

# Suzhou NCT Electronic Technology Co., Ltd

Document No.: NQ-APS-011

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## SMD THERMAL JUMPERS CHIP Product Specification A0 Rev.

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### ◆ 1.Scope :

This specification applied to the products of SMD Thermal jumpers chip for Lead-Free NTJ series manufactured by Suzhou NCT Electronic Technology Co., Ltd

### ◆ 2. Features:

- ✧ High thermal conductivity AlN substrate (170 W/mK)
- ✧ Electrically isolated
- ✧ Available with lead (Pb)-free wrap terminations
- ✧ AlN ceramic chips
- ✧ Low capacitance

### ◆ 3. Applications:

- ✧ Switch mode power supply
- ✧ Converters
- ✧ RF amplifiers

### ◆ 4.Functional Applications / Connection Options

- ✧ Component to heat sink;Component to case; Component to ground plane
- ✧ Pad to Pad;Pad to via;Pad to trace

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◆ 5.Part Number:

**NTJ**

**2512**

**A**

**E 1**

Item

Size

Thickness

Packaging

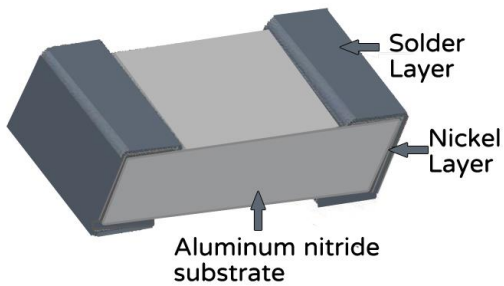
SMD  
Thermal  
Jumpers

2512(6432)  
1225(3264)

A: 0.75mm

E: Plastic ; 1: Q'ty: 1KPcs/Reel  
2: Q'ty: 2KPcs/Reel  
3: Q'ty: 3KPcs/Reel  
4: Q'ty: 4KPcs/Reel

◆ 6.Construction:



◆ 7. Dimension:



Unit: mm

Type	Body Size ( inches)	Item	L	W	C	T
NTJ2512	2512	Thermal Jumper	6.4±0.2	3.2±0.2	0.50±0.15	0.75±0.15

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NTJ1225	1225	Thermal Jumper	3.2±0.2	6.4±0.2	0.50±0.15	0.75±0.15
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### ◆ 8. Marking

Components are not marked. Reels are marked with type, date code and quantity.

### ◆ 9. Typical Characteristics

Body Size	1225	2512
Thermal resistance (°C/W), TR	4	15
Thermal conductance (mW/°C), TC	250	67
Capacitance (pF) @ 1KHz	1.1	1.0
Dielectric withstanding voltage kVAC, RMS (60 Hz)	> 1.5	> 1.5
Operating temperature range	-65 °C to +150 °C	-65 °C to +150 °C
Storage temperature range	-65 °C to +150 °C	-65 °C to +150 °C

Thermal Performance Calculation:

The thermal data are based on the thermal conductivity of aluminium nitride, which is 170 W/m°C Values for Thermal Resistance (TR) and Thermal Conductance (TC) are obtained as follows.

$TR = L / K (T*W)$  ;  $TC = 1/ TR$  where k is the thermal conductivity of AlN, 170W/m°C

### ◆ 10. Material Specifications:

Substrate material: Aluinium nitride (170W/mk)

### ◆ 11. Environmental Tests:

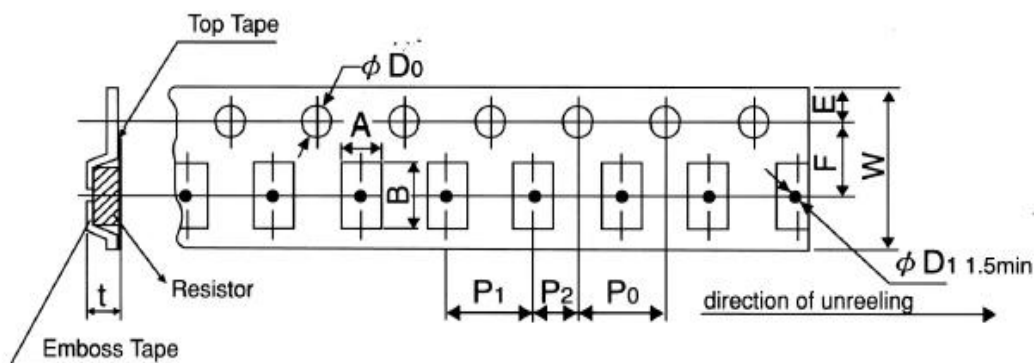
Item	Test conditions	Specification
<b>Solderability</b>	J-STD-002, method B and B1	Over 95% of termination must be

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		covered with solder.
<b>Resistance to Solder Heat</b>	T=260+/-5C° solder,10+/-1 sec dwell	Without solder leaching
<b>Board Flex</b>	AEC-Q200 Mtehod 005	Without damaged &Crack

## ◆ 12.Packaging

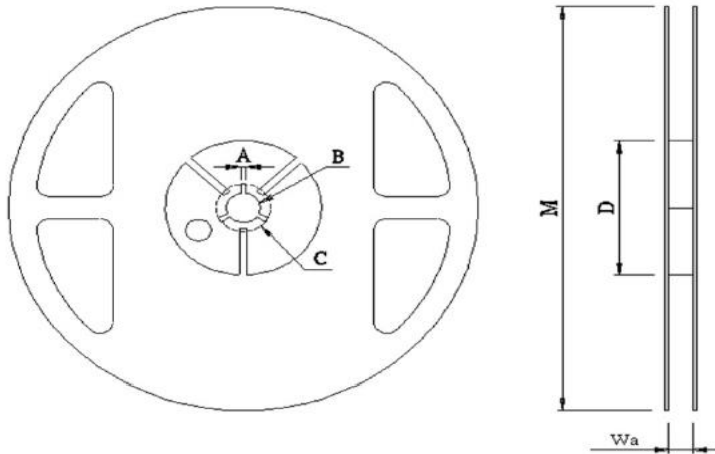
### Tape Packaging Dimensions



Type	Pack	Q'ty/ R	A ±0.2	B ±0.2	D0 +0.5/- 0	E ±0.1	F ±0.0 5	P0 ±0.1	P1 ±0.1	P2 ±0.1	W ±0.2	D1 ±0.0 5	T ±0.1 5
NTJ2512 NTJ1225	Emboss tape	1k~4k	3.60	6.90	1.50	1.75	5.50	4.00	4.00	2.00	12.00	1.50	1.20

### Reel Dimensions:

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Unit: mm

Type	A	B	C	D	M	W
NTJ2512	2.00±0.5	13.5±0.5	21.00±0.5	80.00±1.0	178.00±2.0	13.80±0.5
NTJ1225	2.00±0.5	13.5±0.5	21.00±0.5	80.00±1.0	178.00±2.0	13.80±0.5

### ◆ 13. Label

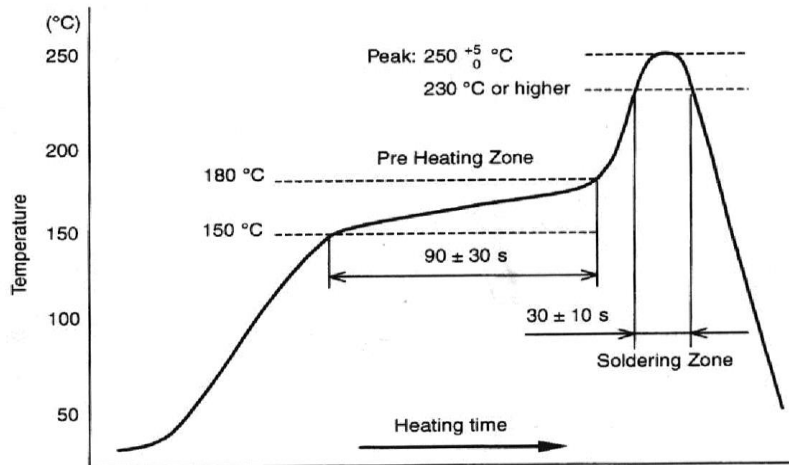


### ◆ 14. Recommended welding conditions

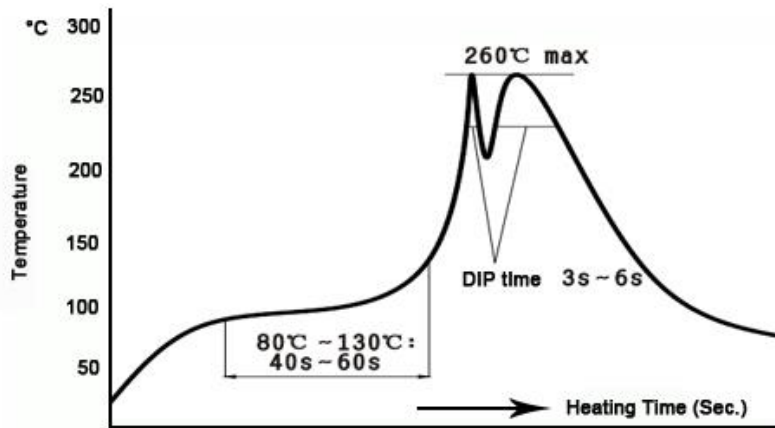
Recommended soldering paste: 96.5Sn/3.0Ag/0.5Cu

IR Reflow-Soldering Profile

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### Wave- Soldering Profile

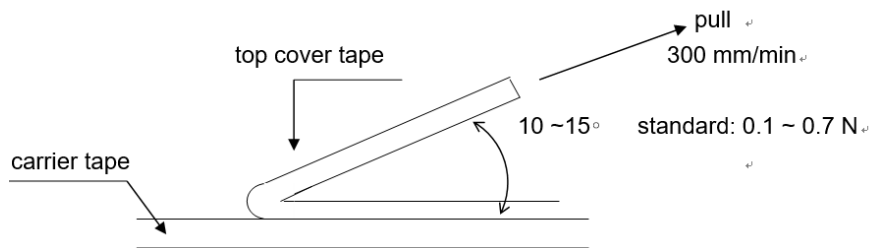


Iron Solder:  $350 \pm 10^\circ$  ,  $3 + 1 / - 0$  sec

### ◆ 15. Peel Strength of Top Cover Tape

The peel speed shall be about 300 mm/min

The peel force of top cover tape shall between 0.1 to 0.7N



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**◆ 16. Storage :**

Products are recommended to be used up within two year as ensured shelf life.

To store products with following condition:

Temperature:5 to 35C° ; Humidity: 40 to 75% relative humidity

**◆ 17. Manufacturing Country & City :**

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