

# DATA SHEET

**PRODUCT** NTC Thermistor Sensor

**SERIES** JTD Series

**PART NO.**

**QUICK  
REFERENCE  
DATA**

PARAMETER	VALUE	UNIT
Resistance Value R25	10~ 100	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 JTD series



## Features

RoHS / Halogen-Free (HF) compliant  
Accuracy  
Operating temperature range: -40°C ~ + 105°C  
Wide resistance range  
Agency recognition: UL / TUV

符合 RoHS / Halogen-Free (HF) 規範  
高精度  
工作溫度範圍：-40°C ~ + 105°C  
電阻範圍廣  
安規認證: UL / TUV

## Applications

Home appliances  
Mobile devices  
Battery packs  
Body thermometers

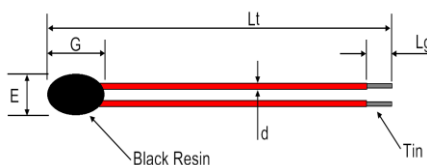
家電  
移動設備  
電池組  
體溫計

## 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	21	
J	T	D	1	0	3	F	3	4	4	F	B	1	2	0	8	7	N	X	X	X	
①			②			③	④			⑤	⑥	⑦			⑧			⑨	⑩	Ⓐ	

①	Product Type	JTD series	⑤	Tolerance of B Value	F = ±1% G = ±2%	⑨	Coating Type	N = Black Resin
②	Zero Power Resistance @25 °C (R25)	103 = 10KΩ 503 = 50KΩ 104 = 100KΩ	⑥	Definition of B Value	A = 25/50 B = 25/85	⑩	Soldered Length	X = 3.0 ± 1 mm N = 2.5 ± 1 mm
③	Tolerance of R25	F = ±1% G = ±2%	⑦	Lead Diameter	12 = Ø0.12mm Enameled wire 26 = Ø0.26mm Enameled wire	Ⓐ	Optional Suffix	Internal Control Code
④	B Value	344 = 3435 K 398 = 3980 K	⑧	Lead Length	025 = 25 mm 087 = 87 mm			



## Structure and Dimension





Unit in mm

d	G max	E max	Lt ±5	Lg±1
0.08	4	0.7	40~130	3~5
0.12	4	1.4		
0.16	5	1.6		
0.26	5	1.8		

## 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)		
JTD103X338YA	10,000	10,5,3,1	3380	5,3,1	Approx. 1.6	Approx. 3.4	3.5	■	
JTD103X395YA	10,000	10,5,3,1	3950	5,3,1	Approx. 1.6	Approx. 3.4	3.5	■	
JTD473X395YA	47,000	10,5,3,1	3950	5,3,1	Approx. 1.6	Approx. 3.4	3.5	■	■
JTD503X395YA	50,000	10,5,3,1	3950	5,3,1	Approx. 1.6	Approx. 3.4	3.5	■	
JTD104X395XA	100,000	10,5,3,1	3950	5,3,1	Approx. 0.7	Approx. 0.8	3.5	■	■
JTD104X425YA	100,000	10,5,3,1	4250	5,3,1	Approx. 0.7	Approx. 0.8	3.5		

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)		
JTD103X344YB	10,000	10,5,3,1	3435	5,3,1	Approx. 0.7	Approx. 0.8	3.5	■	■
JTD103X398YB	10,000	10,5,3,1	3980	5,3,1	Approx. 0.7	Approx. 0.8	3.5	■	
JTD104X408YB	100,000	10,5,3,1	4080	5,3,1	Approx. 0.7	Approx. 0.8	3.5		
JTD104X436YB	100,000	10,5,3,1	4360	5,3,1	Approx. 0.7	Approx. 0.8	3.5		

※ X : R Tolerance, Y : B Value Tolerance



## Reliability-NTC Thermistor JTD

Item	Standard	Test Conditions / Methods	Specifications										
Terminal pull strength	IEC 60068-2-21	<p>After gradually applying the load specified below 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
Terminal diameter (mm)	Force (Kg)												
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$0.50\text{mm} < d \leq 0.80\text{mm}$	10N (1.02Kg)												
Resin coating strength	Specification Standard	<p>The lead-wire shall be firmly wrapped on the cylinder with the diameter of 3mm. A downward tension shall be applied to the lead-wire and increased to 1N.</p>	No visible damage										
Free fall	IEC 60068-2-32	After 3 times free fall to a maple board from 1m height.	$\triangle R_{25}/R_{25} \leq \pm 5\%$										
Damp heat	IEC 60068-2-78	Temperature $40 \pm 3^\circ\text{C}$ R.H.90~95% for 1000hours without load	$\triangle R_{25}/R_{25} \leq \pm 5\%$										
Dry heat	IEC 60068-2-2	Test sample shall be exposed in air $100^\circ\text{C} \pm 3^\circ\text{C}$ for 1000 hours. After being stored within normal room ambient temperature and humidity for 1 hour.	$\triangle R_{25}/R_{25} \leq \pm 5\%$										
Life Test	IEC 60539-1	$25 \pm 5^\circ\text{C}$ , 3.5mW, 1000hrs	$\triangle R_{25}/R_{25} \leq \pm 5\%$										
Thermal shock	IEC 60068-2-14	<p>Temperature cycling shall be proceeded in the following order and conditions.</p> <p>(a) At room ambient temperature. (Initial value) (b) At <math>-30^\circ\text{C}</math> for 30 minutes. (c) At room ambient temperature for 5 minutes. (d) At <math>+100^\circ\text{C}</math> for 30 minutes. (e) At room ambient temperature for 5 minutes.</p> <p>100 cycles shall be repeated. After being stored within normal room ambient temperature and humidity for 1 hour.</p>	$\triangle R_{25}/R_{25} \leq \pm 5\%$										
Resistance to soldering heat	IEC 60068-2-20	After lead wire of test sample was one time dipped within 3.0mm from end of lead wire in solder bath at $260^\circ\text{C} \pm 5^\circ\text{C}$ for $10 \pm 1$ seconds, After being stored within normal room ambient temperature and humidity for 1 hour.	$\triangle R_{25}/R_{25} \leq \pm 5\%$										
Solderability	IEC 60068-2-20	After lead wire of test sample was one time dipped within 3.0mm from end of lead wire in solder bath at $245^\circ\text{C} \pm 3^\circ\text{C}$ for $3 \pm 0.3$ seconds. After being stored within normal room ambient temperature and humidity for 1 hour.	At least 95% of terminal electrode is covered by new solder										
Low temperature storage	IEC60068-2-1	Test sample shall be exposed in air $-40 \pm 2^\circ\text{C}$ for 1000 hours. After being stored within normal room ambient temperature and humidity for 1 hour.	$\triangle R_{25}/R_{25} \leq \pm 5\%$										