

Polymer PTC Resettable Fuse For Battery Protection

JK-D

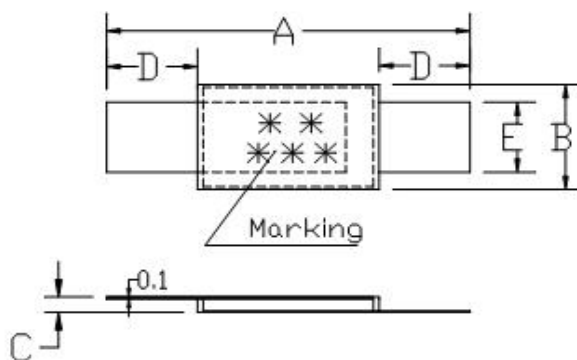
Series

Features:

- ✧ Strap devices, Axial leaded
- ✧ Protection for NiCd/NiMH rechargesble battery packs,Li-ion/Polymer Li-ion battery
- ✧ Available in lead-free version
- ✧ Agency recognition:UL、CSA、TUV



Product Dimensions



Unit : mm

JK-D Series

| Model | A | | B | | C | | D | | E | |
|---------|------|------|-----|-----|------|------|-----|-----|-----|-----|
| | Min | Max | Min | Max | Min | Max | Min | Max | Min | Max |
| JK-D170 | 15.4 | 17.5 | 6.9 | 7.4 | 0.50 | 1.00 | 5.0 | 6.2 | 3.8 | 4.2 |
| JK-D175 | 21.9 | 24.5 | 3.0 | 3.6 | 0.50 | 1.00 | 4.5 | 5.5 | 2.3 | 3.2 |
| JK-D200 | 21.9 | 24.5 | 3.0 | 3.6 | 0.50 | 1.00 | 4.5 | 5.5 | 2.3 | 3.2 |
| JK-D210 | 21.9 | 24.5 | 3.0 | 3.6 | 0.50 | 1.00 | 4.5 | 5.5 | 2.3 | 3.2 |

Thermal Derating Chart-IH (A)

JK-D Series

| Model | Maximum ambient operating temperatures (°C) | | | | | | | | |
|---------|---|-----|-----|------|-----|-----|------|-----|--|
| | -40 | -20 | 0 | 25 | 40 | 50 | 60 | 70 | |
| JK-D170 | 3.5 | 2.9 | 2.4 | 1.7 | 1.2 | 1.0 | 0.7 | 0.3 | |
| JK-D175 | 3.5 | 2.9 | 2.4 | 1.75 | 1.3 | 1.0 | 0.7 | 0.3 | |
| JK-D200 | 4.2 | 3.5 | 2.8 | 2.0 | 1.5 | 1.2 | 0.80 | 0.3 | |
| JK-D210 | 4.5 | 3.8 | 3.0 | 2.1 | 1.6 | 1.3 | 0.9 | 0.4 | |

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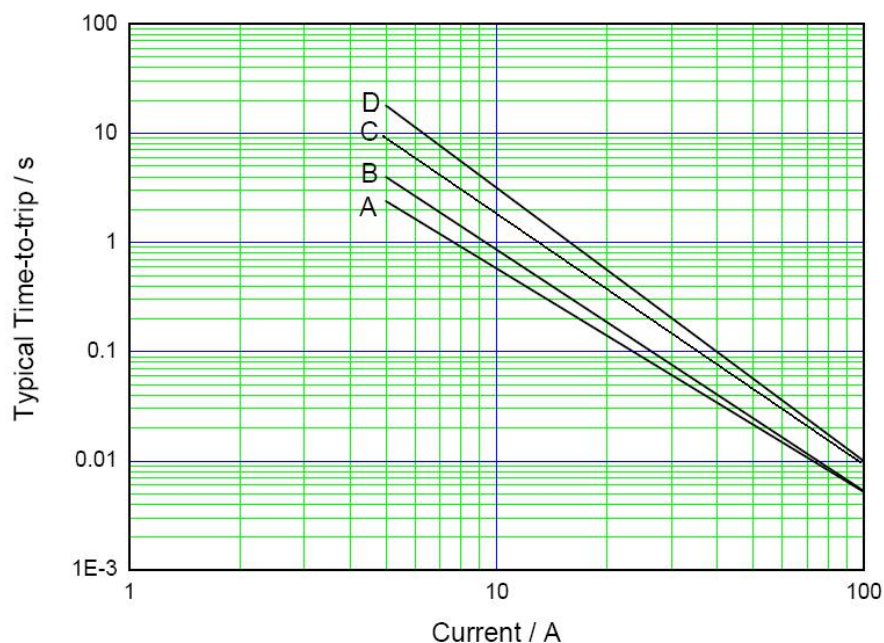
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Specifications are subject to change without notice !



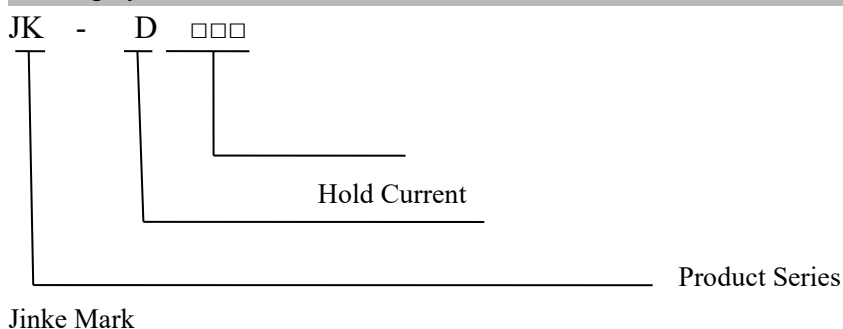
Typical Time-to-Trip Charts at 25°C



Electrical Characteristic

| Model | I_{hold} (A) | I_{trip} (A) | V_{max} (V) | I_{max} (A) | P_d (W) | I_{trip} Current (A) | T_{trip} Time (S) | R_{min} (mΩ) | R_{max} (mΩ) | R_{lmax} (mΩ) |
|---------|-------------------|-------------------|------------------|------------------|--------------|------------------------------|---------------------------|-------------------|-------------------|--------------------|
| JK-D170 | 1.70 | 3.4 | 12 | 100 | 1.20 | 8.50 | 5.0 | 30 | 52 | 104 |
| JK-D175 | 1.75 | 3.8 | 12 | 100 | 1.20 | 8.75 | 5.0 | 29 | 51 | 102 |
| JK-D200 | 2.00 | 4.5 | 12 | 100 | 1.20 | 10.0 | 5.0 | 20 | 40 | 80 |
| JK-D210 | 2.10 | 4.7 | 12 | 100 | 1.20 | 10.5 | 5.0 | 18 | 30 | 60 |

Marking System



Test Procedures And Requirements

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| Test | Test Conditions | Accept/Reject Criteria |
|-----------------|-------------------------------------|-------------------------------|
| Resistance | In still air @ 25°C | $R_{min} \leq R \leq R_{max}$ |
| Time to Trip | Specified current, V_{max} , 25°C | Tmaximum Time to Trip |
| Hold Current | 30min, at I_H | No trip |
| Trip Cycle Life | V_{max} , I_{max} , 1000cycles | No arcing or burning |
| Trip Endurance | V_{max} , 24hours | No arcing or burning |

Physical Characteristics and Environmental Specifications

Physical Characteristics

| | |
|---------------|--|
| Lead material | 0.125mm nominal hickness,quarter-hard nickel |
| Tape material | Polyester |

Environmental Specifications

| Test | Conditions | Resistance Change |
|----------------|-------------------------------|-------------------|
| Passive aging | 70°C,1000hours | ±10% |
| Humidity aging | 85°C/85%RH.7days | ±5% |
| Vibration | MIL-STD-883C,Test Condition A | No chage |

Electrical Specifications:

I_{hold} =Hold current: maximum current device will not trip in 25°C still air.

I_{trip} = Trip current: minimum current device will always trip in 25°C still air.

V_{max} =Maximum voltage device can withstand without damage at rated current(I_{max}).

I_{max} =Maximum fault current device can withstand without damage at rated voltage(V_{max}).

$P_{d max}$ = Power dissipated when device is in the tripped state in 25°C still air environment at rated voltage.

Max Time-to-trip=Maximum time to trip(s) at assigned current.

R_{min} =Minimum device resistance prior to tripping at 25°C.

R_{max} =Maximum device resistance prior to tripping at 25°C.

R_{lmax} =Maximum device resistance one hour after it is tripped at 25°C

Packaging and Storage

Packaging

Bulk,500/1000pcs per bag

Storage

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The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and shall only be opened prior to use. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.

Warning:

Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame. The devices are intended for protection against occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated. Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices. Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal and mechanical procedures for electronic components. Operation in circuit with a large inductance can generate a circuit voltage ($L \frac{di}{dt}$) above the rated voltage of the resettable device.

Notes:

The specification is intended to present application, product and technical data to assist the user in selecting PPTC circuit production devices. However, users should independently evaluate and test the suitability of each product. JinRui makes no warranties as to the accuracy or completeness of the information and disclaims any liability resulting from its use. JinRui's only obligations are those in the JinRui Standard Terms and Conditions of Sale and in no case will JinRui be liable for any incidental, indirect, or consequential damages arising from the sale, resale, or misuse of its products. JinRui reserves the right to change or update, without notice, any information contained in this specification.