



# DATA SHEET

**PRODUCT** **NTC Thermistor Sensor**

**SERIES** **JAT Series**

**PART NO.**

**QUICK  
REFERENCE  
DATA**

| PARAMETER            | VALUE     | UNIT |
|----------------------|-----------|------|
| Resistance Value R25 | 10~ 330   | KΩ   |
| B25/50               | 3380~4250 | K    |
| B25/85               | 3435~4360 | K    |

**ISSUE DATE** **2025/04/18**

**REVISION DATE** **2025/04/18**

**REFERENCE NO.**

**RoHS COMPLIANCE ITEM**

**Halogen Free**

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# NTC Sensor Specialty JAT series



## Features

RoHS / Halogen-Free (HF) compliant  
Operating temperature range:  $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$   
Wide resistance range  
Agency recognition: UL / TUV

符合 RoHS / Halogen-Free (HF)規範  
工作溫度範圍： $-40^{\circ}\text{C} \sim +125^{\circ}\text{C}$   
電阻範圍廣  
安規認證: UL / TUV

## Applications

Home appliances  
Office automation  
Switch mode power supplies  
Adapters  
Security

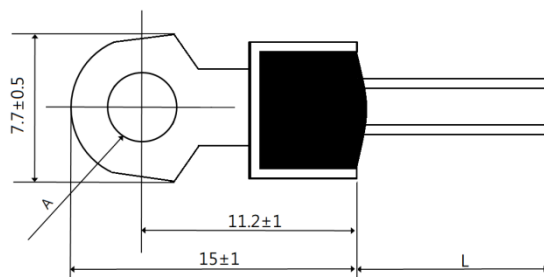
家電  
OA 設備  
開關模式電源  
適配器  
安防設備

## How to Order

| Part Number Code |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |
|------------------|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|
| 1                | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| J                | A | T | 1 | 0 | 3 | F | 3 | 4 | 4  | F  | B  | 5  | 2  | 0  | 0  | 1  | 0  | 3  | X  |
| ①                |   |   | ② |   |   | ③ | ④ |   |    | ⑤  | ⑥  | ⑦  | ⑧  | ⑨  |    |    |    |    |    |

|   |                                   |                                                                                    |   |                       |                                                                  |   |                 |                       |
|---|-----------------------------------|------------------------------------------------------------------------------------|---|-----------------------|------------------------------------------------------------------|---|-----------------|-----------------------|
| ① | Product Type                      | JAT series                                                                         | ⑤ | Tolerance of B Value  | F = $\pm 1\%$<br>G = $\pm 2\%$<br>H = $\pm 3\%$<br>J = $\pm 5\%$ | ⑨ | Optional Suffix | Internal Control Code |
| ② | Zero Power Resistance @25°C (R25) | 502 = 5KΩ<br>103 = 10KΩ<br>474 = 470KΩ                                             | ⑥ | Definition of B Value | A = 25/50<br>B = 25/85                                           |   |                 |                       |
| ③ | Tolerance of R25                  | F = $\pm 1\%$<br>G = $\pm 2\%$<br>H = $\pm 3\%$<br>J = $\pm 5\%$<br>K = $\pm 10\%$ | ⑦ | Lead Diameter         | 5 = 0.5mm                                                        |   |                 |                       |
| ④ | B Value                           | 344 = 3435 K<br>405 = 4050 K                                                       | ⑧ | Lead spacing          | 2 = 2.5mm<br>4 = 3.5mm                                           |   |                 |                       |

## Structure and Dimension



L1: Designed by customer needs

### Electrical Characteristics

| Part No      | Zero Power Resistance at 25°C | Tolerance of R25 | B25/50 Value | Tolerance of B Value | Dissipation Factor | Thermal Time Constant | Max. Power Rating at 25°C | Safety Approvals                                                                    |                                                                                     |
|--------------|-------------------------------|------------------|--------------|----------------------|--------------------|-----------------------|---------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|              | R 25 (Ω)                      | (± %)            | (K)          | (± %)                | δ(mW/°C)           | τ (sec.)              | (mW)                      |  |  |
| JAT103X338YA | 10,000                        | 10,5,3,2,1       | 3380         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                   | ■                                                                                   |
| JAT103X410YA | 10,000                        | 10,5,3,2,1       | 4100         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                   | ■                                                                                   |
| JAT473X395YA | 47,000                        | 10,5,3,2,1       | 3950         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                   | ■                                                                                   |
| JAT503X395YA | 50,000                        | 10,5,3,2,1       | 3950         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                   | ■                                                                                   |
| JAT104X395YA | 100,000                       | 10,5,3,2,1       | 3950         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                   | ■                                                                                   |
| JAT104X425YA | 100,000                       | 10,5,3,2,1       | 4250         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                   | ■                                                                                   |

※ X : R Tolerance, Y : B Value Tolerance

| Part No      | Zero Power Resistance at 25°C | Tolerance of R25 | B25/85 Value | Tolerance of B Value | Dissipation Factor | Thermal Time Constant | Max. Power Rating at 25°C | Safety Approvals                                                                      |                                                                                       |
|--------------|-------------------------------|------------------|--------------|----------------------|--------------------|-----------------------|---------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|              | R 25 (Ω)                      | (± %)            | (K)          | (± %)                | δ(mW/°C)           | τ (sec.)              | (mW)                      |  |  |
| JAT103X344YB | 10,000                        | 10,5,3,2,1       | 3435         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT103X398YB | 10,000                        | 10,5,3,2,1       | 3980         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT333X398YB | 33,000                        | 10,5,3,2,1       | 3980         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT473X409YB | 47,000                        | 10,5,3,2,1       | 4090         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT503X409YB | 50,000                        | 10,5,3,2,1       | 4090         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT104X395YB | 100,000                       | 10,5,3,2,1       | 3950         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT104X408YB | 100,000                       | 10,5,3,2,1       | 4080         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT104X419YB | 100,000                       | 10,5,3,2,1       | 4190         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT104X425YB | 100,000                       | 10,5,3,2,1       | 4250         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT104X436YB | 100,000                       | 10,5,3,2,1       | 4360         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT204X406YB | 200,000                       | 10,5,3,2,1       | 4055         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |
| JAT334X398YB | 330,000                       | 10,5,3,2,1       | 3980         | 5,3,2,1              | Approx. 2.5        | Approx. 18            | 150                       | ■                                                                                     | ■                                                                                     |

※ X : R Tolerance, Y : B Value Tolerance

# Reliability- NTC Sensor Specialty JAT series

| Item                          | Standard              | Test condition                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Specifications                                              |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
|-------------------------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|-----------------|------------------|----------------|---------------------|-----------------|---------------------|------------------|---------------------|--------------|-------------------|------|---|------------------|-----|-------------------------------------|
| Terminal pull strength        | IEC 60068-2-21        | <div>Gradually applying the force specified and keeping the unit fixed for 10±1 sec.</div> <table><tr><th>Terminal diameter (mm)</th><th>Force (Kg)</th></tr><tr><td>d ≤ 0.25mm</td><td>1N (0.102Kg)</td></tr><tr><td>0.25mm &lt; d ≤ 0.35mm</td><td>2.5N (0.255Kg)</td></tr><tr><td>0.35mm &lt; d ≤ 0.50mm</td><td>5N (0.510Kg)</td></tr><tr><td>0.50mm &lt; d ≤ 0.80mm</td><td>10N (1.02Kg)</td></tr></table>                                                                                                               | Terminal diameter (mm)                                      | Force (Kg)      | d ≤ 0.25mm       | 1N (0.102Kg)   | 0.25mm < d ≤ 0.35mm | 2.5N (0.255Kg)  | 0.35mm < d ≤ 0.50mm | 5N (0.510Kg)     | 0.50mm < d ≤ 0.80mm | 10N (1.02Kg) | No visible damage |      |   |                  |     |                                     |
| Terminal diameter (mm)        | Force (Kg)            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| d ≤ 0.25mm                    | 1N (0.102Kg)          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 0.25mm < d ≤ 0.35mm           | 2.5N (0.255Kg)        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 0.35mm < d ≤ 0.50mm           | 5N (0.510Kg)          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 0.50mm < d ≤ 0.80mm           | 10N (1.02Kg)          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| Bending Strength of Terminals | IEC 60068-2-21        | <div>Hold specimen and apply the force specified below to each lead.<br/>Bend the specimen to 90° , then return to the original position.<br/>Repeat the procedure in the opposite direction.</div> <table><tr><th>Terminal diameter (mm)</th><th>Force (Kg)</th></tr><tr><td>d ≤ 0.25mm</td><td>0.5N (0.051Kg)</td></tr><tr><td>0.25mm &lt; d ≤ 0.35mm</td><td>1.25N (0.128Kg)</td></tr><tr><td>0.35mm &lt; d ≤ 0.50mm</td><td>2.5N (0.255Kg)</td></tr><tr><td>0.50mm &lt; d ≤ 0.80mm</td><td>5N (0.510Kg)</td></tr></table> | Terminal diameter (mm)                                      | Force (Kg)      | d ≤ 0.25mm       | 0.5N (0.051Kg) | 0.25mm < d ≤ 0.35mm | 1.25N (0.128Kg) | 0.35mm < d ≤ 0.50mm | 2.5N (0.255Kg)   | 0.50mm < d ≤ 0.80mm | 5N (0.510Kg) | No visible damage |      |   |                  |     |                                     |
| Terminal diameter (mm)        | Force (Kg)            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| d ≤ 0.25mm                    | 0.5N (0.051Kg)        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 0.25mm < d ≤ 0.35mm           | 1.25N (0.128Kg)       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 0.35mm < d ≤ 0.50mm           | 2.5N (0.255Kg)        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 0.50mm < d ≤ 0.80mm           | 5N (0.510Kg)          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| Solderability                 | IEC 60068-2-20        | 245±3℃, 3±0.3 sec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | At least 95% of terminal electrode is covered by new solder |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| Resistance to soldering heat  | IEC 60068-2-20        | 260±5℃,10±1 sec                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No visible damage<br>△R25/R25 ≤ ±5%                         |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| High temperature storage      | IEC 60068-2-2         | 125±2℃, 1000hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | No visible damage<br>△R25/R25 ≤ ±5%                         |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| Damp Heat Steady State        | IEC 60068-2-78        | 40±2℃ , 90~95% RH, 1000±24hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | No visible damage<br>△R25/R25 ≤ ±5%                         |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| Rapid Change of Temperature   | IEC 60068-2-14        | <div>The conditions shown below shall be repeated 5 cycles.</div> <table><tr><th>Step</th><th>Temperature (℃)</th><th>Period (minutes)</th></tr><tr><td>1</td><td>-40±5</td><td>30±3</td></tr><tr><td>2</td><td>Room temperature</td><td>5±3</td></tr><tr><td>3</td><td>125±5</td><td>30±3</td></tr><tr><td>4</td><td>Room temperature</td><td>5±3</td></tr></table>                                                                                                                                                          | Step                                                        | Temperature (℃) | Period (minutes) | 1              | -40±5               | 30±3            | 2                   | Room temperature | 5±3                 | 3            | 125±5             | 30±3 | 4 | Room temperature | 5±3 | No visible damage<br>△R25/R25 ≤ ±5% |
| Step                          | Temperature (℃)       | Period (minutes)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 1                             | -40±5                 | 30±3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 2                             | Room temperature      | 5±3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 3                             | 125±5                 | 30±3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| 4                             | Room temperature      | 5±3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                             |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |
| Life Test                     | IEC 60539-1<br>4.26.3 | 25±5℃ , Pmax, 1000hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | No visible damage<br>△R25/R25 ≤ ±5%                         |                 |                  |                |                     |                 |                     |                  |                     |              |                   |      |   |                  |     |                                     |