

# JK-mSMD050-30 PPTC DEVICES

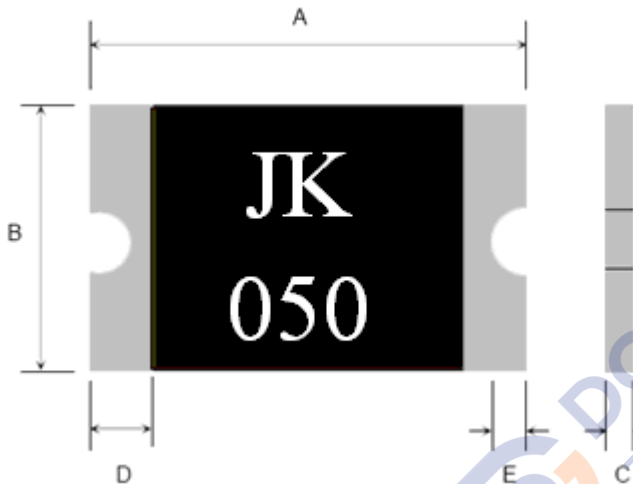
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金瑞电子材料  
Jinrui Electronic material



Terminal pad materials : Tin-Plated Nickle-copper

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

Marking : JK050=1812(050)

Table1 :DIMENTION(Unit : mm)

Model	Marking	A		B		C		D	E
		Min.	Max.	Min.	Max.	Min.	Max	Min.	Min
JK-mSMD050-30	JK050	4.37	4.73	3.07	3.41	0.40	1.10	0.30	0.25

Table2 :PERFORMANCE RATINGS:

Model	V <sub>max</sub> (Vdc)	I <sub>max</sub> (A)	I <sub>hold</sub> @25°C (A)	I <sub>trip</sub> @25°C (A)	P <sub>d</sub> Typ (W)	Maximum Time To Trip		Resistance		
						Current (A)	Time (Sec)	R <sub>i_min</sub> (Ω)	R <sub>i_typ</sub> (Ω)	R <sub>1_max</sub> (Ω)
JK-mSMD050-30	30.0	100	0.50	1.00	0.8	8.0	0.15	0.150	0.250	1.000

Table3:Test Conditons and Standards

Item	Test Conditon	Standard
Initial Resistance	25°C	0.150~1.000Ω
I <sub>H</sub>	25°C, 0.50A, 60min	No Trip
T <sub>trip</sub>	25°C, 8.0A	≤0.15s
Trip endurance	30V, 100A, 1hr	No arcing or burning

Operating Temperature: -40°C TO 85°C

Packaging: Bulk ,2000 pcs per bag

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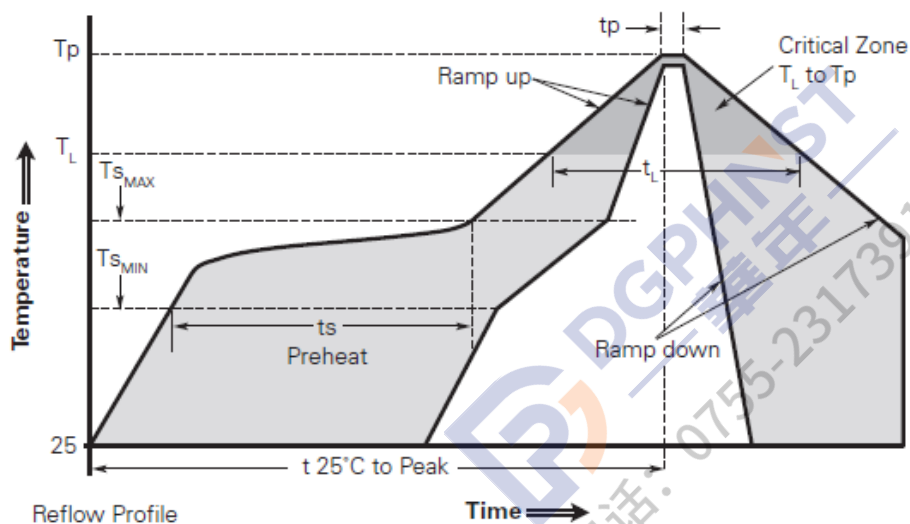
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## Solder reflow conditions



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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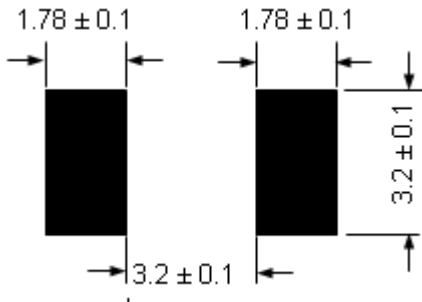
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## Recommended pad layout (mm)



## 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.