

# JK-nSMD025-30V PPTC DEVICES

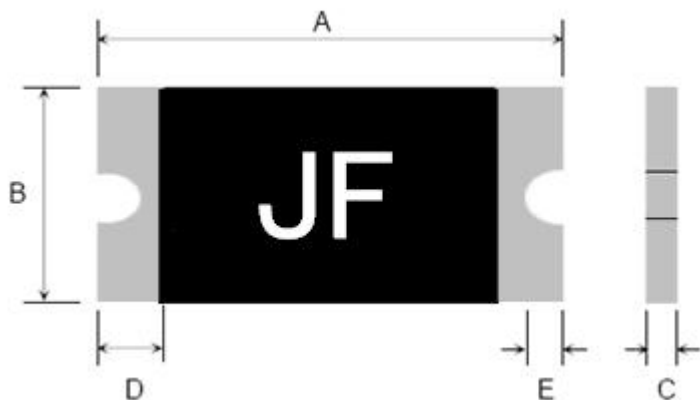
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金瑞电子材料  
Jinrui Electronic material



Terminal pad materials :Tin-Plated Nickle-copper

Terminal pad solderability : Meets EIA specification RS 186-9E and ANSI/J-STD-002 Category 3.

Marking : JF=1206(025)

Table1 :DIMENTION(Unit : mm)

| Model          | Marking | A    |      | B    |      | C    |      | D    | E    |
|----------------|---------|------|------|------|------|------|------|------|------|
|                |         | Min. | Max. | Min. | Max. | Min. | Max  | Min. | Min. |
| JK-nSMD025-30V | JF      | 3.00 | 3.50 | 1.50 | 1.80 | 0.40 | 0.90 | 0.15 | 0.10 |

Table2 :PERFORMANCE RATINGS:

| Model          | V <sub>max</sub><br>(Vdc) | I <sub>max</sub><br>(A) | I <sub>hold</sub><br>@25°C<br>(A) | I <sub>trip</sub><br>@25°C<br>(A) | P <sub>d</sub><br>Typ<br>(W) | Maximum<br>Time To Trip |               | Resistance                |                           |                           |
|----------------|---------------------------|-------------------------|-----------------------------------|-----------------------------------|------------------------------|-------------------------|---------------|---------------------------|---------------------------|---------------------------|
|                |                           |                         |                                   |                                   |                              | Current<br>(A)          | Time<br>(Sec) | R <sub>i</sub> min<br>(Ω) | R <sub>i</sub> typ<br>(Ω) | R <sub>l</sub> max<br>(Ω) |
| JK-nSMD025-30V | 30.0                      | 40                      | 0.25                              | 0.50                              | 0.6                          | 8.0                     | 0.08          | 0.35                      | 0.70                      | 2.700                     |

Table3:Test Conditons and Standards

| Item               | Test Conditon      | Standard             |
|--------------------|--------------------|----------------------|
| Initial Resistance | 25°C               | 0.3500~2.7Ω          |
| I <sub>H</sub>     | 25°C, 0.25A, 60min | No Trip              |
| T <sub>trip</sub>  | 25°C, 8.0A         | ≤0.08s               |
| Trip endurance     | 30V, 40A, 1hr      | No arcing or burning |

Operating Temperature: -40°C TO 85°C

Packaging: Bulk ,5000 pcs per bag

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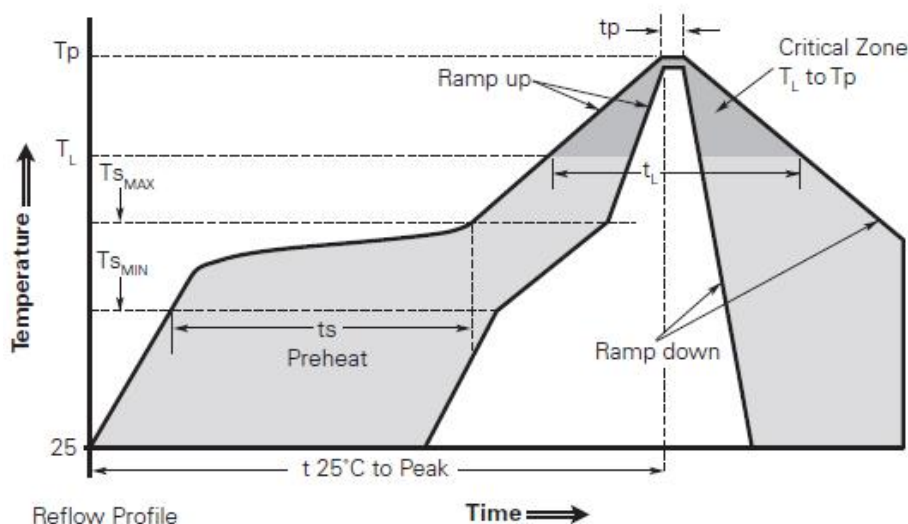
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## Solder reflow conditions



| Profile Feature                                      | Pb-Free Assembly |
|------------------------------------------------------|------------------|
| <b>Average ramp up rate (TS<sub>MAX</sub> to Tp)</b> | 3°C/second max.  |
| <b>Preheat</b>                                       |                  |
| • Temperature min. (TS <sub>MIN</sub> )              | 150°C            |
| • Temperature max. (TS <sub>MAX</sub> )              | 200°C            |
| • Time (ts <sub>MIN</sub> to ts <sub>MAX</sub> )     | 60-120 seconds   |
| <b>Time maintained above:</b>                        |                  |
| • Temperature (TL)                                   | 217°C            |
| • Time (tL)                                          | 60-150 seconds   |
| <b>Peak/Classification temperature (Tp)</b>          | 260°C            |
| <b>Time within 5°C of actual peak temperature</b>    |                  |
| Time (tp)                                            | 30 seconds max.  |
| <b>Ramp down rate</b>                                | 3°C/second max.  |
| <b>Time 25°C to peak temperature</b>                 | 8 minutes max.   |

**Note:** All temperatures refer to topside of the package, measured on the package body surface.

- Recommended reflow methods: IR, vapor phase oven, hot air oven, N2 environment for lead-free.
- Devices are not designed to be wave soldered to the bottom side of the board.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned using standard industry methods and solvents.
- Soldering temperature profile meets RoHs leadfree process.

Notes: If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements

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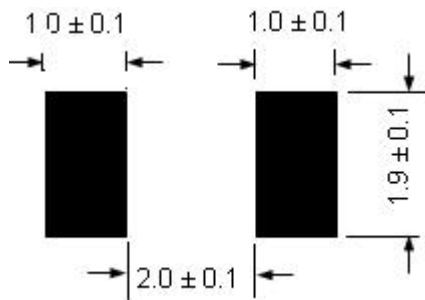
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## Recommended pad layout (mm)



## WARNING

- Use PPTC beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- PPTC are intended for protection against occasional over current or over temperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal, and mechanical procedures for electronic components.
- Use PPTC with a large inductance in circuit will generate a circuit voltage ( $L di/dt$ ) above the rated voltage of the PPTC.
- Avoid impact PPTC device its thermal expansion like placed under pressure or installed in limited space.
- Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices. PPTC SMD can be cleaned by standard methods.
- Requests that customers comply with our recommended solder pad layouts and recommended reflow profile. Improper board layouts or reflow profile could negatively impact solderability performance of our devices.

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