

Polymer PTC Resettable Fuse JK30 Series

Features:

- ✧ RoHS Compliant & Halogen Free
- ✧ Radial leaded Devices
- ✧ Cured, flame retardant epoxy polymer insulating material meets UL94V-0 requirements
- ✧ Operation Current: 0.5A~9A , Maximum Voltage: 30Vdc, Operating Temperature: -40°C TO 85°C
- ✧ Agency recognition: UL、TUV



Product Dimensions

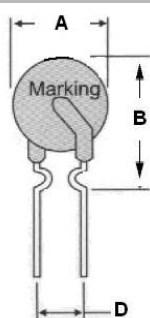


Fig.1

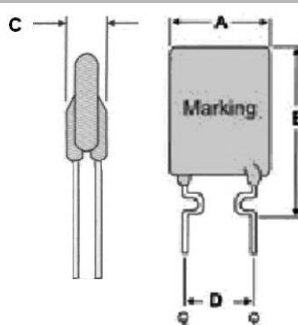


Fig.2

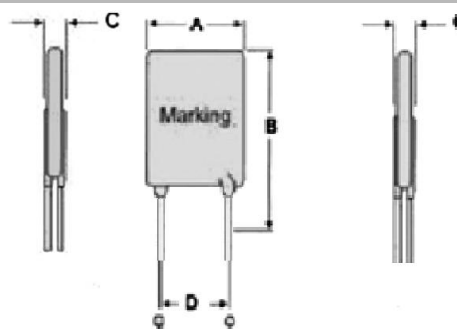


Fig.3

Unit : mm

JK30 Series

Model	Dimensions (mm)				Lead material	Shape
	A(max)	B(max)	C(max)	D(typ)	Tinned matel(mm)	Fig
JK30-050	7.4	12.7	3.0	5.1	24AWG/Φ0.5	1
JK30-075	7.4	13.0	3.0	5.1	24AWG/Φ0.5	1
JK30-090	7.4	18.5	3.0	5.1	24AWG/Φ0.5	2
JK30-110	7.4	18.5	3.0	5.1	24AWG/Φ0.5	2
JK30-120	7.4	18.5	3.0	5.1	24AWG/Φ0.5	2
JK30-135	9.2	17.6	3.0	5.1	24AWG/Φ0.5	2
JK30-160	9.2	20.2	3.0	5.1	24AWG/Φ0.5	2
JK30-185	9.2	20.2	3.0	5.1	24AWG/Φ0.5	2
JK30-200	15.2	20.2	3.0	5.1	24AWG/Φ0.5	2
JK30-250	13.2	22.4	3.0	5.1	24AWG/Φ0.5	2
JK30-300	13.2	20.4	3.0	5.1	20 AWG/Φ0.8	3

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**Specifications are subject to change without notice !**



JK30-400	14.0	23.7	3.0	5.1	20 AWG/Φ0.8	3
JK30-500	14.0	23.7	3.0	10.2	20 AWG/Φ0.8	3
JK30-600	17.2	27.0	3.0	10.2	20 AWG/Φ0.8	3
JK30-700	17.2	27.0	3.0	10.2	20 AWG/Φ0.8	3
JK30-800	23.5	29.2	3.0	10.2	20 AWG/Φ0.8	3
JK30-900	23.5	29.2	3.0	10.2	20 AWG/Φ0.8	3

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)

#### JK30 Series

Model	Maximum ambient operating temperatures (°C)									
	-40	-20	0	25	40	50	60	70	80	85
JK30-050	0.72	0.65	0.57	0.5	0.45	0.41	0.38	0.34	0.30	0.25
JK30-075	1.08	0.97	0.86	0.75	0.68	0.62	0.57	0.51	0.45	0.37
JK30-090	1.30	1.17	1.03	0.9	0.81	0.74	0.69	0.61	0.54	0.45
JK30-110	1.59	1.43	1.26	1.1	1.0	0.91	0.84	0.74	0.67	0.55
JK30-120	1.74	1.56	1.38	1.2	1.09	0.99	0.92	0.81	0.73	0.6
JK30-135	1.95	1.75	1.55	1.35	1.22	1.12	1.03	0.91	0.82	0.67
JK30-160	2.32	2.08	1.84	1.6	1.45	1.32	1.23	1.08	0.97	0.8
JK30-185	2.68	2.40	2.12	1.85	1.68	1.53	1.42	1.25	1.12	0.92
JK30-200	2.9	2.6	2.3	2	1.82	1.66	1.54	1.36	1.22	1
JK30-250	3.62	3.25	2.87	2.5	2.27	2.07	1.92	1.7	1.52	1.25
JK30-300	4.35	3.9	3.45	3	2.73	2.49	2.31	2.04	1.83	1.5
JK30-400	5.8	5.2	4.6	4	3.64	3.32	3.08	2.72	2.44	2
JK30-500	7.25	6.5	5.75	5	4.55	4.15	3.85	3.4	3.05	2.5
JK30-600	8.7	7.8	6.9	6	5.46	4.98	4.62	4.08	3.66	3
JK30-700	10.15	9.1	8.05	7	6.37	5.81	5.39	4.76	4.27	3.5
JK30-800	11.6	10.4	9.2	8	7.28	6.64	6.16	5.44	4.88	4
JK30-900	13.05	11.7	10.35	9	8.19	7.47	6.93	6.12	5.49	4.5

### Electrical Characteristic

#### JK30 Series

Model	I <sub>Hold</sub> (A)	I <sub>Trip</sub> (A)	V <sub>max</sub>	I <sub>max</sub>	P <sub>d Max</sub>	Maximum Time to Trip		Resistance (mΩ)	
			V <sub>(DC)</sub>	A	W	Current (A)	Time (S)	R <sub>min</sub>	R <sub>max</sub>
JK30-050	0.5	1.0	30	40	0.5	2.5	5.0	250	600
JK30-075	0.75	1.5	30	40	0.6	3.75	5.0	200	370
JK30-090	0.90	1.8	30	40	0.7	4.5	8.0	100	220
JK30-110	1.10	2.2	30	40	0.7	5.5	8.0	70	200
JK30-120	1.20	2.4	30	40	0.8	6.0	8.0	80	180
JK30-135	1.35	1.7	30	40	0.8	6.75	8.0	70	160

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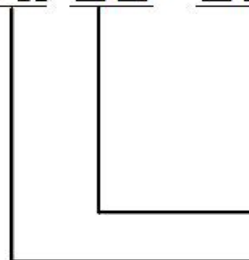
**Specifications are subject to change without notice !**



JK30-160	1.60	3.2	30	40	0.9	8.0	8.0	60	140
JK30-185	1.85	3.7	30	40	1.0	9.25	8.0	50	120
JK30-200	2.00	4.0	30	40	1.2	10.0	11	40	100
JK30-250	2.50	5.0	30	40	1.2	12.5	11	30	80
JK30-300	3.00	6.0	30	40	2.0	15.0	11	30	70
JK30-400	4.00	8.0	30	40	2.5	20.0	12.7	10	60
JK30-500	5.00	10	30	40	3.0	25.0	14.5	10	50
JK30-600	6.00	12	30	40	3.5	30.0	16	5	40
JK30-700	7.00	14	30	40	3.8	35.0	17.5	5	30
JK30-800	8.00	16	30	40	4.0	40.0	18.8	5	25
JK30-900	9.00	18	30	40	4.2	40.0	20	5	20

## Marking System

JK □□ — □□□

 $I_{hold}$  $V_{max}$ 

JK series production

## Test Procedures And Requirements

## JK30 Series

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

## JK30 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

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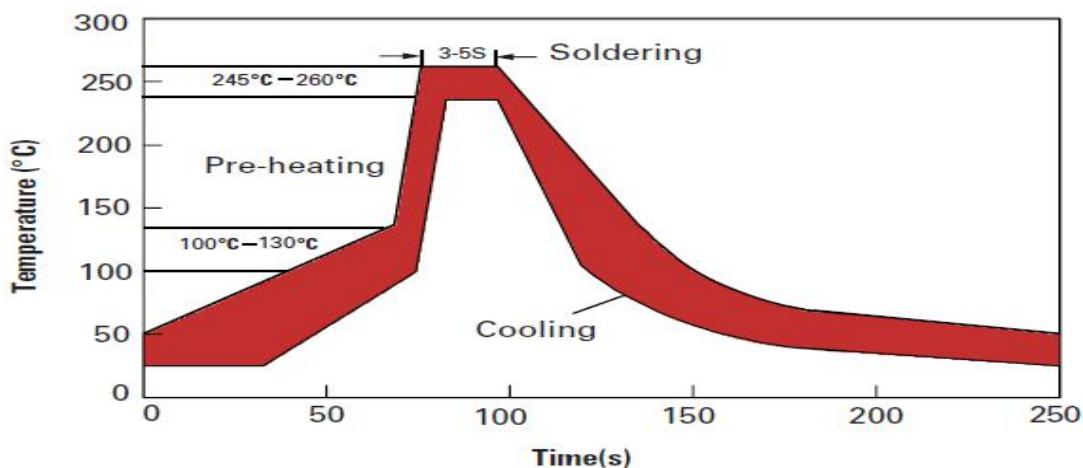
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Operation Condition

- 1 Ambient temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$
- 2 Humidity:  $\leq 95\% \text{HR}(40^{\circ}\text{C})$
- 3 Atmospheric pressure:  $86\text{Kpa} \sim 106\text{Kpa}$ .
- 4 Vibration frequency:  $10\text{Hz} \sim 50\text{Hz}$ .
- 5 Acceleration:  $98\text{m/s}^2$ .
- 6 Storage temperature:  $-40^{\circ}\text{C} \sim 85^{\circ}\text{C}$ .
- 7 Soldering
- 7.1 Wave Soldering:
  - Soldering Temperature:  $240^{\circ}\text{C} \sim 270^{\circ}\text{C}$
  - Soldering Time:  $\leq 5\text{sec}$ .
  - Soldering Position: Resettable fuse wire and the bottom  $\geq 6\text{mm}$ .



*recommended curve*

7.2 Manual soldering

- Soldering Temperature:  $280^{\circ}\text{C} \sim 300^{\circ}\text{C}$
- Soldering Time:  $\leq 2\text{sec}$ .
- Soldering Position: Resettable fuse wire and the bottom  $\geq 6\text{mm}$ .

Electrical Specifications:

- $I_H$ =Hold current: maximum current at which the device will not trip at  $25^{\circ}\text{C}$  still air.
- $I_T$ =Trip current: minimum current at which the device will always trip at  $25^{\circ}\text{C}$  still air.
- $V_{max}$ =Maximum voltage device can withstand without damage at rated current.
- $I_{max}$ =Maximum fault current device can withstand without 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 device when in state air environment.
- $R_{min}$ =Minimum device resistance at  $25^{\circ}\text{C}$  prior to tripping.
- $R_{max}$ =Maximum device resistance at  $25^{\circ}\text{C}$  prior to tripping.



Packaging and Storage

JK30-050~JK30-250	1000Pcs/Bag or 2000Pcs/Box
JK30-300~JK30-500	500 Pcs/Bag
JK30-600~JK30-900	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 ratings 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 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, without notice, any information contained in this specification.

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