

# DATA SHEET

**PRODUCT** NTC Thermistor Sensor

**SERIES** JSR Series

**PART NO.**

**QUICK  
REFERENCE  
DATA**

PARAMETER	VALUE	UNIT
Resistance Value R25	10~ 100	KΩ
B25/50	3950~4250	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 JSR series



## Features

RoHS / Halogen-Free (HF) compliant  
The wire length can be adjusted according to customer needs  
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  
導線長度可依客戶需求調整，便於安裝傳感器  
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  
Battery packs  
Security

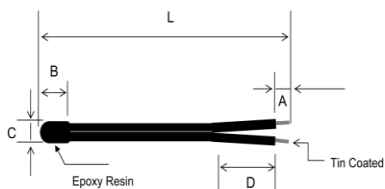
家電  
OA 設備  
汽車  
電池組  
安防設備

## 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	21	22	23
J	S	R	1	0	3	F	3	4	4	F	B	2	8	0	5	0	D	B	C	A	-	X
①				②		③		④		⑤	⑥		⑦		⑧		⑨		⑩		Ⓐ	

①	Product Type	JSR series	⑤	Tolerance of B Value	F = ±1% G = ±2% H = ±3%	⑨	Wire Type	DB = UL4413 & Connected SB = UL4469 & Connected HF = UL3302 & Separated JB = UL4484 & Connected
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%	⑦	Wire Gauge	26 = 26 AWG 28 = 28 AWG 30 = 30 AWG 32 = 32 AWG	⑩	Soldered Length	DA = 2.0mm ± 0.5mm EA = 3.0mm ± 0.5mm EB = 3.0mm ± 1.0mm
④	B Value	344 = 3435 K 405 = 4050 K	⑧	Total Length	025 = 25 mm 145 = 145 mm	Ⓐ	Optional Suffix	Internal Control Code

## Structure and Dimension







Unit in mm

Wire Gauge	B max	C max	D min	A	L
AWG 32	6.0	2.6	10	Designed by customer needs	Designed by customer needs
AWG 30	6.0	3.0	10		
AWG 28	7.0	3.5	10		
AWG 26	8.0	4.0	10		

Wire Gauge can be 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)		
JSR103X395YA	10,000	10,5,3,1	3950	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR103X405YA	10,000	10,5,3,1	4050	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR103X410YA	10,000	10,5,3,1	4100	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR473X395YA	47,000	10,5,3,1	3950	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR473X405YA	47,000	10,5,3,1	4050	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR503X395YA	50,000	10,5,3,1	3950	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR104X395YB	100,000	10,5,3,1	3950	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR104X425YA	100,000	10,5,3,1	4250	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■

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)		
JSR103X344YB	10,000	10,5,3,1	3435	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR103X398YB	10,000	10,5,3,1	3977	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR473X397YB	47,000	10,5,3,1	3970	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR473X408YB	47,000	10,5,3,1	4080	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR503X397YB	50,000	10,5,3,1	3970	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR683X404YB	68,000	10,5,3,1	4040	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR104X408YB	100,000	10,5,3,1	4080	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR104X419YB	100,000	10,5,3,1	4190	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR104X425YB	100,000	10,5,3,1	4250	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR104X436YB	100,000	10,5,3,1	4360	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■
JSR153X420YB	150,000	10,5,3,1	4200	5,3,2,1	Approx. 2.0	Approx. 10	45	■	■

※ X : R Tolerance, Y : B Value Tolerance

# Reliability-NTC Thermistor JSR

Test description	Standard	Test condition	Test requirement															
Tensile Strength of Terminals	IEC 60068-2-21	Apply 0.5kg force and fix the device for 10±1 seconds.	No visible damage															
Resistance to soldering heat	IEC 60068-2-20	Terminals of lead wire are immersed in solder in bath at 260±5 °C for 10±1 seconds.	$\Delta R_{25}/R_{25} \leq \pm 5\%$															
Solderability	IEC 60068-2-20	Terminals of lead wire are immersed in solder (Pb free) bath at 245±3°C for 3±0.3 seconds.	Above 95% in the terminal surface shall be with new solder															
High Temperature Storage	IEC 60068-2-2	Test sample shall be exposed in air at Tmax for 1000 hours. After being stored in room temperature and humidity for one hour.	$\Delta R_{25}/R_{25} \leq \pm 5\%$															
Damp Heat Steady State	IEC 60068-2-78	Test sample shall be exposed in 40°C, 90~95%RH for 1000 hours. After being stored in room temperature and humidity for one hour.	$\Delta R_{25}/R_{25} \leq \pm 5\%$															
Low Temperature Storage	IEC 60068-2-2	Test sample shall be exposed in air at -40°C for 1000 hours. After being stored in room temperature and humidity for one hour.	$\Delta R_{25}/R_{25} \leq \pm 5\%$															
Rapidchange of Temperature	IEC 60068-2-14	<p>Temperature cycle shall be repeated five 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>Tmax</td> <td>30±3</td> </tr> <tr> <td>4</td> <td>Room temperature</td> <td>5±3</td> </tr> </tbody> </table> <p>After being stored in room temperature and humidity for one hour.</p>	Step	Temperature (°C)	Period (minutes)	1	-40±5	30±3	2	Room temperature	5±3	3	Tmax	30±3	4	Room temperature	5±3	$\Delta R_{25}/R_{25} \leq \pm 5\%$
Step	Temperature (°C)	Period (minutes)																
1	-40±5	30±3																
2	Room temperature	5±3																
3	Tmax	30±3																
4	Room temperature	5±3																
Life Test	IEC60539-1 4.26.3	Apply Pmax to the sample for 1000 hours at room temperature, and measure after one hour storage at room temperature and humidity	$\Delta R_{25}/R_{25} \leq \pm 5\%$															
Hi-Pot Test	IEC60539-1	Short-circuit the two wires of the product, and apply a voltage of 300Vrms (AC) between the encapsulating material and the wires at room temperature for 1.5 seconds.	No visible damage $I_{Leak} \leq 1mA$															
Insulation Resistance	MIL-STD-202F Method 302	Measured at DC 100V The resistance must be above 100MΩ for 60± 3 sec	No visible damage $\geq 100M\Omega$															