

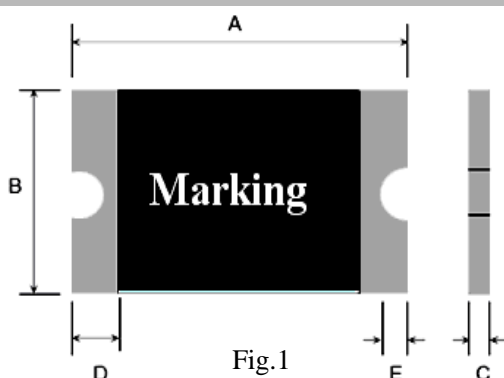
SMD(Surface-Mount Device) Resettable Fuse: JK-SMD2920 Series

Features:

- ✧ RoHS Compliant & Halogen Free
- ✧ faster tripping, 2920 Dimension, Surface mountable, Solid state
- ✧ Operation Current: 0.30A~3.00A
- ✧ Maximum Voltage: 6V~60V
- ✧ Operating Temperature: -40°C TO 85°C
- ✧ Certification: UL、CSA



Product Dimensions



Material of terminal pad: Tin-Plated Nickle-copper  
 Solderability of terminal pad: Meets EIA specification  
 RS 186-9E and ANSI/J-STD-002 Category 3.

Unit : mm

Model	Marking	A		B		C		D	E
		Min	Max	Min	Max	Min	Max	Min	Min
JK-SMD030L	JK030L	6.73	7.98	4.80	5.44	0.60	1.15	0.30	0.15
JK-SMD050L	JK050L	6.73	7.98	4.80	5.44	0.60	1.15	0.30	0.15
JK-SMD075L	JK075L	6.73	7.98	4.80	5.44	0.60	1.15	0.30	0.15
JK-SMD100L	JK100L	6.73	7.98	4.80	5.44	0.60	1.00	0.30	0.15
JK-SMD125L	JK125L	6.73	7.98	4.80	5.44	0.60	1.00	0.30	0.15
JK-SMD150L	JK150L	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15
JK-SMD185L	JK185L	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15
JK-SMD200L	JK200L	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
JK-SMD200L-24	JK200L	6.73	7.98	4.80	5.44	0.60	1.00	0.30	0.15
JK-SMD250L	JK250L	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
JK-SMD260L	JK260L	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
JK-SMD300L-6	JK300L	6.73	7.98	4.80	5.44	0.40	0.80	0.30	0.15
JK-SMD300L-16	JK300L	6.73	7.98	4.80	5.44	0.60	1.20	0.30	0.15

Thermal Derating Chart-I<sub>H</sub> (A)

Model	Maximum ambient operating temperature (°C)								
	-40	-20	0	25	40	50	60	70	85
JK-SMD030L	0.44	0.37	0.35	0.30	0.28	0.23	0.20	0.18	0.14
JK-SMD050L	0.73	0.62	0.59	0.50	0.47	0.38	0.34	0.30	0.24
JK-SMD075L	1.09	0.92	0.88	0.75	0.70	0.56	0.50	0.45	0.36
JK-SMD100L	1.45	1.23	1.17	1.00	0.93	0.75	0.67	0.60	0.48
JK-SMD125L	1.81	1.54	1.46	1.25	1.16	0.94	0.84	0.75	0.60
JK-SMD150L	2.18	1.85	1.76	1.50	1.40	1.13	1.01	0.90	0.72
JK-SMD185L	2.68	2.28	2.16	1.85	1.72	1.39	1.24	1.11	0.89
JK-SMD200L	2.90	2.46	2.34	2.00	1.86	1.50	1.34	1.20	0.96
JK-SMD200L-24	2.90	2.46	2.34	2.00	1.86	1.50	1.34	1.20	0.96
JK-SMD250L	3.63	3.08	2.93	2.50	2.33	1.88	1.68	1.50	1.20
JK-SMD260L	3.77	3.20	3.04	2.60	2.42	1.95	1.74	1.56	1.25
JK-SMD300L-6	4.35	3.69	3.51	3.00	2.79	2.25	2.01	1.80	1.44
JK-SMD300L-16	4.35	3.69	3.51	3.00	2.79	2.25	2.01	1.80	1.44

## Electrical Characteristics

Model	V <sub>MAX</sub> (V)	I <sub>MAX</sub> (A)	I <sub>H</sub> (A)	I <sub>T</sub> (A)	P <sub>D</sub> (W)	Maximum Time-to-Trip		Resistance	
						Current	Time	R <sub>iMIN</sub>	R <sub>lMAX</sub>
						(A)	(Sec)	(Ω)	(Ω)
SMD030L	60	100	0.30	0.60	1.5	1.5	3.0	0.60	4.80
SMD050L	60	100	0.50	1.00	1.5	2.5	4.0	0.18	1.40
SMD075L	33	100	0.75	1.50	1.5	8.0	0.3	0.10	1.00
SMD100L	33	100	1.00	2.20	1.5	8.0	0.5	0.065	0.41
SMD125L	33	100	1.25	2.50	1.5	8.0	2.0	0.05	0.25
SMD150L	33	100	1.50	3.00	1.5	8.0	2.0	0.035	0.23
SMD185L	33	100	1.85	3.70	1.5	8.0	2.5	0.030	0.15
SMD200L	16	100	2.00	4.00	1.5	8.0	4.5	0.020	0.12
SMD200L-24	24	100	2.00	4.00	1.5	8.0	4.5	0.020	0.12
SMD250L	16	100	2.50	5.00	1.5	8.0	16.0	0.020	0.085
SMD260L	16	100	2.60	5.20	1.5	8.0	10.0	0.014	0.075
SMD300L-6	6	100	3.00	6.00	1.5	8.0	20.0	0.012	0.048
SMD300L-16	16	100	3.00	6.00	1.5	8.0	20.0	0.012	0.050

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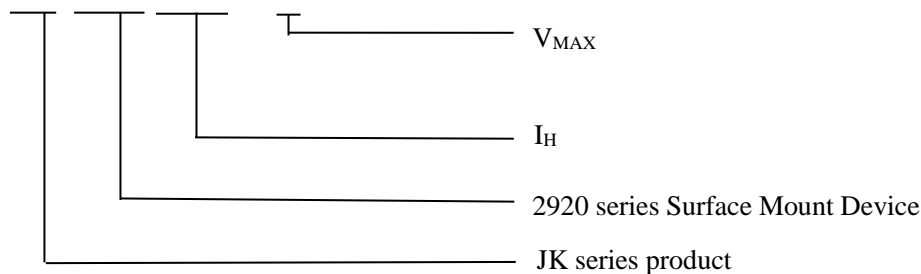
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**Part Numbering System**

JK-SMD2920 - □□□ - □


**Test Procedures and Requirements**

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air at 25°C	$R_{MIN} \leq R \leq R_{MAX}$
Time to Trip	Specified current, $V_{MAX}$ , 25°C	Maximum Time to Trip
Hold Current	30min, at $I_H$ , 25°C	No trip
Trip Cycle Life	$V_{MAX}$ , $I_{MAX}$ , 100 cycles	No arcing or burning
Trip Endurance	$V_{MAX}$ , $I_{MAX}$ , 1 hour	No arcing or burning

**Physical Characteristics and Environmental Specifications**
**Physical Characteristics**

Terminal materials :	Tin-Plated Nickle-copper
Soldering zone	Meets EIA specification RS 186-9E and ANSI/J-STD-002 Category 3.
Moisture sensitivity	Level 2a, per IPC/JEDEC J-STD 020C

**Environmental Specifications**

Test	Conditions	Resistance Change
Passive aging	85°C, 1000 hours	±10% typical
Humidity aging	85°C/85%RH. 100 hours	±5% typical
Thermal shock	MIL-STD-202, Method 107G+85°C/-40°C, 20times	-30% typical
Solvent Resistance	MIL-STD-202, Method 215	no change
Vibration	ML-STD-883C, Test Condition A	no change

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**Electrical Specifications:**

$I_H$ =Hold current:Maximum current at which the device will not interrupt in 25°C still air.

$I_T$ =Trip current:Minimum current at which the device from low resistance to high resistance in 25°C still air.

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

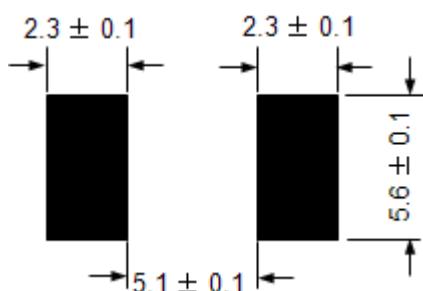
$I_{MAX}$ =Maximum fault current device can withstand without damage at rated voltage.

Maximum Time-to-trip:Maximum time to trip at assigned current.

$P_D$ =Typical power dissipation:Typical amount of power dissipated from the device when in 25°C still air environment.

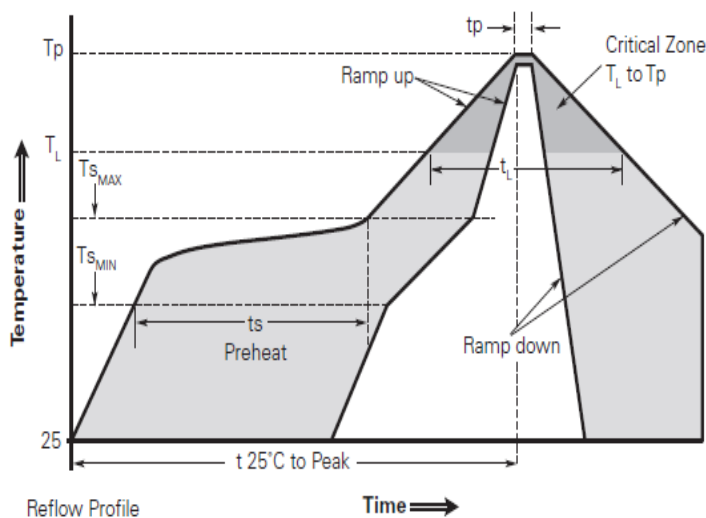
$R_{iMIN}$ =Minimum resistance of device at 25°C prior to tripping.

$R_{1MAX}$  = Maximum device resistance is measured one hour post reflow.

**Recommended pad layout (mm)**

**Solder reflow Profiles**

Profile Feature	Pb-Free Assembly
Average ramp up rate ( $T_{S_{MAX}}$ to $T_p$ )	3°C/second max.
<b>Preheat</b>	
• Temperature min. ( $T_{S_{MIN}}$ )	150°C
• Temperature max. ( $T_{S_{MAX}}$ )	200°C
• Time ( $t_{S_{MIN}}$ to $t_{S_{MAX}}$ )	60-120 seconds
<b>Time maintained above:</b>	
• Temperature ( $T_L$ )	217°C
• Time ( $t_L$ )	60-150 seconds
<b>Peak/Classification temperature (<math>T_p</math>)</b>	260°C
<b>Time within 5°C of actual peak temperature</b>	
Time ( $t_p$ )	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.
- Jinrui believes that the optimum conditions for forming acceptable solder fillets occur when a reasonable amount of solder paste is placed underneath each device's via. As such, Jinrui requests that customers comply with our recommended solder pad layouts.
- Recommended maximum paste thickness is 0.25mm (0.010inch).
- Devices can be cleaned by using standard industry methods and solvents.
- Jinrui requests that customer board layouts refrain from placing raised features (e.g. vias, nomenclature, traces, etc.)

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underneath SMD devices. It is possible that raised features could negatively impact solderability performance of our devices.

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

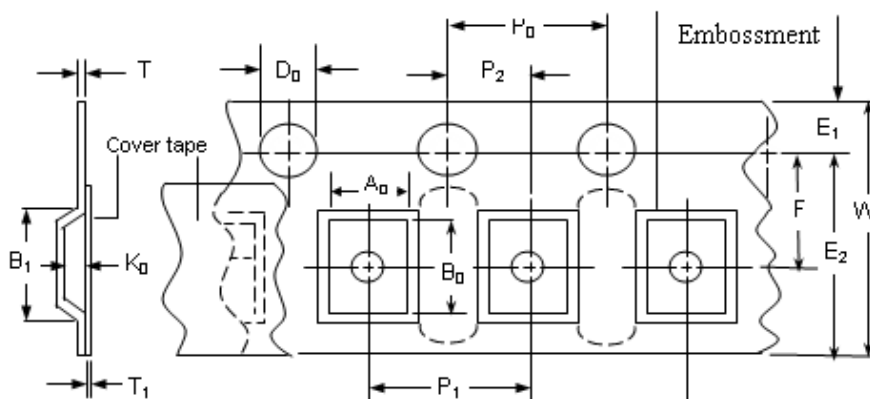
Rework: SMD series rework should be confined to removal of the installed product and replacement with a fresh device.

Please also avoid directly contacting to the device.

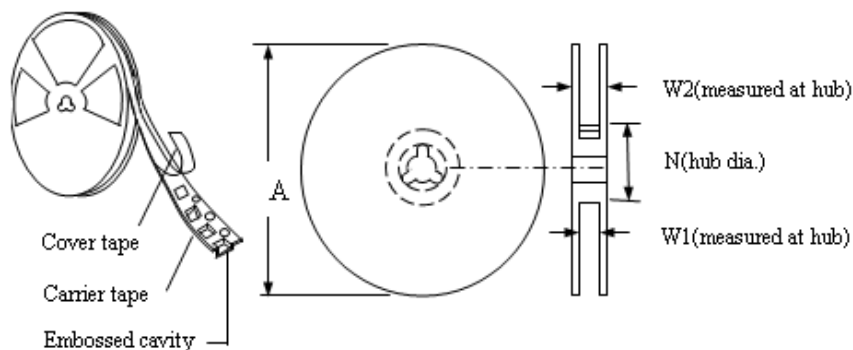
**Tape Specifications and Reel Dimensions**

Coverage specification EIA 481-1(Unit: mm)	
W	16±0.3
P <sub>0</sub>	4.0 ±0.10
P <sub>1</sub>	8.0 ±0.10
P <sub>2</sub>	2.0 ±0.10
A <sub>0</sub>	5.74 ±0.10
B <sub>0</sub>	8.02 ±0.10
D <sub>0</sub>	1.55 ±0.05
F	7.5±0.10
E <sub>1</sub>	1.75 ±0.10
T	0.20±0.10
Leader min.	390
Trailer min.	160
Reel Dimensions	
A	178±1
N	58±1
W <sub>1</sub>	16.9±0.80
W <sub>2</sub>	19.3±0.1

**EIA Tape Component Dimintions**



**EIA Reel Dimintions**



**Packaging Quantity**

Model	Quantity	Model	Quantity
SMD030L	2000	SMD200L	2000
SMD050L	2000	SMD200L-24	1500
SMD075L	2000	SMD250L	2000
SMD100L	2000	SMD260L	2000
SMD125L	2000	SMD300L	1500
SMD150L	2000	SMD300L-6	2000
SMD185L	1500		

## Storage

The maximum ambient temperature shall not exceed 38°C. Storage temperatures higher than 38°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 60%. 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 using the product.
- Use PPTC beyond the maximum ratings or improper use may result in device damage, 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 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 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.

## 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 independently evaluate and test the suitability of each product. Jinrui makes no warranties as to the accuracy or completeness of the information and disclaims any liability resulting from its use, Jinrui's only obligations are those in the Jinrui Standard Terms 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 misuse of its products. Jinrui reserves the right to change or update any information contained in this specification without notice.