

SM Series

Surface-Mount Low Resistance PTC Device
 Rev Letter: A/T
 Rev Date: 2016-12-1



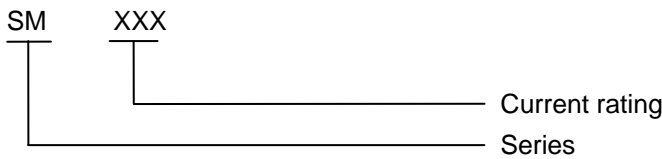
Feature

- Resettable overcurrent protection
- Very Low resistance
- High current rating
- Fast time-to-trip
- Small footprint
- ROHS compliant and Halogen free

Application

- Mobile phone battery packs
- Cordless phone battery packs
- Mobile radio packs
- Computer battery packs
- Camcorder battery packs
- PDA battery packs

Part Number



Typical Ratings and Characteristics

- Maximum Operating Voltage: 6Vdc
- Maximum Interrupt Current: 50A

Part Number	HOLD CURRENT & TRIP CURRENT (AMPS)						TIME-TO-TRIP (SECONDS)	REFERENCE RESISTANCE (OHMS)	TWO HOURS POST REFLOW RESISTANCE (OHMS)	TRIPPED STATE POWER DISSIPATION (WATTS)
	0°C		25°C		60°C		25°C	25°C	25°C	25°C, 6V
	HOLD	TRIP	HOLD	TRIP	HOLD	TRIP	MAX	MIN	MAX	MAX
SM-075	1.2	3.8	0.75	3.0	0.4	1.0	37.5A/5S	0.018	0.090	1.0
SM110	1.5	4.5	1.1	3.0	0.6	1.2	5.5A/5S	0.010	0.050	1.0
SM150	1.8	5.2	1.5	3.0	0.8	2.0	7.5A/5S	0.006	0.030	1.0
SM-175	2.0	6.0	1.75	5.5	0.9	2.8	8.75A/5S	0.006	0.028	1.0
SM-190	2.3	5.5	1.9	5.0	1.0	2.6	9.5A/5S	0.006	0.026	1.0
SM-200	2.6	6.8	2.0	6.0	1.3	3.3	10.0A/5S	0.004	0.020	1.2
SM-220	2.7	5.5	2.2	5.0	1.5	3.5	11.0A/5S	0.003	0.020	1.2
SM-260	3.2	6.4	2.6	5.2	1.6	3.7	13.0A/5S	0.003	0.018	1.2
SM-300	3.4	6.8	3.0	8.0	1.8	3.8	15.0A/5S	0.002	0.016	1.2
SM-350	3.8	8.6	3.5	8.0	2.3	4.6	17.5A/5S	0.001	0.016	1.2
SM-380	4.5	9.6	3.8	8.0	2.6	5.5	19.0A/5S	0.001	0.015	1.2
SM-400	4.8	10.0	4.0	8.0	2.7	5.6	20.0A/5S	0.001	0.014	1.2
SM-450	5.0	10.4	4.5	8.0	3.0	6.4	22.5A/5S	0.001	0.012	1.2
SM-500	5.4	10.8	5.0	8.0	3.4	7.0	25.0A/5S	0.001	0.012	1.2
SM-550	6.0	12.0	5.5	11.0	3.6	7.2	27.5A/5S	0.001	0.011	1.2

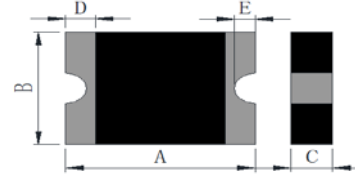
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SM-600	6.5	13.0	6.0	12.0	4.0	8.0	30.0A/5S	0.001	0.010	1.5
SM-650	7.0	14.0	6.5	13.0	4.2	8.4	32.5A/5S	0.001	0.010	1.2

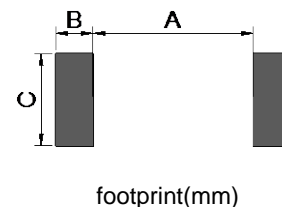
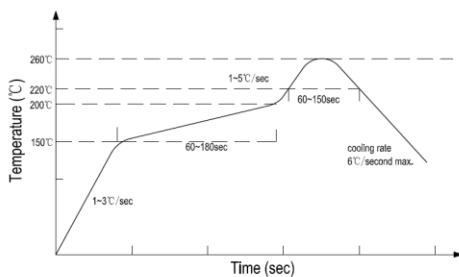
*The max resistance of two-hours post reflow is a reference value. The value maybe changes a little according to reflow conditions and soldering state.



Product Dimension and Foot Print

	A(mm)	B(mm)	C(mm)	D(mm)	E(mm)
	Max	Max	Max	Min	Min
SM-075	3.45	1.8	0.7	0.25	0.1
SM110	3.45	1.8	0.7	0.25	0.1
SM150	3.45	1.8	0.7	0.25	0.1
SM-175	3.45	1.8	0.7	0.25	0.1
SM-190	3.45	1.8	0.7	0.25	0.1
SM-200	3.45	1.8	0.7	0.25	0.1
SM-220	3.45	1.8	0.7	0.25	0.1
SM-260	3.45	1.8	0.7	0.25	0.1
SM-300	3.45	1.8	1.0	0.25	0.1
SM-350	3.45	1.8	1.0	0.25	0.1
SM-380	3.45	1.8	1.0	0.25	0.1
SM-400	3.45	1.8	1.0	0.25	0.1
SM-450	3.45	1.8	1.0	0.25	0.1
SM-500	3.45	1.8	1.1	0.25	0.1
SM-550	3.45	1.8	1.1	0.25	0.1
SM-600	3.45	1.8	1.1	0.25	0.1
SM-650	3.45	1.8	1.1	0.25	0.1

Solder Reflow Recommendation



- * Recommended reflow methods: IR, hot air oven, nitrogen oven
- * Recommended maximum paste thickness: 0.25mm (0.010 inch)
- * Devices can be cleaned using standard industry methods and solvents.
- * Solder temperature and time should be controlled strictly in recommended conditions.

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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

Packaging and Marking Information

Part number	Tape & Reel		Part Marking	Recommended Pad Layout Figures(mm)		
	Quantity	Tape spc code		Dimension A	Dimension B	Dimension C
SM-075	3500	1206B	z	1.80	1.00	1.80
SM110	3500	1206B	b	1.80	1.00	1.80
SM150	3500	1206B	p	1.80	1.00	1.80
SM-175	3500	1206B	k	1.80	1.00	1.80
SM190	3500	1206B	m	1.80	1.00	1.80
SM-200	3500	1206B	s	1.80	1.00	1.80
SM220	3500	1206B	r	1.80	1.00	1.80
SM260	3500	1206B	t	1.80	1.00	1.80
SM-300	3500	1206B	u	1.80	1.00	1.80
SM-350	3500	1206B	v	1.80	1.00	1.80
SM380	3500	1206B	g	1.80	1.00	1.80
SM400	3500	1206B	a	1.80	1.00	1.80
SM-450	3500	1206B	x	1.80	1.00	1.80
SM-500	3500	1206B	o	1.80	1.00	1.80
SM-550	3500	1206B	f	1.80	1.00	1.80
SM-600	3500	1206B	h	1.80	1.00	1.80
SM-650	3500	1206B	c	1.80	1.00	1.80



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 over-temperature 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.

Prepare	Approval	Accept