

# 规格承认书

## Specification for approval

产品名称：贴片热敏电阻 0402 0603 0805

Product Type: Chip NTC Thermistor 0402 0603 0805



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### 1. Scope

Chip NTC Thermistor are surface mount devices (SMD: Surface Mount Devices) is applied to the field of surface mount (SMT: Surface Mount Technology) is a high concentration, low-power circuit devices. Chip NTC is generally applied to the circuit, with adaptive characteristic for temperature compensation and temperature control.

### 2. Main Features

Terminal electrodes with Ag-Ni-Sn three-layer structure having excellent weldability, soldering resistance; Monolayer structure technology, distribution capacity is low (less than 3PF), can be used in high-frequency field; Glass surface using encapsulation technology (10 μm), having good mechanical strength and moisture resistance, and corrosion resistance. Operating temperature range is -40~+125°C.

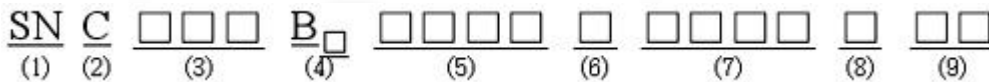
### 3. Product Covered

Dimensions: 0402 (1005), 0603 (1608), 0805 (2012);

R25 range: 1.0 × 10<sup>2</sup>Ω-6.8 × 10<sup>5</sup>Ω resistor value error level of ± 1%, ± 3%, ± 5%, ± 10%;

B25/50 value range: 2500K-5000K, B error level of ± 1%, ± 2%, ± 3%, ± 5%.

### 4. Part Numbering



(1) 1 to 2 yards: Product Category the SN: sensitive NTC

Code: Package C (2) 3: Chip device

(3) 4 to 6 yards: R25 - 25 ° C zero-power resistance value

(4) 7 to 8 yards: B value category

(5) 9 to 12 yards: B value, unit K

(6) 13 yds: Resistance error level

(7) 14 to 17 yards: Dimensions

L × W × H (mm) 0805:2.0 × 1.2 × 0.6 0603:1.6 × 0.8 × 0.6 0402:1.0 × 0.5 × 0.5

(8) 18 yards: environmental protection product identification code

(9) 19 to 20 yards: special identification code

5. Dimension : mm (inch)

<p>0402(1005)</p>	<p>L=1.0±0.15(0.040±0.006)  W=0.5±0.15(0.020±0.006)  T=0.5±0.15(0.040±0.006)  D=0.25±0.15(0.010±0.006)</p>	
<p>0603(1608)</p>	<p>L=1.6±0.2(0.063±0.008)  W=0.8±0.2(0.031±0.008)  T=0.6±0.2(0.024±0.008)  D=0.3±0.2(0.01±0.008)</p>	
<p>0805(2012)</p>	<p>L=2.0±0.2(0.079±0.008)  W=1.2±0.2(0.047±0.008)  T=0.6±0.2(0.024±0.008)  D=0.5±0.3(0.02±0.012)</p>	

6. Technical Parameters

0402 Series Specification		
Product Model	25°C Resistance Value (KΩ)	B Value °C 25/50(K)
SNC101B12700□0402E	0.1	2700
SNC221B12750□0402E	0.22	2750
SNC331B12800□0402E	0.33	2800
SNC471B13850□0402E	0.47	2850
SNC681B12900□0402E	0.68	2900
SNC102B13000□0402E	1	3000

SNC202B <sub>1</sub> 3000□0402E	2.2	3000
SNC222B <sub>1</sub> 3000□0402E	2.2	3000
SNC222B <sub>1</sub> 3850□0402E	2.2	3850
SNC332B <sub>1</sub> 3200□0402E	3.3	3200
SNC472B <sub>1</sub> 3200□0402E	4.7	3250
SNC682B <sub>1</sub> 3200□0402E	6.8	3350
SNC103B <sub>1</sub> 3370□0402E	10	3370
SNC103B <sub>1</sub> 3434□0402E	10	3435
SNC103B <sub>1</sub> 3900□0402E	10	3900
SNC153B <sub>1</sub> 3500□0402E	15	3500
SNC153B <sub>1</sub> 3900□0402E	15	3900
SNC223B <sub>1</sub> 3600□0402E	22	3600
SNC223B <sub>1</sub> 3900□0402E	22	3900
SNC333B <sub>1</sub> 3950□0402E	33	3950
SNC473B <sub>1</sub> 3900□0402E	47	3900
SNC473B <sub>1</sub> 3900□0402E	47	4050
SNC503B <sub>1</sub> 4050□0402E	50	4050
SNC683B <sub>1</sub> 3950□0402E	68	3950
SNC104B <sub>1</sub> 4100□0402E	100	4100
SNC104B <sub>1</sub> 4360□0402E	100	4360
SNC224B <sub>1</sub> 4200□0402E	220	4200
SNC334B <sub>1</sub> 4300□0402E	330	4300
SNC474B <sub>1</sub> 4500□0402E	470	4500
SNC564B <sub>1</sub> 4500□0402E	560	4500



<b>0603 Series Specification</b>		
<b>Product Model</b>	<b>25°C Resistance Value (KΩ)</b>	<b>B Value °C 25/50(K)</b>
SNC101B12700□0603E	0.1	2700
SNC221B12750□0603E	0.22	2750
SNC331B12800□0603E	0.33	2800
SNC471B12850□0603E	0.47	2850
SNC681B12900□0603E	0.68	2900
SNC102B13000□0603E	1	3000
SNC202B13000□0603E	2.2	3000
SNC222B13000□0603E	2.2	3000
SNC222B13850□0603E	2.2	3850
SNC332B13200□0603E	3.3	3200

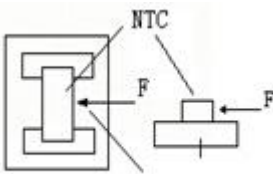
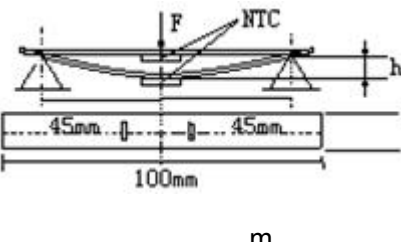
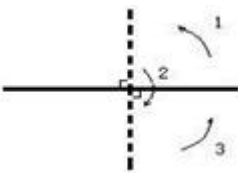
SNC472B13200□0603E	4.7	3200
SNC502B13400□0603E	5	3400
SNC682B13400□0603E	6.8	3400
SNC103B13370□0603E	10	3370
SNC103B13435□0603E	10	3435
SNC103B13900□0603E	10	3900
SNC153B13500□0603E	15	3500
SNC153B13900□0603E	15	3900
SNC223B13600□0603E	22	3600
SNC223B13900□0603E	22	3900
SNC333B13950□0603E	33	3950
SNC473B13900□0603E	47	3900
SNC473B14050□0603E	47	4050
SNC503B14050□0603E	50	4050
SNC683B13950□0603E	68	3950
SNC104B14100□0603E	100	4100
SNC104B14350□0603E	100	4350
SNC224B14200□0603E	220	4200
SNC334B14300□0603E	330	4300
SNC474B14500□0603E	470	4500
SNC564B14500□0603E	560	4500

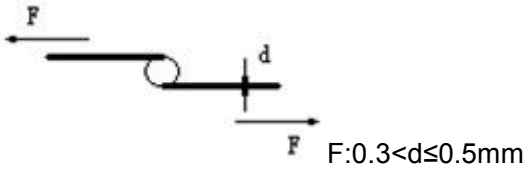
**0805 Series Specification**

Product Model	25°C Resistance Value (KΩ)	B Value °C 25/50(K)
SNC101B12700□0805E	0.1	2700
SNC221B12750□0805E	0.22	2750
SNC331B12800□0805E	0.33	2800
SNC471B12850□0805E	0.47	2850
SNC681B12900□0805E	0.68	2900
SNC102B13000□0805E	1	3000
SNC202B13000□0805E	2.2	3000
SNC222B13000□0805E	2.2	3000
SNC332B13200□0805E	3.3	3200
SNC472B13400□0805E	4.7	3400
SNC682B13400□0805E	6.8	3400
SNC103B13434□0805E	10	3435

SNC103B13900□0805E	10	3900
SNC153B13500□0805E	15	3500
SNC153B13900□0805E	15	3900
SNC203B13900□0805E	20	3900
SNC223B13600□0805E	22	3600
SNC223B13900□0805E	22	3900
SNC333B13950□0805E	33	3950
SNC473B13900□0805E	47	3900
SNC473B14050□0805E	47	4050
SNC503B14050□0805E	50	4050
SNC683B13950□0805E	68	3950
SNC104B14100□0805E	100	4100
SNC104B14360□0805E	100	4360
SNC224B14200□0805E	220	4200
SNC334B14300□0805E	330	4300
SNC474B14500□0805E	470	4500
SNC564B14500□0805E	560	4500

## 7. Reliability Test

Test Item	Testing standards	Test methods	Test object	Performance requirements
The strength of the tip	IEC68-2-21	 <p>环氧树脂印刷电路板 F:0402≥3N,0603 ≥8N,0805≥10N</p>	SNC	No visible damage
Bending strength	IEC68-2-21	 <p>h:1±0.1m</p>	SNC	No visible damage   ΔR25/ R25   ≤3%
Lead bend	IEC68-2-21	 <p>F:0.07&lt;s≤0.2mm<sup>2</sup></p>	SNE/SNG	No visible damage

		td="">		
Leads Rally	IEC68-2-21	 <p>F:0.3&lt;d≤0.5mm</p>	SNE/SNG	No visible damage
Fall	IEC68-2-32	<p>Drop height: 1±0.1m Fall times: 1 Drop surface: Cement</p>	SNC/SNE/ SNS	No visible damage   ΔR25/ R25   ≤1%   ΔB/ B   ≤2%
Weldability	IEC68-2-20	<p>Soldering temperature: 260±5°C Immersion time: 3±1s</p>	SNC/SNE/ SNG/SNS/PN	The tin area≥95%
Resistance to soldering heat	IEC68-2-20	<p>Soldering temperature: 280±10°C Immersion time: 10±1s</p>	SNC/SNE/ SNG/SNS	No visible damage   ΔR25/ R25   ≤3%
			PN	No visible damage   ΔR25/ R25   ≤10%
Damp heat load	IEC68-2-2/ IEC68-2-3/ CNS5550	<p>Temperature: 40±2°C Humidity: 90~95%RH Time: 500±12h Operating current</p>	SNC/SNE/ SNG/SNS	No visible damage   ΔR25/ R25   ≤5%   ΔB/ B   ≤2%
Thermal Shock	IEC68-2-14	<p>Temperature: -40°C, +125°C Cycle: 100, 30min/cyc</p>	SNC/SNE/ SNG/SNS	No visible damage   ΔR25/ R25   ≤5%   ΔB/ B   ≤2%
			PN	No visible damage   ΔR25/ R25   ≤20%
High-temperature	IEC68-2-2/	Temperature: 125±2°C	SNC/SNE	No visible

load	CNS5550	Time: 1000±24h Operating current		damage   $\Delta R25/R25$   $\leq 5\%$   $\Delta B/B$   $\leq 2\%$
		Temperature: 165±2°C Time: 1000±24h Operating current	SNG	No visible damage   $\Delta R25/R25$   $\leq 5\%$   $\Delta B/B$   $\leq 2\%$
		Temperature: 85±2°C/105±2°C Time: 1000±24h Operating current	SNS	No visible damage   $\Delta R25/R25$   $\leq 5\%$   $\Delta B/B$   $\leq 2\%$
		Temperature: 125±2°C Time: 1000±24h Operating current	PN	No visible damage   $\Delta R25/R25$   $\leq 20\%$
Low-temperature storage	IEC68-2-1	Temperature: -40±2°C Time: 1000±24 h	SNC/SNE/ SNG/SNS	No visible damage   $\Delta R25/R25$   $\leq 2\%$   $\Delta B/B$   $\leq 2\%$
			PN	No visible damage   $\Delta R25/R25$   $\leq 20\%$
Insulation Resistance	MIL-STD-202F -Method 302	Insulation voltage: 1000VDC Time: 1 min	SNC/SNE/ SNG/SNS/PN	No visible damage Insulation Resistance: $\geq 500$ M $\Omega$
Durability	UL1434	EnvironmentTemperature: 25±2°C Operating current Cycle: 6000	SNC/SNE/ SNG/SNS	No visible damage   $\Delta R25/R25$   $\leq 5\%$   $\Delta B/B$   $\leq 2\%$
		EnvironmentTemperature: 25±2°C Rated voltage, Rated Current Rated capacitance: 240VAC capacitor value Cycle: 6000	PN	No visible damage   $\Delta R25/R25$   $\leq 20\%$



## 8. Packaging & Storage

### 7.1 Packaging :Tape in reel

### 7.2 Storage

The product is sealed and stored. The storage environment temperature of the product is  $-10^{\circ}\text{C} \sim +40^{\circ}\text{C}$ , the relative humidity is not more than 70%. The warehouse does not allow all kinds of harmful gases, explosive products and corrosive chemicals, and there is no strong For mechanical vibration, shock and strong radiation, the package should be at least 20cm above the ground, at least 50cm from the wall, heat source, cold source, window or air inlet.

