pm ( 2.0\% + 0.1\Omega )$ 0Ω : 50mΩ or less
Intermittent Overload	IEC60115-1-4.39 JIS-C5201-1-4.39	2.5X rated voltage or Max Overloading Voltage , 1 sec "ON" 25 sec "OFF" , 10000 cycles	$\pm ( 5.0\% + 0.1\Omega )$ 0Ω : 50mΩ or less
Load Life	IEC60115-1-4.25.1 JIS-C5201-1-4.25.1	1000 hours at rated voltage , 70°C , 1.5hours "ON " , 0.5hour "OFF"	$\pm ( 3.0\% + 0.1\Omega )$ 0Ω : 100mΩ or less
Load Life with Humidity	IEC60115-1-4.24 JIS-C5201-1-4.24	1000 hours at rated voltage , 40±2°C , 90~95% RH 1.5hours "ON " , 0.5hour "OFF"	$\pm ( 3.0\% + 0.1\Omega )$ 0Ω : 100mΩ or less
Rapid Change of Temperature	IEC60115-1-4.19 JIS-C5201-1-4.19	-55°C (30 min. ) / +125 °C (30 min. ) 5 cycles	$\pm ( 1.0\% + 0.05\Omega )$ 0Ω : 50mΩ or less
Solderability	IEC60115-1-4.17 JIS-C5201-1-4.17	245±5°C solder, 2±0.5 sec dwell. Solder : Sn96.5 / Ag3.0 / Cu0.5	At least 95% of surface area of electrode shall be covered with new solder.
Core body	IEC60115-1-4.15 JIS-C5201-1-4.15	Pressure 1.0 kgf a R0.5 pressure rod for 10 sec	Without mechanical damage such as breaks. Electrical characteristics shall be satisfied
Dielectric Withstanding Voltage (Voltage Proof)	IEC60115-1-4.7 JIS-C5201-1-4.7	Applying voltage 100V for 1 minute.	No abnormalities such as flashover, burning dielectric breakdown shall appear.
Resistance to Solder Heat	IEC60115-1-4.18 JIS-C5201-1-4.18	270 ±5°C solder , 10 ±1 sec dwell .	$\pm ( 2.0\% + 0.1\Omega )$ 0Ω : 50mΩ or less

Note\* : RCWV : Rated continuous working voltage .

**6. Marking**

**6.1 ± 5% ( E24 )**

Resistance value is expressed by 3 digits, the first two digits represent the significant figures of nominal resistance value in Ω , and the third digit represents exponent for base of 10.

E.G. 102 = 10×10<sup>2</sup> = 1KΩ



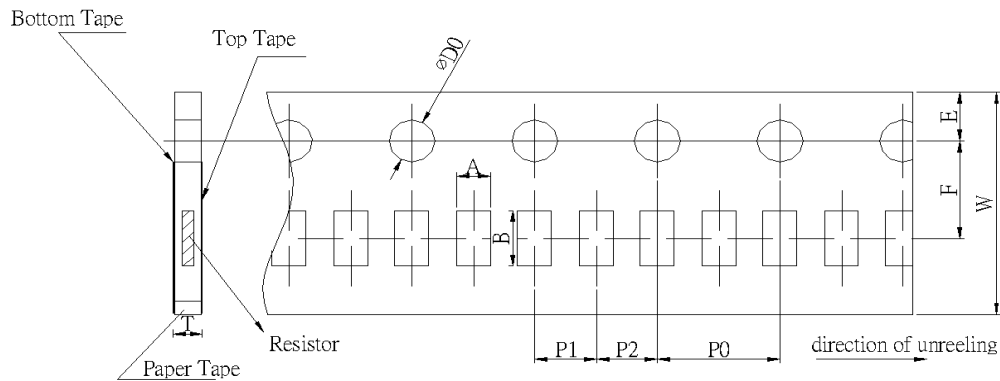
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Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	5 / 8

## 7. Taping & Reel

### 7.1 Taping Dimensions

#### 7.1.1 2 mm pitch paper

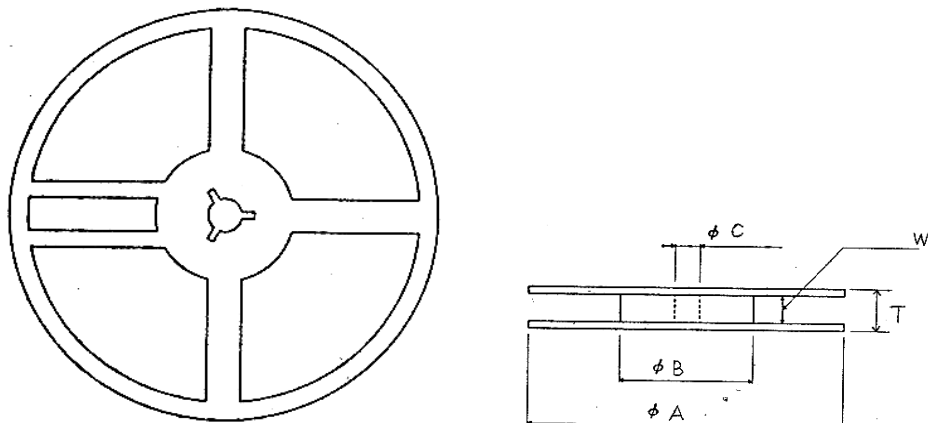


UNIT: mm

Type	A	B	W	F	E	P1	P2	P0	φ D0	T0
CNC24	1.2±0.1	2.2±0.1	8.0±0.2	3.5±0.05	1.75±0.1	2.0±0.05	2.0±0.05	4.0±0.1	1.5 +0.1 -0	0.6 +0.2 -0

Package Type	Paper Tape
	2 mm pitch
	178mm / R
CNC24	10000

### 7.2 Reel Specifications



UNIT: mm

Type	φ A	φ B	φ C	W	T
CNC24	178.0 ± 2.0	60 or more	13.0 ± 1.0	9.0 ± 1.0	11.5 ± 1.0

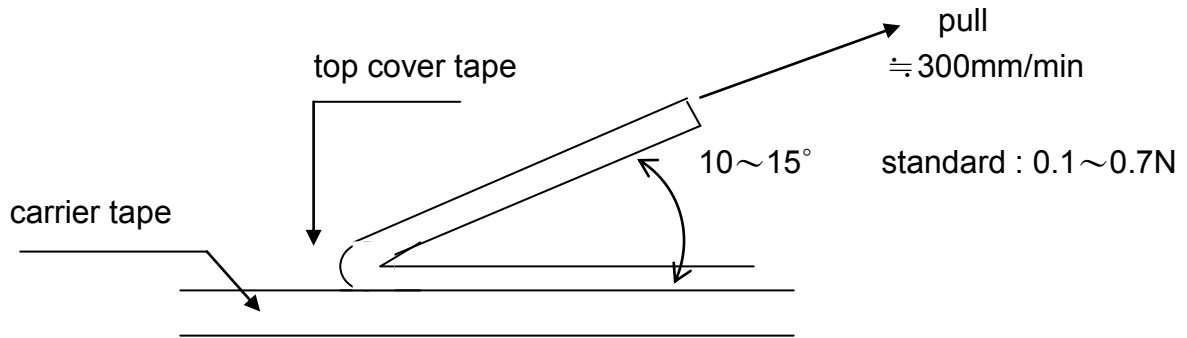


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Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	6 / 8

**7.3 Peel off Strength:**

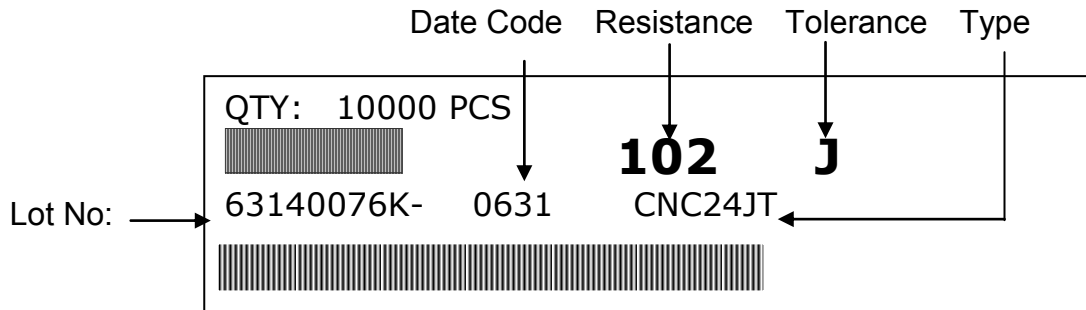
Peel –off force of paper and blister tape is in accordance with “JIS-C5202” that is , 0.1 to 0.7 N at a peel-off speed of 300 mm / minute.



**8. Label**

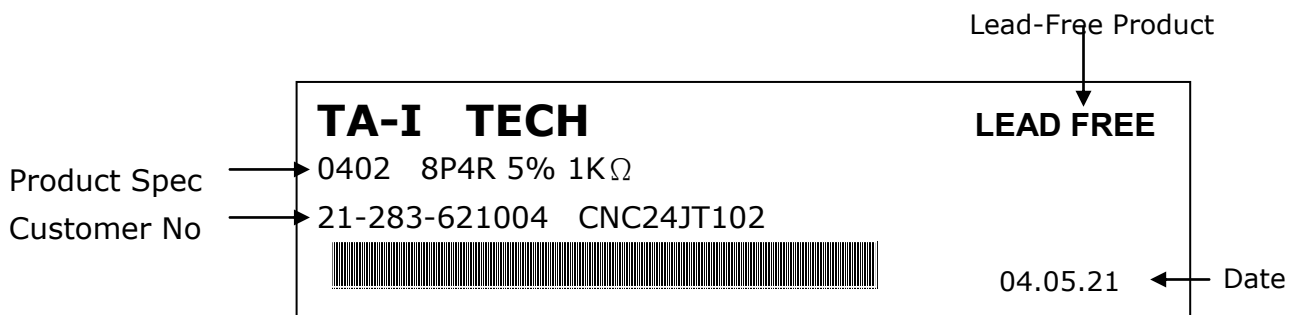
**8.1 Manufacture Label :**

**8.1.1 Chip Resistor Arrays**



**8.2. Customer Label ( By customer request ) :**

**8.2.1 Chip Resistor Arrays**

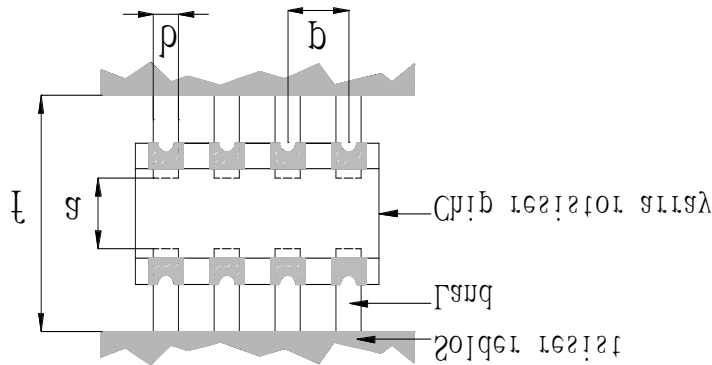




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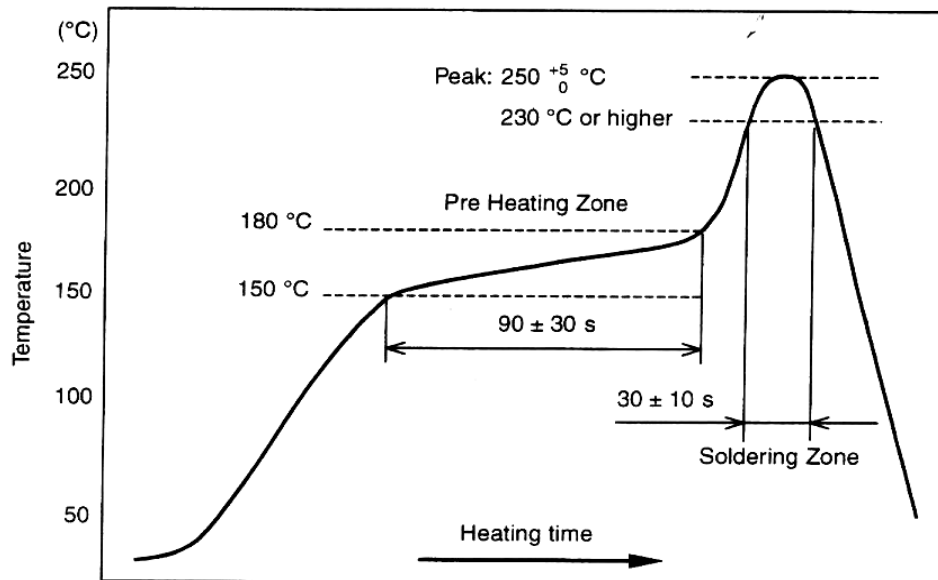
Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	7 / 8

**9. Recommended land patterns**



Type	Size	Land pattern	Dimension ( mm )			
			a	b	p	f
CNC	24		0.4~0.5	0.25~0.3	0.5	2.0

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



Peak : 250  $\begin{matrix} +5 \\ -0 \end{matrix}$  °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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Document No	TCNC-240S001F
Revised Date	2012/07/25
page number	8 / 8

**11. Storage Conditions:**

Temperature : 5 to 35 °C  
Related Humidity :40 to 75% RH

**12. Shelf Life :**

2 Years from manufacturing date.

**13. 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.

**14. Manufacturing Country & City :**

TA-I TECHNOLOGY CO., LTD. ( Taiwan – Tao Yuan )  
Tel: 886-3-3246169 Fax : 886-3-3246167

**Associated companies :**

- (1) FORTUNE TASK RESISTOR FACTORY ( China – Dongguan )  
Tel : 86-769-8339-4790~3 Fax : 86-769-8339-4794
- (2) TA-I TECHNOLOGY (DONGGUAN ) CO., LTD. ( China –Dongguan )  
Tel : 86-769-8339-4790~3 Fax : 86-769-8339-4794
- (3) TA-I TECHNOLOGY ( SU ZHOU ) CO., LTD. ( China – Su Zhou)  
Tel :86- 512-63457879 Fax : 86-512-63457869
- (4) TAI OHM ELECTRONICS ( M ) SDN. BHD. ( Malaysia – Pulaupinang )  
Tel :604- 3900480 Fax : 604-3901481
- (5) P.T.TAI ELECTRONICS Indonesia ( Indonesia – Jakarta )  
Tel :62-21-89830123 Fax : 62-21-89830703



单击下面可查看定价，库存，交付和生命周期等信息

[>>TA-I\(大毅\)](#)