

DATA SHEET

PRODUCT NTC Thermistor Sensor

SERIES JFR Series

PART NO.

QUICK REFERENCE DATA

PARAMETER	VALUE	UNIT
Resistance Value R25	10~ 33	KΩ
B25/50	3380~3950	K
B25/85	3435~4050	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 JFR series



Features

RoHS / Halogen-Free (HF) compliant
Accuracy
Operating temperature range: -40°C ~ + 100°C
Agency recognition: UL / TUV

符合 RoHS / Halogen-Free (HF) 規範
高精度
工作溫度範圍：-40°C ~ + 100°C
安規認證：UL / TUV

Applications

IT equipment
Mobile devices
Battery packs

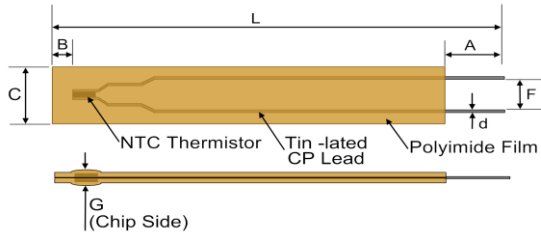
IT 設備
移動設備
電池組

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	F	R	1	0	3	F	3	4	4	F	B	2	5	0	5	0	C	P	G
①			②			③	④			⑤	⑥	⑦			⑧			⑨	⑩

①	Product Type	JFR series	⑤	Tolerance of B Value	F = ±1% G = ±2%	⑨	Soldered Length	CP = 5.0mm ± 1.0 mm
②	Zero Power Resistance @25°C (R25)	103 = 10KΩ	⑥	Definition of B Value	A = 25/50 B = 25/85	⑩	Optional Suffix	Internal Control Code
③	Tolerance of R25	F = ±1% G = ±2% H = ±3% J = ±5%	⑦	Lead Diameter	25 = ∅0.25mm			
④	B Value	344 = 3435 K	⑧	Lead Length	025 = 25 mm 050 = 50 mm			

Structure and Dimension



Unit in mm

ITEM	A±1.0	B±0.5	C±0.5	L±1.0	F±0.20	G max	d±0.02
JFR103F344FB25025CPG	5.0	2.0	4.0	25	1.55	0.6	0.25
JFR103F344FB25050CPG	5.0	2.0	4.0	50	1.55	0.6	0.25

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)	
JFR103X338YA	10,000	10,5,3,1	3380	5,3,1	Approx. 1.6	Approx. 3.4	3.5	
JFR103X395YA	10,000	10,5,3,1	3950	5,3,1	Approx. 1.6	Approx. 3.4	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)	
JFR103X344YB	10,000	10,5,3,1	3435	5,3,1	Approx. 1.6	Approx. 3.4	3.5	■ ■
JFR103X398YB	10,000	10,5,3,1	3980	5,3,1	Approx. 1.6	Approx. 3.4	3.5	
JFR103X405YB	10,000	10,5,3,1	3980	5,3,1	Approx. 1.6	Approx. 3.4	3.5	
JFR333X405YB	33,000	10,5,3,1	3980	5,3,1	Approx. 1.6	Approx. 3.4	3.5	

※ X : R Tolerance, Y : B Value Tolerance

Reliability-NTC Thermistor JFR

Test description	Standard	Test condition	Specifications															
Tensile Strength of Terminal	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>$d \leq 0.25\text{mm}$</td> <td>1N (0.102Kg)</td> </tr> <tr> <td>$0.25\text{mm} < d \leq 0.35\text{mm}$</td> <td>2.5N (0.255Kg)</td> </tr> <tr> <td>$0.35\text{mm} < d \leq 0.50\text{mm}$</td> <td>5N (0.510Kg)</td> </tr> <tr> <td>$0.50\text{mm} < d \leq 0.80\text{mm}$</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 Terminal	IEC 60068-2-21	<p>Hold specimen and apply the force specified below to each lead. Bend the specimen to 90°, then return to 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>$d \leq 0.25\text{mm}$</td> <td>0.5N (0.051Kg)</td> </tr> <tr> <td>$0.25\text{mm} < d \leq 0.35\text{mm}$</td> <td>1.25N (0.128Kg)</td> </tr> <tr> <td>$0.35\text{mm} < d \leq 0.50\text{mm}$</td> <td>2.5N (0.255Kg)</td> </tr> <tr> <td>$0.50\text{mm} < d \leq 0.80\text{mm}$</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±3°C, 10±1 sec	$\Delta R_{25}/R_{25} \leq \pm 5\%$															
Dry heat	IEC 60068-2-2	100±5°C, 1000±24hrs	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>100±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	100±5	30±3	4	Room temperature	5±3	No visible damage $\Delta R_{25}/R_{25} \leq \pm 5\%$
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Room temperature load	IEC 60539-1	25±5°C, Pmax, 1000±24hrs	No visible damage $\Delta R_{25}/R_{25} \leq \pm 5\%$															