

# 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** 2023/2/4

**REVISION DATE** 2023/2/4

**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°C~+125°C  
Wide resistance range  
Qualified based on AEC-Q200  
Agency recognition: UL / TUV

符合 RoHS / Halogen-Free (HF)規範  
工作溫度範圍：-40°C ~ +125°C  
電阻範圍廣  
符合 AEC-Q200  
安規認證: UL / TUV

## Applications

Home appliances  
Office automation  
Automotive  
Switch mode power supplies  
Adapters  
Security

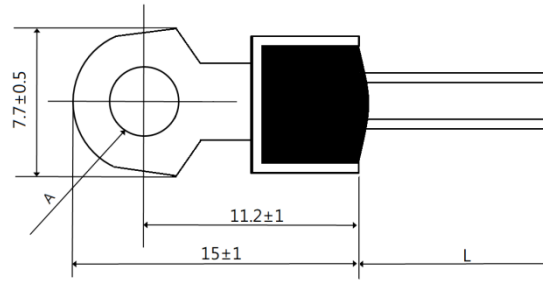
家電  
OA 設備  
汽車  
開關模式電源  
適配器  
安防設備

## 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 = ±1% G = ±2% H = ±3% J = ±5%	⑨	Optional Suffix	Internal Control Code
②	Zero Power Resistance @25°C (R25)	502 = 5KΩ 103 = 10KΩ 474 = 470KΩ	⑥	Definition of B Value	A = 25/50 B = 25/85			
③	Tolerance of R25	F = ±1% G = ±2% H = ±3% J = ±5% K = ±10%	⑦	Lead Diameter	5 = 0.5mm			
④	B Value	344 = 3435 K 405 = 4050 K	⑧	Lead spacing	2 = 2.5mm 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	<p>Gradually applying the force specified and keeping the unit fixed for 10±1 sec.</p> <table border="1"> <thead> <tr> <th>Terminal diameter (mm)</th> <th>Force (Kg)</th> </tr> </thead> <tbody> <tr> <td><math>d \leq 0.25\text{mm}</math></td> <td>1N (0.102Kg)</td> </tr> <tr> <td><math>0.25\text{mm} &lt; d \leq 0.35\text{mm}</math></td> <td>2.5N (0.255Kg)</td> </tr> <tr> <td><math>0.35\text{mm} &lt; d \leq 0.50\text{mm}</math></td> <td>5N (0.510Kg)</td> </tr> <tr> <td><math>0.50\text{mm} &lt; d \leq 0.80\text{mm}</math></td> <td>10N (1.02Kg)</td> </tr> </tbody> </table>	Terminal diameter (mm)	Force (Kg)	$d \leq 0.25\text{mm}$	1N (0.102Kg)	$0.25\text{mm} < d \leq 0.35\text{mm}$	2.5N (0.255Kg)	$0.35\text{mm} < d \leq 0.50\text{mm}$	5N (0.510Kg)	$0.50\text{mm} < d \leq 0.80\text{mm}$	10N (1.02Kg)	No visible damage					
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Bending Strength of Terminals	IEC 60068-2-21	<p>Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, then return to the original position. Repeat the procedure in the opposite direction.</p> <table border="1"> <thead> <tr> <th>Terminal diameter (mm)</th> <th>Force (Kg)</th> </tr> </thead> <tbody> <tr> <td><math>d \leq 0.25\text{mm}</math></td> <td>0.5N (0.051Kg)</td> </tr> <tr> <td><math>0.25\text{mm} &lt; d \leq 0.35\text{mm}</math></td> <td>1.25N (0.128Kg)</td> </tr> <tr> <td><math>0.35\text{mm} &lt; d \leq 0.50\text{mm}</math></td> <td>2.5N (0.255Kg)</td> </tr> <tr> <td><math>0.50\text{mm} &lt; d \leq 0.80\text{mm}</math></td> <td>5N (0.510Kg)</td> </tr> </tbody> </table>	Terminal diameter (mm)	Force (Kg)	$d \leq 0.25\text{mm}$	0.5N (0.051Kg)	$0.25\text{mm} < d \leq 0.35\text{mm}$	1.25N (0.128Kg)	$0.35\text{mm} < d \leq 0.50\text{mm}$	2.5N (0.255Kg)	$0.50\text{mm} < d \leq 0.80\text{mm}$	5N (0.510Kg)	No visible damage					
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Solderability	IEC 60068-2-20	245±3°C, 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°C, 10±1 sec	No visible damage $\Delta R_{25}/R_{25} \leq \pm 5\%$															
High temperature storage	IEC 60068-2-2	125±2°C, 1000hrs	No visible damage $\Delta R_{25}/R_{25} \leq \pm 5\%$															
Damp Heat Steady State	IEC 60068-2-78	40±2°C, 90~95% RH, 1000±24hrs	No visible damage $\Delta R_{25}/R_{25} \leq \pm 5\%$															
Rapid Change of Temperature	IEC 60068-2-14	<p>The conditions shown below shall be repeated 5 cycles.</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Period (minutes)</th> </tr> </thead> <tbody> <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> </tbody> </table>	Step	Temperature (°C)	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 $\Delta R_{25}/R_{25} \leq \pm 5\%$
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1	-40±5	30±3																
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3	125±5	30±3																
4	Room temperature	5±3																
Life Test	IEC 60539-1 4.26.3	25±5°C, Pmax, 1000hrs	No visible damage $\Delta R_{25}/R_{25} \leq \pm 5\%$															