

Polymer PTC Resettable Fuse JK60 Series

Features:

- ✧ RoHS Compliant & Halogen Free
- ✧ Radial leaded Devices
- ✧ Cured, flame retardant epoxy polymer insulating material meets UL94V-0 requirements
- ✧ Operation Current: 0.05A~5A , Maximum Voltage: 60Vdc, Operating Temperature: -40°C TO 85°C
- ✧ Agency recognition:UL、TUV



Product Dimensions

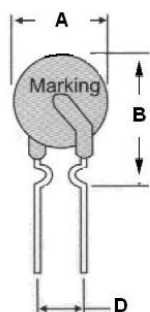


Fig.1

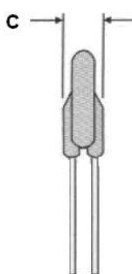


Fig.2

Unit : mm

JK60 Series

| Model | Dimensions (mm) | | | | Lead material | Shape |
|----------|-----------------|--------|--------|--------|------------------|-------|
| | A(max) | B(max) | C(max) | D(typ) | Tinned matel(mm) | Fig |
| JK60-005 | 5.0 | 8.5 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-010 | 5.5 | 9.5 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-017 | 7.4 | 12.7 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-020 | 7.4 | 12.7 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-025 | 7.4 | 12.7 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-030 | 7.4 | 13.0 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-040 | 7.8 | 16.2 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-050 | 7.8 | 16.2 | 3.0 | 5.1 | 24AWG/Φ0.5 | 1 |
| JK60-065 | 9.7 | 17.8 | 3.0 | 5.1 | 22AWG/Φ0.6 | 1 |
| JK60-075 | 10.4 | 18.4 | 3.0 | 5.1 | 22AWG/Φ0.6 | 1 |
| JK60-090 | 11.7 | 18.4 | 3.0 | 5.1 | 22AWG/Φ0.6 | 1 |

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Specifications are subject to change without notice !



| | | | | | | |
|----------|------|------|-----|------|-------------|---|
| JK60-110 | 13.0 | 18.0 | 3.0 | 5.1 | 20 AWG/Φ0.8 | 2 |
| JK60-135 | 14.5 | 19.6 | 3.0 | 5.1 | 20 AWG/Φ0.8 | 2 |
| JK60-160 | 16.3 | 21.3 | 3.0 | 5.1 | 20 AWG/Φ0.8 | 2 |
| JK60-185 | 17.8 | 22.9 | 3.0 | 5.1 | 20 AWG/Φ0.8 | 2 |
| JK60-200 | 17.8 | 22.9 | 3.0 | 5.1 | 20 AWG/Φ0.8 | 2 |
| JK60-250 | 21.3 | 26.4 | 3.0 | 10.2 | 20 AWG/Φ0.8 | 2 |
| JK60-300 | 21.3 | 26.4 | 3.0 | 10.2 | 20 AWG/Φ0.8 | 2 |
| JK60-375 | 28.5 | 33.5 | 3.0 | 10.2 | 20 AWG/Φ0.8 | 2 |
| JK60-500 | 28.5 | 33.5 | 3.0 | 10.2 | 20 AWG/Φ0.8 | 2 |

Note: ① Dimensions A, B, C is the maximum size, D values are typical tolerance of $\pm 0.50\text{mm}$

Thermal Derating Chart-IH (A)

JK60 Series

| Model | Maximum ambient operating temperatures (°C) | | | | | | | | | |
|----------|---|------|------|------|------|------|------|------|------|------|
| | -40 | -20 | 0 | 25 | 40 | 50 | 60 | 70 | 80 | 85 |
| JK60-005 | 0.08 | 0.07 | 0.06 | 0.05 | 0.04 | 0.04 | 0.03 | 0.03 | 0.02 | 0.02 |
| JK60-010 | 0.15 | 0.13 | 0.12 | 0.10 | 0.09 | 0.08 | 0.07 | 0.06 | 0.05 | 0.04 |
| JK60-017 | 0.25 | 0.23 | 0.20 | 0.17 | 0.15 | 0.13 | 0.12 | 0.10 | 0.09 | 0.06 |
| JK60-020 | 0.30 | 0.27 | 0.24 | 0.20 | 0.18 | 0.16 | 0.14 | 0.12 | 0.10 | 0.08 |
| JK60-025 | 0.37 | 0.34 | 0.30 | 0.25 | 0.22 | 0.20 | 0.18 | 0.15 | 0.13 | 0.10 |
| JK60-030 | 0.45 | 0.40 | 0.35 | 0.30 | 0.27 | 0.24 | 0.21 | 0.19 | 0.16 | 0.12 |
| JK60-040 | 0.60 | 0.54 | 0.47 | 0.40 | 0.36 | 0.32 | 0.28 | 0.25 | 0.21 | 0.16 |
| JK60-050 | 0.75 | 0.68 | 0.59 | 0.50 | 0.45 | 0.40 | 0.36 | 0.31 | 0.27 | 0.20 |
| JK60-065 | 0.97 | 0.88 | 0.77 | 0.65 | 0.58 | 0.52 | 0.46 | 0.41 | 0.35 | 0.26 |
| JK60-075 | 1.12 | 1.02 | 0.89 | 0.75 | 0.67 | 0.60 | 0.54 | 0.47 | 0.40 | 0.30 |
| JK60-090 | 1.35 | 1.22 | 1.07 | 0.90 | 0.81 | 0.73 | 0.64 | 0.56 | 0.48 | 0.36 |
| JK60-110 | 1.65 | 1.49 | 1.31 | 1.10 | 0.99 | 0.89 | 0.79 | 0.69 | 0.59 | 0.44 |
| JK60-135 | 2.02 | 1.83 | 1.60 | 1.35 | 1.21 | 1.09 | 0.97 | 0.85 | 0.72 | 0.54 |
| JK60-160 | 2.40 | 2.17 | 1.90 | 1.60 | 1.44 | 1.29 | 1.15 | 1.00 | 0.86 | 0.64 |
| JK60-185 | 2.77 | 2.51 | 2.20 | 1.85 | 1.66 | 1.49 | 1.33 | 1.16 | 1.00 | 0.74 |
| JK60-200 | 3.00 | 2.72 | 2.38 | 2.00 | 1.80 | 1.62 | 1.44 | 1.26 | 1.08 | 0.80 |
| JK60-250 | 3.75 | 3.40 | 2.97 | 2.50 | 2.25 | 2.02 | 1.80 | 1.57 | 1.35 | 1.00 |
| JK60-300 | 4.50 | 4.08 | 3.57 | 3.00 | 2.70 | 2.43 | 2.16 | 1.89 | 1.62 | 1.20 |
| JK60-375 | 5.62 | 5.1 | 4.46 | 3.75 | 3.37 | 3.03 | 2.70 | 2.36 | 2.02 | 1.50 |
| JK60-500 | 7.50 | 6.80 | 5.95 | 5.00 | 4.50 | 4.05 | 3.60 | 3.15 | 2.70 | 2.00 |

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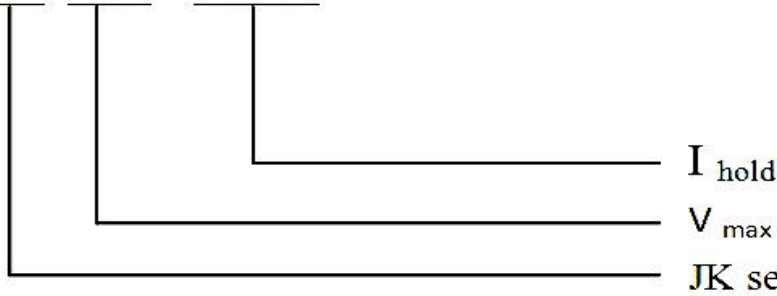
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Electrical Characteristic
JK60 Series

| Model | I _{Hold} (A) | I _{Trip} (A) | V _{max} | I _{max} | P _{d max} | Maximum Time to Trip | | Nominal resistance(Ω) | |
|----------|-----------------------|--------------------------|-------------------|-------------------|--------------------|----------------------|----------|-----------------------|------------------|
| | | | V _(DC) | A _(DC) | W | Current (A) | Time (S) | R _{min} | R _{max} |
| JK60-005 | 0.05 | 0.15 | 60 | 40 | 0.26 | 0.25 | 8.0 | 7.3 | 20 |
| JK60-010 | 0.10 | 0.3 | 60 | 40 | 0.38 | 0.5 | 5.0 | 2.5 | 7.5 |
| JK60-017 | 0.17 | 0.34 | 60 | 40 | 0.48 | 0.85 | 5.0 | 2 | 5.21 |
| JK60-020 | 0.2 | 0.4 | 60 | 40 | 0.41 | 1.0 | 5.0 | 1.5 | 2.84 |
| JK60-025 | 0.25 | 0.5 | 60 | 40 | 0.45 | 1.25 | 5.0 | 1.0 | 1.95 |
| JK60-030 | 0.30 | 0.6 | 60 | 40 | 0.49 | 1.5 | 5.0 | 0.76 | 1.38 |
| JK60-040 | 0.40 | 0.8 | 60 | 40 | 0.56 | 2.0 | 5.0 | 0.45 | 0.88 |
| JK60-050 | 0.50 | 1.0 | 60 | 40 | 0.77 | 2.5 | 5.0 | 0.40 | 0.79 |
| JK60-065 | 0.65 | 1.3 | 60 | 40 | 0.88 | 3.25 | 5.0 | 0.31 | 0.50 |
| JK60-075 | 0.75 | 1.5 | 60 | 40 | 0.92 | 3.75 | 5.0 | 0.25 | 0.42 |
| JK60-090 | 0.90 | 1.8 | 60 | 40 | 0.99 | 4.5 | 5.0 | 0.20 | 0.33 |
| JK60-110 | 1.10 | 2.2 | 60 | 40 | 1.5 | 5.5 | 8.0 | 0.15 | 0.27 |
| JK60-135 | 1.35 | 2.7 | 60 | 40 | 1.7 | 6.75 | 8.0 | 0.12 | 0.21 |
| JK60-160 | 1.60 | 3.2 | 60 | 40 | 1.9 | 8.0 | 8.0 | 0.09 | 0.16 |
| JK60-185 | 1.85 | 3.7 | 60 | 40 | 2.1 | 9.25 | 8.0 | 0.08 | 0.14 |
| JK60-200 | 2.00 | 4.0 | 60 | 40 | 2.3 | 10.0 | 8.0 | 0.07 | 0.14 |
| JK60-250 | 2.50 | 5.0 | 60 | 40 | 2.5 | 12.5 | 8.0 | 0.05 | 0.10 |
| JK60-300 | 3.00 | 6.0 | 60 | 40 | 2.8 | 15.0 | 8.0 | 0.04 | 0.08 |
| JK60-375 | 3.75 | 7.5 | 60 | 40 | 3.2 | 18.75 | 24.0 | 0.03 | 0.06 |
| JK60-500 | 5.00 | 10 | 60 | 40 | 3.5 | 25.0 | 24.0 | 0.02 | 0.06 |

Marking System
JK □□ — □□□

Test Procedures And Requirements
JK60 Series

| Test | Test Conditions | Accept/Reject Criteria |
|------------|---------------------|-------------------------------|
| Resistance | In still air @ 25°C | $R_{min} \leq R \leq R_{max}$ |

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| | | |
|-----------------|-------------------------------------|-----------------------|
| Time to Trip | Specified current, V_{max} , 25°C | Tmaximum Time to Trip |
| Hold Current | 60min, at I_H | No trip |
| Trip Cycle Life | V_{max} , I_{max} , 100cycles | No arcing or burning |
| Trip Endurance | V_{max} , 24hours | No arcing or burning |

Physical Characteristics and Environmental Specifications

Physical Characteristics

JK60 Series

| 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 |

Operation Condition

- 1 Ambient temperature: -40°C~85°C
- 2 Humidity: ≤95%HR(40°C)
- 3 Atmospheric pressure: 86Kpa ~106Kpa.
- 4 Vibration frequency: 10Hz ~ 50Hz.
- 5 Acceleration: 98m/s².
- 6 Storage temperature: -40°C~85°C.

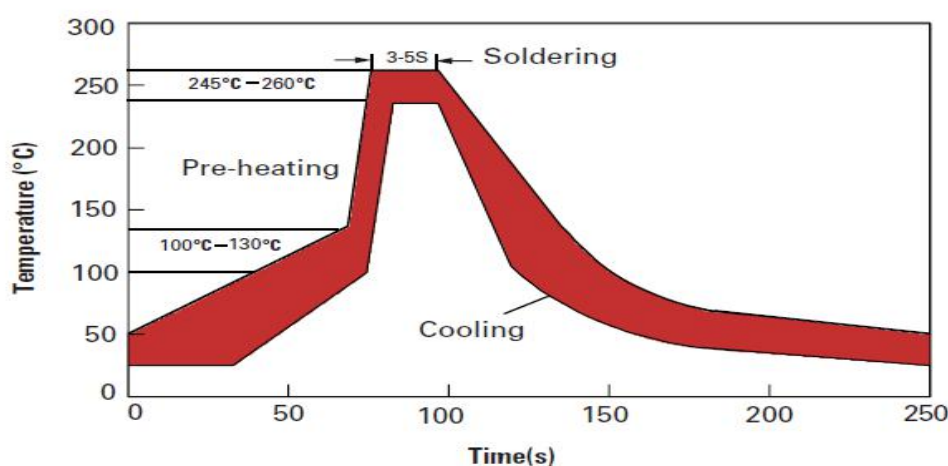
7 Soldering

7.1 Wave Soldering:

Soldering Temperature:240°C~270°C

Soldering Time:≤5sec.

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



recommended curve

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7.2 Manual soldering

Soldering Temperature:280°C~300°C

Soldering Time: ≤2sec.

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

Electrical Specifications:

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 decice 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.

Packaging and Storage

JK60-005~JK60-110 1000Pcs/Bag or 2000Pcs/Box

JK60-135~JK60-200 500 Pcs/Bag

JK60-250~JK60-500 200 Pcs/Bag

Warning:

PPTC devices are intended for protection against occasional over-current or over-temperature fault conditions,and should not be used when repeated fault conditions are anticipated.Operation beyond maximum tatings of improper use may result in device damage and possible electrical arcing and flame.

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 imdependently evaluate and test the suitability of each product.JinRui makes on warranties as to the acduracy or completeness of the information and disclaims any liatilty resulting form its use,JinRui's only obligations are those im the JinRui Standard Rems 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 misues of its products.JinRui reserves the right to change of update,without notice,any information contained in this specification.

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