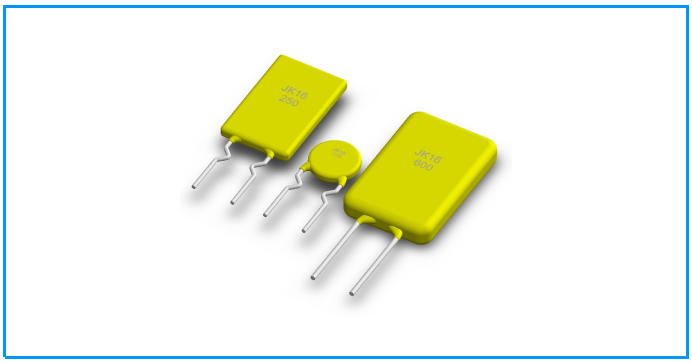
Radial Lead Resettable Polymer PTCs

JK16 Series

Description

JK16 series radial leaded PTCs are designed to provide resettable over-current protection serving a wide range of electronics applications. With maximum 16 volts and maximum 100-ampere short circuit rating.



Features

- RoHS compliant, Lead-Free and Halogen-Free
- Max 100 A short current rating
- 16V operating voltage
- Fast time-to-trip

Applicable

- Computers and peripherals
- Power ports
- General electronics

Electrical Parameters

Part Number	I_{hold} (A)	I_{trip} (A)	V_{max} (Vdc)	I_{max} (A)	$P_{dtyp.}$ (W)	Maximum Time To Trip		Resistance		
						Current (A)	Time (Sec.)	R_{min} (mΩ)	R_{max} (mΩ)	R_{1max} (mΩ)
JK16-300	3.00	6.0	16	100	2.3	9.0	15	20	60	80
JK16-400	4.00	8.0	16	100	2.4	12.0	15	20	40	60
JK16-500	5.00	10.0	16	100	2.6	15.0	15	14	25	33
JK16-600	6.00	12.0	16	100	2.8	18.0	15	10	21	31
JK16-700	7.00	14.0	16	100	3.0	21.0	15	8	15	20
JK16-800	8.00	16.0	16	100	3.0	24.0	15	6	13	18
JK16-900	9.00	18.0	16	100	3.3	27.0	25	4	12	16
JK16-1000	10.0	20.0	16	100	3.7	30.0	30	4	11	15
JK16-1100	11.0	22.0	16	100	3.7	33.0	30	3	9	13
JK16-1200	12.0	24.0	16	100	4.2	36.0	30	3	8	12
JK16-1400	14.0	28.0	16	100	4.2	40.0	50	3	7	11

I_{hold}= Hold current: maximum current device will pass without tripping in 25°C still air.
I_{trip}= Trip current: minimum current at which the device will trip in 25°C still air.
V_{max}= Maximum voltage device can withstand without damage at rated current (I_{max})
I_{max}= Maximum fault current device can withstand without damage at rated voltage (V_{max})
$P_{dtyp.}$= Power dissipated from device when in the tripped state at 25°C still air.
R_{min}= Minimum resistance of device in initial (un-soldered) state.
R_{max}= Maximum resistance of device in initial (un-soldered) state.
R_{1max}= Maximum resistance of device at 25°C measured one hour after tripping.
Caution: Operation beyond the specified rating may result in damage and possible arcing and flame.

Radial Lead Resettable Polymer PTCs

JK16 Series

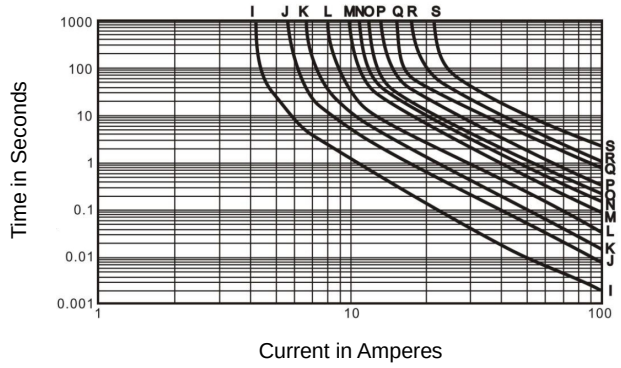
Temperature Rerating Chart – I_{hold} (A)

Part Number	Ambient Operation Temperature								
	-40°C	-20°C	0°C	25°C	40°C	50°C	60°C	70°C	85°C
	Hold Current (A)								
JK16-300	4.40	4.00	3.60	3.00	2.60	2.40	2.10	1.90	1.40
JK16-400	5.90	5.30	4.80	4.00	3.50	3.20	2.80	2.50	1.90
JK16-500	7.30	6.60	6.00	5.00	4.40	4.00	3.60	3.10	2.40
JK16-600	8.80	8.00	7.20	6.00	5.20	4.80	4.20	3.80	2.80
JK16-700	10.3	9.30	8.40	7.00	6.20	5.60	5.00	4.40	3.30
JK16-800	11.7	10.7	9.60	8.00	6.90	6.40	5.60	5.10	3.70
JK16-900	13.2	11.9	10.7	9.00	7.90	7.20	6.40	5.60	4.20
JK16-1000	14.7	13.3	12.0	10.0	8.70	8.00	7.00	6.30	4.70
JK16-1100	16.1	14.6	13.1	11.0	9.70	8.80	7.80	6.90	5.20
JK16-1200	17.6	16.0	14.4	12.0	10.4	9.60	8.40	7.60	5.60
JK16-1400	20.5	18.7	16.8	14.0	12.1	11.2	9.80	8.90	6.50

Radial Lead Resettable Polymer PTCs

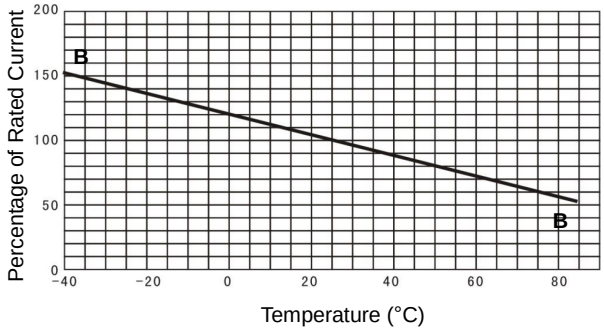
JK16 Series

Average Time Current Curves



I=JK16-300	M=JK16-700	Q=JK16-1100
J=JK16-400	N=JK16-800	R=JK16-1200
K=JK16-500	O=JK16-900	S=JK16-1400
L=JK16-600	P=JK16-1000	

Temperature Rerating Curve

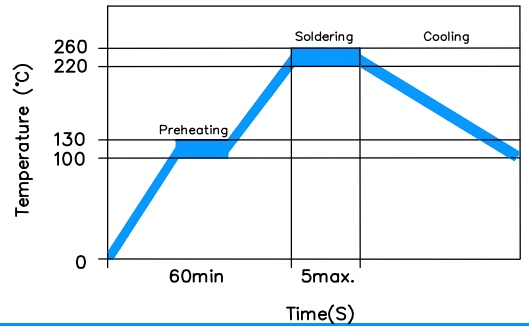


B=JK16-200~ SCJK-1400

Test Procedures and Requirement

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @25±2°C	$R_{min} \le R \le R_{max}$
Hold Current	60 min, at I_{hold}, In still air @25±2°C	No trip
Time to Trip	Specified current, V_{max}, @25±2°C	T≤Maximum Time To Trip
Trip Cycle Life	V_{max}, I_{max},100 cycles	No arcing or burning
Trip Endurance	Vmax,24hours	No arcing or burning

Soldering Parameters



Pre-Heating Zone	Refer to the condition recommended by the manufacturer. Max. ramping rate should not exceed 4°C/Sec
Soldering Zone	Max. solder temperature should not exceed 260°C
Cooling Zone	Cooling by natural convection in air

Physical Specifications

Lead Material	3-14A Tin-plated Copper
Soldering Characteristics	Solder ability per MIL-STD-202, Method 208E
Insulating Material	Cured, flame retardant epoxy polymer meets UL 94V-0 requirements.
Device Labeling	Marked with 'UN', voltage, current rating

Radial Lead Resettable Polymer PTCs

JK16 Series

Dimensions

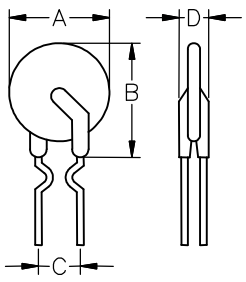


Figure1

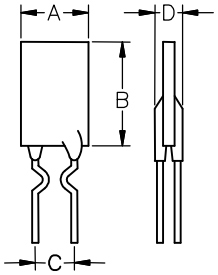


Figure2

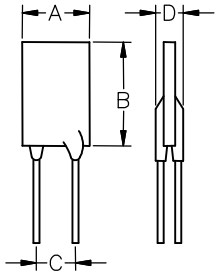


Figure3

Part Number	Figure	A	B	C	D	Lead (dia)		Packaging (Bulk Pack)
		mm Max.	mm Max.	mm Typ.	mm Max.	Inches	Mm	
JK16-300	Figure3	9.0	12.0	5.1	3.0	0.031	0.8	1000
JK16-400	Figure3	10.0	13.0	5.1	3.0	0.031	0.8	1000
JK16-500	Figure3	10.7	15.0	5.1	3.0	0.031	0.8	1000
JK16-600	Figure3	13.5	15.0	5.1	3.0	0.031	0.8	1000
JK16-700	Figure3	13.5	18.0	5.1	3.0	0.031	0.8	500
JK16-800	Figure3	13.5	18.0	5.1	3.0	0.031	0.8	500
JK16-900	Figure3	15.0	23.0	5.1	3.0	0.031	0.8	500
JK16-1000	Figure3	18.0	24.0	5.1	3.0	0.031	0.8	200
JK16-1100	Figure3	18.0	24.0	5.1	3.0	0.031	0.8	200
JK16-1200	Figure3	22.5	25.0	10.5	3.0	0.031	0.8	200
JK16-1400	Figure3	24.0	28.0	10.5	3.0	0.031	0.8	200

Warning

- This product should not be used in an application where the maximum interrupt voltage or maximum interrupt current in a fault condition, Operation beyond the maximum rating or improper use may result in device damage and possible electrical arcing and flame.
- A PPTC device is not a fuse, It is a nonlinear thermistor that limits current, Because under a fault condition all PPTC devices go into a high resistance state but not open circuit hazardous voltage may be present at PPTC.
- The devices 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.
- In most application, power must be removed and the fault condition cleared in order to reset a PPTC device.
- PPTC devices are not recommended to be installed in applications where the device is constrained such that its PPTC properties are inhibited, for example in rigid potting materials or Add devices surface coating, Bundled devices ontology, which lack adequate clearance to accommodate device expansion.
- Contamination on of the PPTC material with certain silicone-based oils or some aggressive solvents can adversely impact the performance of the devices. For example, Organic solvents to cleaning.