

Polymer PTC Resettable Fuse JK250 Series

Features:

- ✧ Radial leaded Devices
- ✧ Cured, flame retardant epoxy polymer insulating material meets UL94V-0
- ✧ Bulk packaging, or tape and reel available on most models
- ✧ Agency recognition: UL、CSA、TUV
- ✧ Rohs compliant and lead-free



Product Dimensions

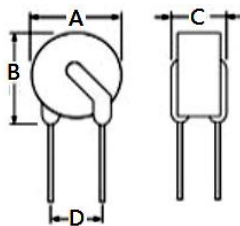


Fig.1

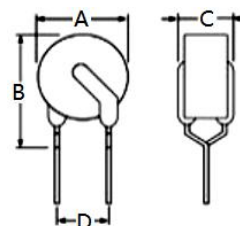


Fig.2

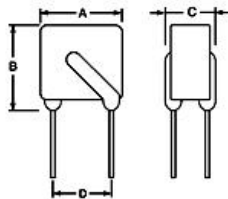


Fig.3

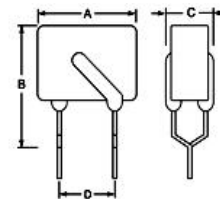


Fig.4

Unit : mm

JK250 Series

| Model      | Dimensions (mm) |        |        |        | Lead material    | Shape |
|------------|-----------------|--------|--------|--------|------------------|-------|
|            | A(max)          | B(max) | C(max) | D(typ) | Tinned matel(mm) | Fig   |
| JK250-020U | 7.4             | 12.7   | 4.5    | 5.1    | 22AWG/Φ0.6       | 1     |
| JK250-030U | 7.4             | 12.7   | 4.5    | 5.1    | 22AWG/Φ0.6       | 1     |
| JK250-040U | 7.4             | 12.7   | 4.5    | 5.1    | 22AWG/Φ0.6       | 1/2   |
| JK250-050U | 7.4             | 12.7   | 4.5    | 5.1    | 22AWG/Φ0.6       | 1/2   |
| JK250-060U | 7.4             | 12.7   | 4.5    | 5.1    | 22AWG/Φ0.6       | 1/2   |
| JK250-080U | 7.4             | 12.7   | 4.5    | 5.1    | 22AWG/Φ0.6       | 2     |
| JK250-090U | 7.4             | 12.7   | 4.5    | 5.1    | 22AWG/Φ0.6       | 2     |

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|             |      |      |     |      |             |   |
|-------------|------|------|-----|------|-------------|---|
| JK250-100U  | 7.8  | 12.6 | 4.5 | 5.1  | 22AWG/Φ0.6  | 1 |
| JK250-110U  | 7.0  | 12.6 | 4.5 | 5.1  | 22AWG/Φ0.6  | 4 |
| JK250-120U  | 7.0  | 12.6 | 4.5 | 5.1  | 22AWG/Φ0.6  | 4 |
| JK250-145U  | 7.0  | 12.6 | 4.5 | 5.1  | 22AWG/Φ0.6  | 4 |
| JK250-180T  | 10.2 | 14.5 | 3.8 | 5.1  | 22AWG/Φ0.6  | 2 |
| JK250-180U  | 9.0  | 11.0 | 4.5 | 5.1  | 22AWG/Φ0.6  | 4 |
| JK250-200U  | 12.0 | 17.0 | 4.5 | 5.1  | 22AWG/Φ0.6  | 3 |
| JK250-400U  | 12.0 | 17.0 | 4.5 | 5.1  | 22AWG/Φ0.6  | 3 |
| JK250-600U  | 16.0 | 18.0 | 4.5 | 5.1  | 22AWG/Φ0.6  | 3 |
| JK250-800U  | 20.0 | 22.5 | 4.5 | 5.1  | 20 AWG/Φ0.8 | 3 |
| JK250-1000U | 20   | 22.5 | 4.5 | 5.1  | 20 AWG/Φ0.8 | 3 |
| JK250-1200U | 22   | 28   | 4.5 | 5.1  | 20 AWG/Φ0.8 | 3 |
| JK250-1500U | 25   | 30   | 4.5 | 5.1  | 20 AWG/Φ0.8 | 3 |
| JK250-2000U | 26   | 32   | 4.5 | 10.2 | 20 AWG/Φ0.8 | 3 |

Note: ① Dimensions A, B, C is the maximum size, D values are typical tolerance of  $\pm 0.75\text{mm}$ .

### Thermal Derating Chart-IH (A)

| Model         | Maximum ambient operating temperatures ( $^{\circ}\text{C}$ ) |                        |                      |                       |                       |                       |                       |                       |                       |                       |
|---------------|---|------------------------|----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
|               | -40 $^{\circ}\text{C}$  | -20 $^{\circ}\text{C}$ | 0 $^{\circ}\text{C}$ | 25 $^{\circ}\text{C}$ | 30 $^{\circ}\text{C}$ | 40 $^{\circ}\text{C}$ | 50 $^{\circ}\text{C}$ | 60 $^{\circ}\text{C}$ | 70 $^{\circ}\text{C}$ | 85 $^{\circ}\text{C}$ |
| JK-250 series | 148%  | 132%                   | 117%                 | 100%                  | 91%                   | 85%                   | 77%                   | 68%                   | 61%                   | 45%                   |

### Electrical Characteristic

| Model      | Ihold<br>(mA) | Itrip(mA) | Vmax interrupt<br>(V) | Imax<br>(A) | P <sub>d max</sub><br>(W) | Maximum Time to Trip |         | Resistance( $\Omega$ )              |
|------------|---------------|-----------|-----------------------|-------------|---------------------------|----------------------|---------|-------------------------------------|
|            |               |           |                       |             |                           | Current(A)           | Time(S) | R <sub>min</sub> - R <sub>max</sub> |
| JK250-020U | 20            | 45        | 250                   | 3           | 1.0                       | 0.5                  | 0.5     | 80-160                              |
| JK250-030U | 30            | 65        | 250                   | 3           | 1.0                       | 0.5                  | 0.5     | 60-120                              |
| JK250-040U | 40            | 80        | 250                   | 3           | 1.0                       | 0.5                  | 1.5     | 30-60                               |
| JK250-050U | 50            | 100       | 250                   | 3           | 1.0                       | 0.5                  | 2       | 25-50                               |
| JK250-060U | 60            | 120       | 250                   | 3           | 1.0                       | 0.5                  | 2       | 20-60                               |
| JK250-080U | 80            | 160       | 250                   | 3           | 1.0                       | 1                    | 0.5     | 12-22                               |
| JK250-090U | 90            | 180       | 250                   | 3           | 1.0                       | 1                    | 0.8     | 10-20                               |
| JK250-100U | 100           | 200       | 250                   | 3           | 1.0                       | 1                    | 1       | 10-20                               |
| JK250-110U | 110           | 220       | 250                   | 3           | 1.0                       | 1                    | 2.0     | 6-12                                |
| JK250-120U | 120           | 240       | 250                   | 3           | 1.0                       | 1                    | 2.0     | 6-11                                |
| JK250-145U | 145           | 290       | 250                   | 3           | 1.0                       | 1                    | 5.0     | 3.5-6.5                             |

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|             |      |      |     |    |     |     |     |         |
|-------------|------|------|-----|----|-----|-----|-----|---------|
| JK250-180T  | 180  | 650  | 250 | 3  | 1.8 | 3   | 3.0 | 1.0-2.2 |
| JK250-180U  | 180  | 650  | 250 | 3  | 1.8 | 3   | 1.5 | 2.0-4.0 |
| JK250-200U  | 200  | 400  | 250 | 5  | 2.4 | 3   | 5   | 3-6     |
| JK250-400U  | 400  | 800  | 250 | 5  | 2.8 | 3   | 8   | 1-3     |
| JK250-600U  | 600  | 1200 | 250 | 5  | 3.2 | 3   | 12  | 0.6-2.0 |
| JK250-800U  | 800  | 1600 | 250 | 5  | 3.6 | 4   | 18  | 0.4-1.0 |
| JK250-1000U | 1000 | 2000 | 250 | 7  | 3.6 | 5   | 20  | 0.3-0.8 |
| JK250-1200U | 1200 | 2400 | 250 | 7  | 3.6 | 6   | 20  | 0.2-0.8 |
| JK250-1500U | 1500 | 3000 | 250 | 7  | 4.8 | 7.5 | 20  | 0.2-0.6 |
| JK250-2000U | 2000 | 4000 | 250 | 10 | 4.8 | 10  | 20  | 0.2-0.4 |

$I_H$ =Hold current:maximum current at which the device will not trip at 25°C still air.

$I_T$ =Trip current:minimum current at which the device will nalways at 25°C still air.

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

$I_{max}$ =Maximum fault current device can withstand tithout damage at rated voltage.

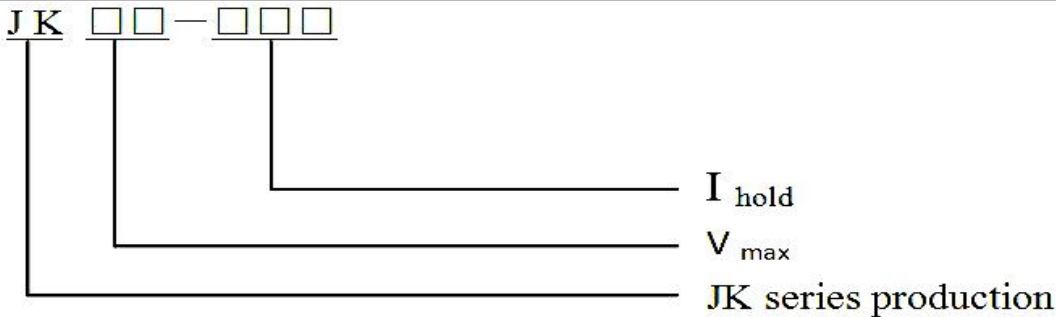
$T_{trip}$ =Maximum time to trip(s) at assigned current.

$P_d$ =Typical power dissipation:typical amount of power dissipated by the decide when in state air environment.

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

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

**Marking System**



**Environmental Specifications**

| Test                  | Conditions               | Resistance change |
|-----------------------|--------------------------|-------------------|
| Passive aging         | +85°C, 1000hrs           | ±8% typical       |
| Humidity aging        | +85°C, 85%R.H.1000hrs    | ±8% typical       |
| Thermal shock         | +125°C to -55°C, 10times | ±12% typical      |
| Resistance to solvent | MIL-STD-202, Method 215  | No change         |
| Vibration             | MIL-STD-202, Method 201  | No change         |

**Solder reflow conditions**

Wave Soldering

Soldering Temperature:260°C~270°C

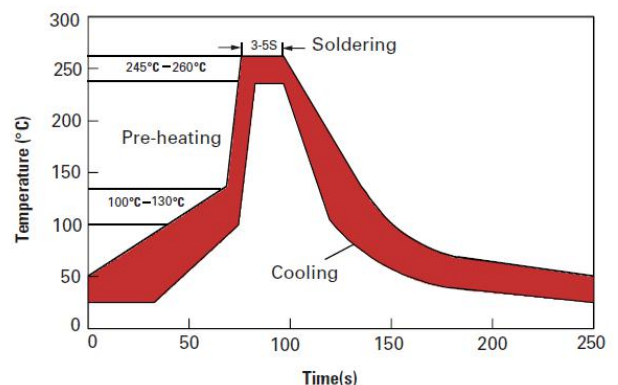
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Soldering Time: ≤3sec.

Soldering Position: Resettable fuse wire and the bottom ≥ 6mm。

#### Manual soldering

Soldering Temperature: 250°C~280°C

Soldering Time: ≤3sec.

Soldering Position: Resettable fuse wire and the bottom ≥ 6mm。

#### Packaging and Storage

##### Bag quantity

JK250~020U~JK250-180U 1000Pcs/Bag

JK250-200U~JK250-600U 500 Pcs/Bag

JK250-800U~JK250-2000U 200 Pcs/Bag

#### Storage

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:

Please read this specification before use the product。

Using of this product must be sure to follow the requirement of this specification, operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and flame.

PPTC resettable fuses are intended for occasional over current protection. Application for repeated over current condition or prolonged trip are not anticipated.

Please avoid contact of PPTC resettable fuses with chemical solvent. Prolonged contact will damage the device performance. You are requested not to use our product deviating from the agreed specifications.

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