

Radial Lead Resettable Polymer PTCs

JK6 Series

Description

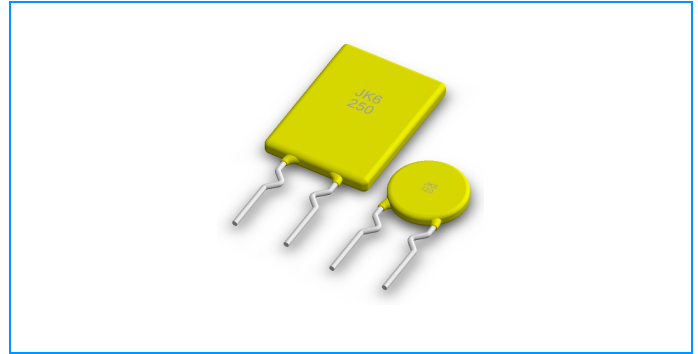
JK6 series radial leaded PTCs are designed to provide resettable over-current protection for USB, Low voltage electrical equipment applications. With maximum 6 volts and maximum 40-ampere short circuit rating.

Features

- u RoHS compliant, Lead-Free and Halogen-Free
- u 40A short circuit rating
- u 6V operating voltage
- u Fast time-to-trip
- u Meets all USB protection requirements

Applicable

- u Computers and peripherals
- u USB hubs ,ports and peripherals
- u Power ports
- u 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} (m Ω)	R_{max} (m Ω)	R_{1max} (m Ω)
JK6-075	0.75	1.50	6	40	0.3	2.25	15	200	500	650
JK6-090	0.90	1.80	6	40	0.6	2.70	15	100	300	400
JK6-110	1.10	2.20	6	40	0.7	3.30	15	100	270	360
JK6-120	1.20	2.40	6	40	0.6	3.60	15	120	220	300
JK6-135	1.35	2.70	6	40	0.8	4.05	15	70	180	250
JK6-155	1.55	3.10	6	40	0.8	4.65	15	60	160	220
JK6-160	1.60	3.20	6	40	0.9	4.80	15	50	160	220
JK6-185	1.85	3.90	6	40	1.0	5.55	15	40	130	200
JK6-200	2.00	4.00	6	40	1.0	6.00	15	40	115	180
JK6-250	2.50	5.00	6	40	1.2	7.50	15	20	80	150
JK6-300	3.00	6.00	6	40	1.2	9.00	15	20	70	140

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.

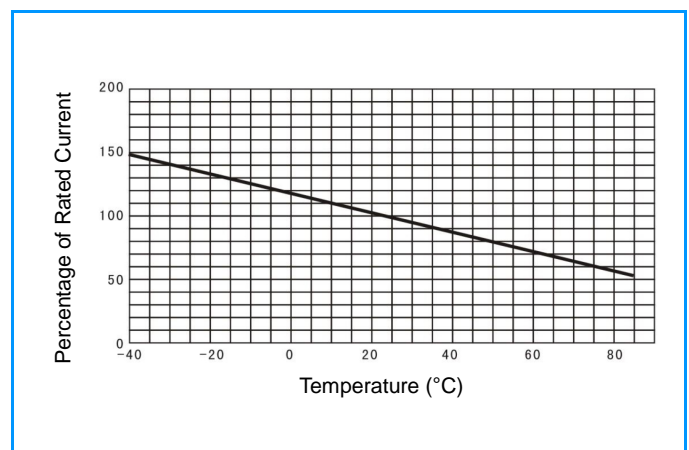
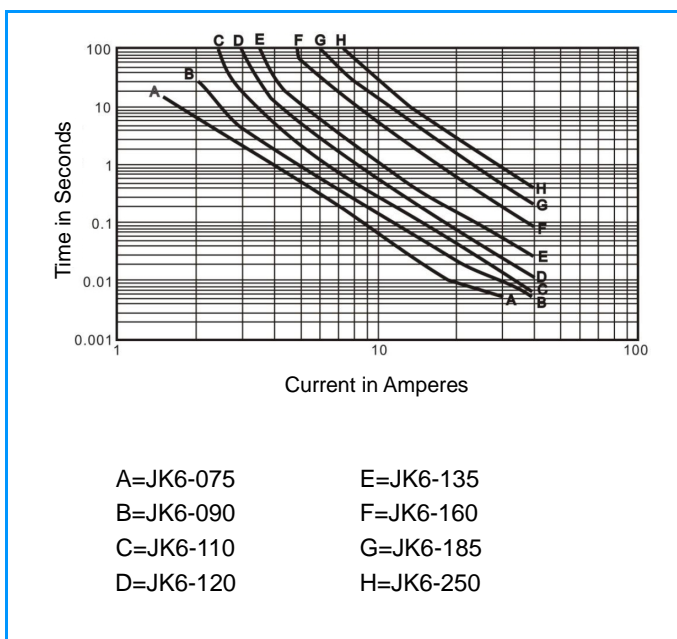
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Average Time Current Curves

Temperature Derating Curve

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)								
JK6-075	1.09	0.98	0.86	0.75	0.62	0.58	0.51	0.46	0.39
JK6-090	1.31	1.17	1.04	0.90	0.75	0.69	0.61	0.55	0.47
JK6-110	1.60	1.43	1.27	1.10	0.91	0.85	0.75	0.67	0.57
JK6-120	1.74	1.56	1.38	1.20	1.00	0.92	0.82	0.73	0.62
JK6-135	1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.70
JK6-155	2.25	2.02	1.78	1.55	1.29	1.19	1.05	0.95	0.81
JK6-160	2.32	2.08	1.84	1.60	1.33	1.23	1.09	0.98	0.83
JK6-185	2.69	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96
JK6-200	2.90	2.60	2.30	2.00	1.66	1.54	1.36	1.22	1.04
JK6-250	3.63	3.25	2.88	2.50	2.08	1.93	1.70	1.53	1.30
JK6-300	4.35	3.90	3.45	3.00	2.49	2.31	2.04	1.83	1.56



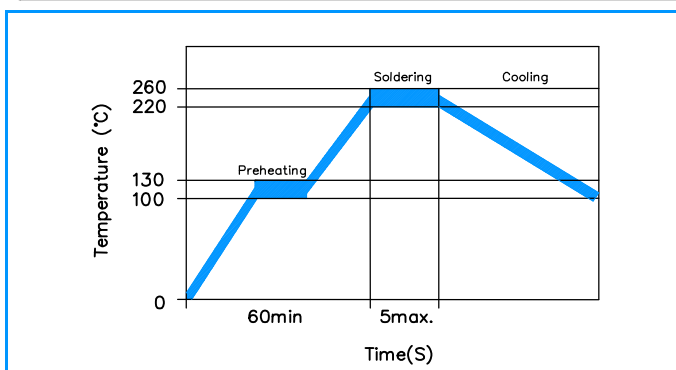
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Test Procedures and Requirement

Test	Test Conditions	Accept/Reject Criteria
Resistance	In still air @25±2°C	$R_{min} \leq R \leq R_{max}$
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	$T \leq$ Maximum Time To Trip
Trip Cycle Life	V_{max} , I_{max} , 100 cycles	No arcing or burning
Trip Endurance	V_{max} , 24 hours	No arcing or burning

Soldering Parameters

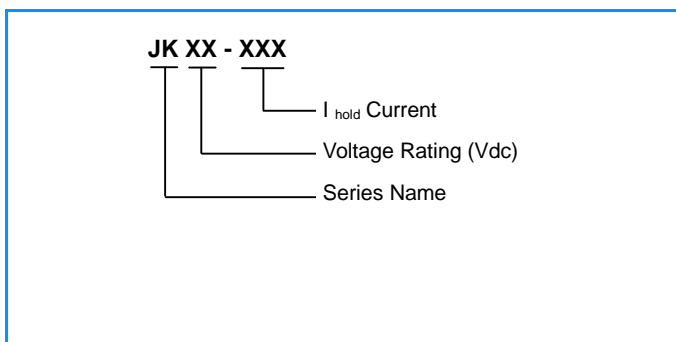


Pre-Heating Zone	Refer to the condition recommended by the manufacturer. Max. ramping rate should not exceed 4°C/Sec
Soldering Zone	Max. solder temperature should not exceed 260°C
Cooling Zone	Cooling by natural convection in air

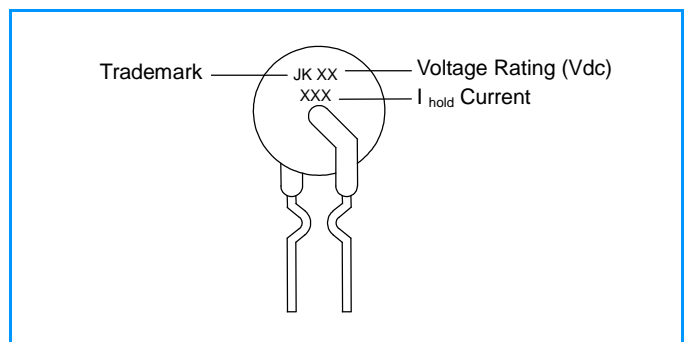
Physical Specifications

Lead Material	Tin-plated Copper clad steel
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 'SC', voltage, current rating

Part Numbering



Part Marking



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Dimensions

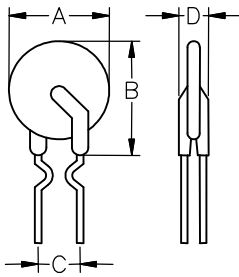


Figure1

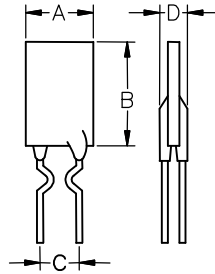


Figure2

Part Number	Figure	A		B		C		D		Lead (dia)		Packaging (Bulk Pack)
		mm (Max.)		mm (Max.)		mm (Typ.)		mm (Max.)		Inches	mm	
JK6-075	Figure1	7.40		12.0		5.1		3.0		0.020	0.5	1000
JK6-090	Figure1	7.40		11.5		5.1		3.0		0.020	0.5	1000
JK6-110	Figure2	7.80		12.0		5.1		3.0		0.020	0.5	1000
JK6-120	Figure1	7.40		12.2		5.1		3.0		0.020	0.5	1000
JK6-135	Figure2	7.40		14.5		5.1		3.0		0.020	0.5	1000
JK6-155	Figure1	7.40										1000
JK6-160	Figure2	7.80		13.8		5.1		3.0		0.020	0.5	1000
JK6-185	Figure2	7.80		15.5		5.1		3.0		0.020	0.5	1000
JK6-200	Figure2	8.80										1000
JK6-250	Figure2	10.00		16.0		5.1		3.0		0.020	0.5	1000
JK6-300	Figure2	10.10										1000

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.



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