

# JK-SMD0603-004 PPTC DEVICES

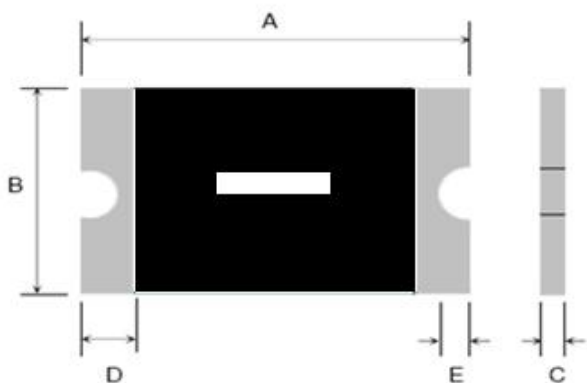
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金瑞电子材料  
Jinrui Electronic material



Terminal pad materials :Tin-Plated Nickle-copper

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

Marking : Part identification — =004

Table1 :DIMENTION(Unit : mm)

Model	Marki	A		B		C		D	E
		Min.	Max.	Min.	Max.	Min.	Max	Min.	Max.
JK-SMD0603-004	—	1.45	1.85	0.65	1.05	0.40	1.00	0.15	0.40

Table2 :PERFORMANCE RATINGS:

Model	Marking	$V_{max}$ (Vdc)	$I_{max}$ (A)	$I_{hold}$ @25°C (A)	$I_{trip}$ @25°C (A)	$P_d$ Typ (W)	Maximum Time To Trip		Resistance	
							Current (A)	Time (Sec)	$R1_{min}$ (Ω)	$R1_{max}$ (Ω)
JK-SMD0603-004	—	24.0	40	0.04	0.12	0.50	0.2	1.00	4.0	45.000

Table3:Test Conditons and Standards

Item	Test Conditon	Standard
Initial Resistance	25°C	4.00~45.000Ω
$I_H$	25°C, 0.04A, 60min	No Trip
$T_{trip}$	25°C, 0.2A	≤1.0S
Trip endurance	24V, 40A, 60min	No arcing or burning

Operating Temperature: -40°C TO 85°C

Packaging: Bulk ,5000pcs per bag

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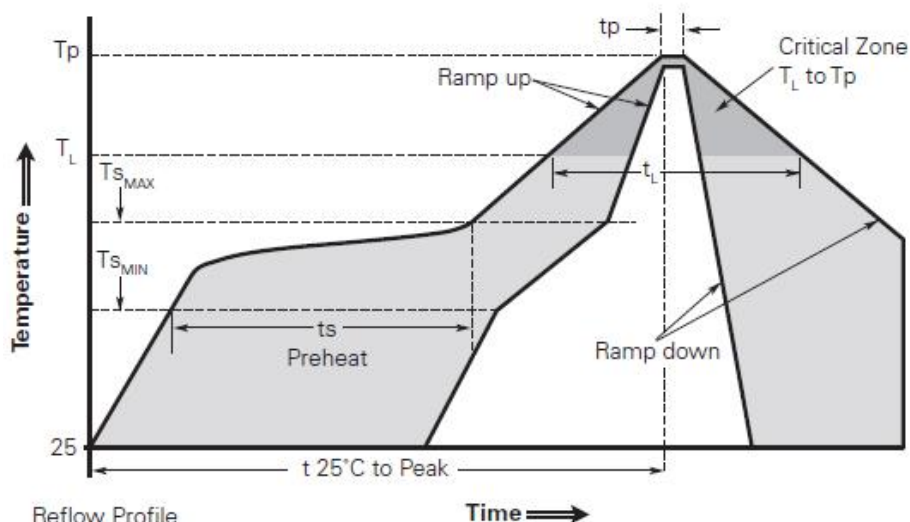
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## Solder reflow conditions



Profile Feature	Pb-Free Assembly
<b>Average ramp up rate (T<sub>S_MAX</sub> to T<sub>p</sub>)</b>	3°C/second max.
<b>Preheat</b>	
• Temperature min. (T <sub>S_MIN</sub> )	150°C
• Temperature max. (T <sub>S_MAX</sub> )	200°C
• Time (t <sub>S_MIN</sub> to t <sub>S_MAX</sub> )	60-120 seconds
<b>Time maintained above:</b>	
• Temperature (T <sub>L</sub> )	217°C
• Time (t <sub>L</sub> )	60-150 seconds
<b>Peak/Classification temperature (T<sub>p</sub>)</b>	260°C
<b>Time within 5°C of actual peak temperature</b>	
Time (t <sub>p</sub> )	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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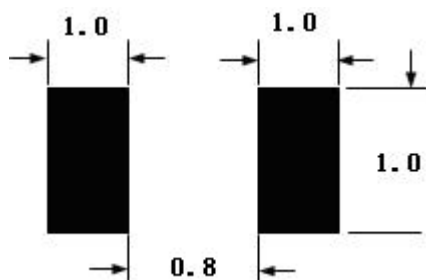
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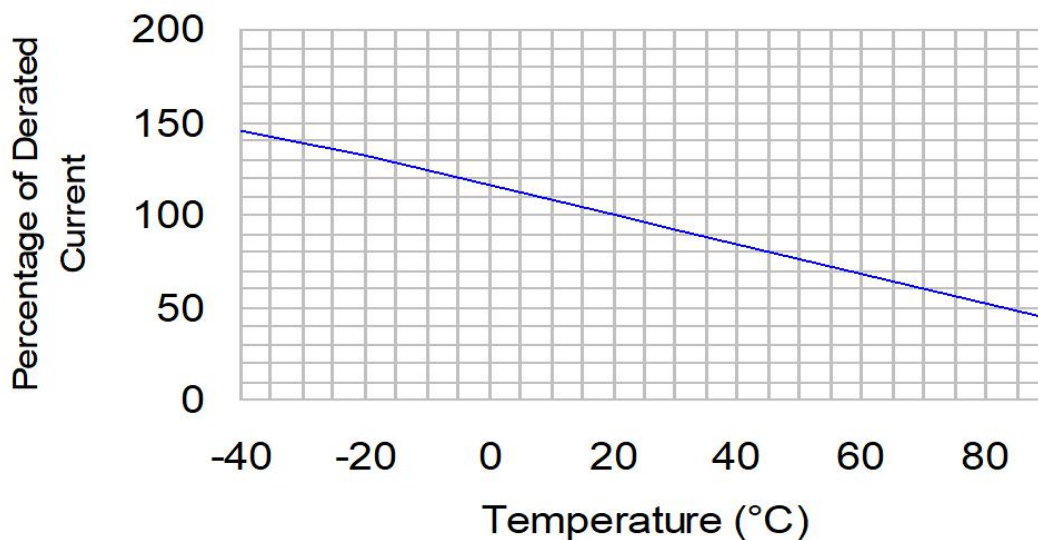


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## Recommended pad layout (mm)



## Derating Curves for SMD0603 Series



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## 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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