

# PolySwitch Resettable Devices

## SMD1206 Series

Surface-Mount Devices  
Rev Letter: C  
Rev Date: 2012-4-05



### Feature

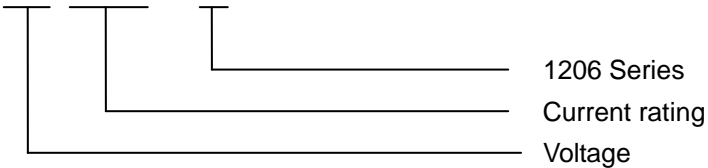
- Resettable overcurrent protection
- ROHS compliant
- Very small size of 1206
- Current rating from 0.12 to 1.50A
- Fast time-to-trip
- Small footprint
- Low resistance

### Application

- Computer
- Battery
- Mobile phones
- Industrial controls
- Automotive
- Portable electronics
- Multimedia
- Game machines
- Telephony and broadband

### Part Numbering

KT x x--x x x xSMD1206



### Typical Electrical Characteristics for SMDI Series at 25°C

Size 3216mm/1206mils

Part number	Hold Current & Trip Current (Amps)		Maximum Voltage (V)	Maximum Current (A)	Maximum Time-to-Trip		Minimum Resistance (Ohms)	One Hour Post Reflow Resistance (Ohms)	Tripped State Power Dissipation (Watts)
	Hold	Trip			(A)	(S)			
KT30-0120SMD1206	0.12	0.29	30	20	1.0	0.20	1.500	6.000	0.60
KT30-0160SMD1206	0.16	0.37	30	20	1.0	0.30	1.200	4.500	0.60
KT16-0200SMD1206	0.20	0.40	16	40	8.0	0.10	0.600	2.500	0.60
KT24-0200SMD1206	0.20	0.40	24	40	8.0	0.10	0.600	2.500	0.60
KT16-0250SMD1206	0.25	0.50	16	40	8.0	0.10	0.550	2.300	0.60
KT15-0350SMD1206	0.35	0.75	30	40	8.0	0.10	0.300	1.200	0.60
KT15-0500SMD1206	0.50	1.00	15	40	8.0	0.10	0.150	0.750	0.60
KT13-0750SMD1206	0.75	1.50	13.2	40	8.0	0.10	0.090	0.400	0.60
KT8-1000SMD1206	1.00	2.00	8	40	8.0	0.20	0.055	0.210	0.80

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KT6-1100SMD1206	1.10	2.20	6	40	8.0	0.20	0.040	0.180	0.80
KT8-1100SMD1206	1.10	2.20	8	40	8.0	0.20	0.040	0.180	0.80
KT6-1500SMD1206	1.50	3.00	6	40	8.0	0.30	0.040	0.120	0.80

### Thermal Derating For SMD1206 series [Hold Current (A) at Ambient Temperature(°C)]

#### *Size 3216mm/1206mils*

Part number	Maximum Ambient Temperature									
	-40°C	-20°C	0°C	20°C	25°C	40°C	50°C	60°C	70°C	85°C
KT30-0120SMD1206	0.20	0.17	0.15	0.13	0.12	0.11	0.10	0.09	0.08	0.07
KT30-0160SMD1206	0.21	0.20	0.18	0.17	0.16	0.14	0.13	0.12	0.11	0.09
KT16-0200SMD1206	0.34	0.30	0.26	0.22	0.20	0.17	0.15	0.13	0.11	0.09
KT24-0200SMD1206	0.34	0.30	0.26	0.22	0.20	0.17	0.15	0.13	0.11	0.09
KT16-0250SMD1206	0.37	0.33	0.29	0.27	0.25	0.22	0.20	0.17	0.15	0.12
KT15-0350SMD1206	0.58	0.51	0.44	0.38	0.35	0.31	0.28	0.24	0.21	0.16
KT15-0500SMD1206	0.78	0.69	0.61	0.52	0.50	0.44	0.39	0.35	0.30	0.24
KT13-0750SMD1206	1.15	1.04	0.92	0.78	0.75	0.69	0.63	0.58	0.51	0.43
KT8-1000SMD1206	1.54	1.36	1.20	1.02	1.00	0.90	0.73	0.70	0.55	0.42
KT6-1100SMD1206	1.64	1.46	1.30	1.12	1.10	0.92	0.83	0.80	0.65	0.52
KT8-1100SMD1206	1.64	1.46	1.30	1.12	1.10	0.92	0.83	0.80	0.65	0.52
KT6-1500SMD1206	2.20	1.99	1.77	1.55	1.50	1.34	1.23	1.10	1.01	0.84

### Typical Product Dimensions in Millimeters(Inches)

#### *Size 3216mm/1206mils*

Part number	A	B	C	D	E	Figures for Dimension
	Max.	Max.	Max.	Min.	Min.	
KT30-0120SMD1206	3.45(0.136)	1.80(0.071)	0.90(0.035)	0.25(0.010)	0.076(0.003)	1
KT30-0160SMD1206	3.45(0.136)	1.80(0.071)	0.90(0.035)	0.25(0.010)	0.076(0.003)	1
KT16-0200SMD1206	3.45(0.136)	1.80(0.071)	0.90(0.035)	0.25(0.010)	0.076(0.003)	1
KT24-0200SMD1206	3.45(0.136)	1.80(0.071)	0.90(0.035)	0.25(0.010)	0.076(0.003)	1
KT16-0250SMD1206	3.45(0.136)	1.80(0.071)	0.90(0.035)	0.25(0.010)	0.076(0.003)	1
KT15-0350SMD1206	3.45(0.136)	1.80(0.071)	0.90(0.035)	0.25(0.010)	0.076(0.003)	1
KT15-0500SMD1206	3.45(0.136)	1.80(0.071)	1.00(0.040)	0.25(0.010)	0.076(0.003)	1
KT13-0750SMD1206	3.45(0.136)	1.80(0.071)	1.00(0.040)	0.25(0.010)	0.076(0.003)	1
KT8-1000SMD1206	3.45(0.136)	1.80(0.071)	1.40(0.055)	0.25(0.010)	0.076(0.003)	1

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KT6-1100SMD1206	3.45(0.136)	1.80(0.071)	1.40(0.055)	0.25(0.010)	0.076(0.003)	1
KT8-1100SMD1206	3.45(0.136)	1.80(0.071)	1.40(0.055)	0.25(0.010)	0.076(0.003)	1
KT6-1500SMD1206	3.45(0.136)	1.80(0.071)	1.80(0.071)	0.25(0.010)	0.076(0.003)	1

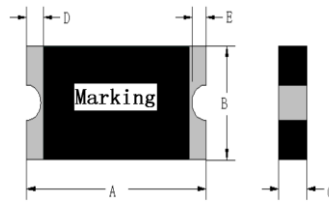
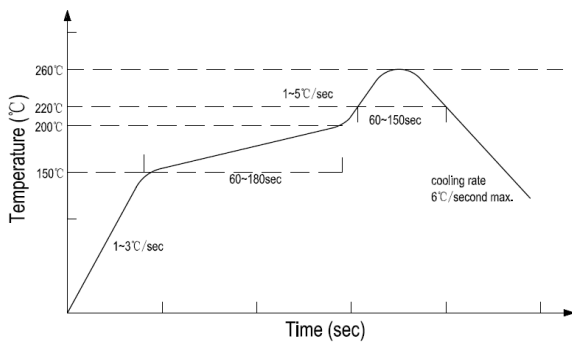
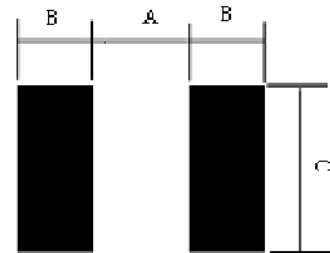


Figure 1

### Solder Reflow Recommendation



Reflow -curve



Footprint(mm)

\* Recommended reflow methods: IR, hot air oven, Nitrogen oven.

\* Devices can be cleaned using standard industry methods and solvents.

**Note:**

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

**Caution:** Operation beyond the rated voltage or current may result in rupture electrical arcing or flame.

### Environmental Specifications

- Recommended storage conditions: 40°C max, 70% R.H. max
- Passive aging: 85°C, 1000 hours
- Moisture Resistance: 85% RH, 85°C, 1000hrs
- Thermal Shock: -40°C to 85°C, 30 min cycle, 20 cycles.
- Vibration: per MIL-STD-883C
- Solder leach resistance and terminal adhesion: Per EIA-576 test

### Packaging Information

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### Size 3216mm/1206mils

Part number	Tape & Reel Quantity	Tape spc code	Recommended Pad Layout Figures[mm(In.)]		
			Dimension A(Nom.)	Dimension B(Nom.)	Dimension C(Nom.)
KT30-0120SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT30-0160SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT16-0200SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT24-0200SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT16-0250SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT15-0350SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT15-0500SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT13-0750SMD1206	4000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT8-1000SMD1206	3000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT6-1100SMD1206	3000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT8-1100SMD1206	3000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)
KT6-1500SMD1206	2000	1206	2.00(0.079)	1.00(0.039)	1.60(0.063)



### WARNING:

- Operation beyond the maximum ratings or improper use may result in device damage and possible electrical arcing and flame.
- The devices are intended for protection against occasional overcurrent or overtemperature fault conditions and should not be used when repeated fault conditions or prolonged trip events are anticipated.
- Contamination of the PPTC material with certain silicon based oils or some aggressive solvents can adversely impact the performance of the devices.
- Device performance can be impacted negatively if devices are handled in a manner inconsistent with recommended electronic, thermal and mechanical procedures for electronic components.
- Operation in circuit with a large inductance can generate a circuit voltage ( $L di/dt$ ) above the rated voltage of the PPTC device.