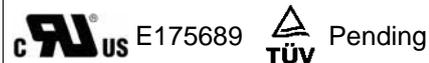


## SURFACE MOUNT PTC SM (1210) MODEL



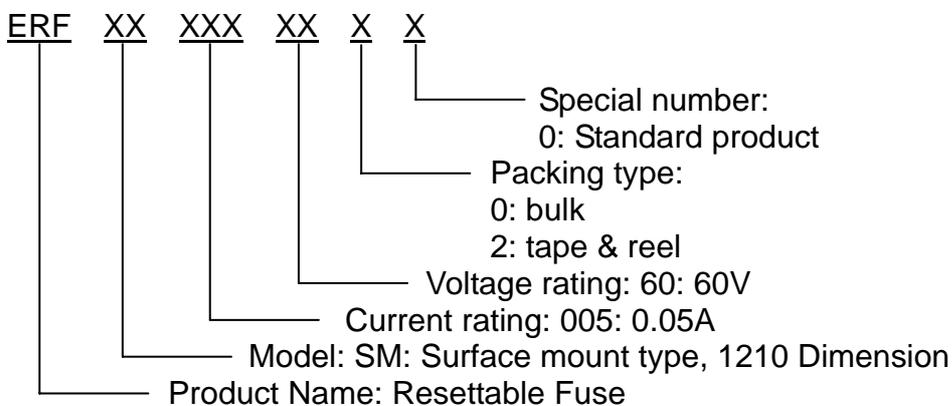
### FEATURES

- 1210 Dimension, surface mount, solid state
- Faster time to trip than standard SMD devices
- Lower resistance than standard SMD devices
- Operation current: 50mA~1.5 A
- Maximum voltage: 6V~60Vdc
- Temperature range: -40 to 85
- Tape and reel available on most models

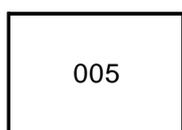
### APPLICATIONS

- ◆ Almost anywhere there High-density boards is a low voltage power supply and a load to be protected including:
  - Computers & peripherals
  - General electronics
  - Automotive applications

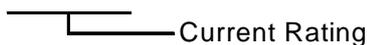
### PART NUMBERING SYSTEM



### Marking system



Example



**NOTE: Specifications subject to change without prior notice.**

## Electrical characteristics(23 )

Part Number	Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical Power	Max. Time to trip		Resistance Tolerance	
	I <sub>H</sub> , A	I <sub>T</sub> , A	V <sub>MAX</sub> , V <sub>dc</sub>	I <sub>MAX</sub> , A	P <sub>d</sub> , W	Amp	Sec	R <sub>MIN</sub>	R <sub>1MAX</sub>
<b>SM005</b>	0.05	0.15	60	10	0.60	0.25	1.50	3.60	50.00
<b>SM010</b>	0.10	0.25	60	10	0.60	0.50	1.50	1.60	15.00
<b>SM020</b>	0.20	0.40	30	10	0.60	8.00	0.02	0.80	5.00
<b>SM035</b>	0.35	0.70	16	40	0.60	8.00	0.20	0.32	1.30
<b>SM050</b>	0.50	1.00	16	40	0.60	8.00	0.10	0.25	0.90
<b>SM075</b>	0.75	1.50	8	40	0.60	8.00	0.10	0.13	0.40
<b>SM110</b>	1.10	2.20	6	40	0.80	8.00	0.35	0.07	0.21
<b>SM150</b>	1.50	3.00	6	40	0.80	8.00	0.50	0.04	0.12

I<sub>H</sub>=Hold current-maximum current at which the device will not trip at 23 °C still air.

I<sub>T</sub>=Trip current-minimum current at which the device will always trip at 23 °C still air.

V<sub>MAX</sub>=Maximum voltage device can withstand without damage at rated current.

I<sub>MAX</sub>= Maximum fault current device can withstand without damage at rated voltage (V max).

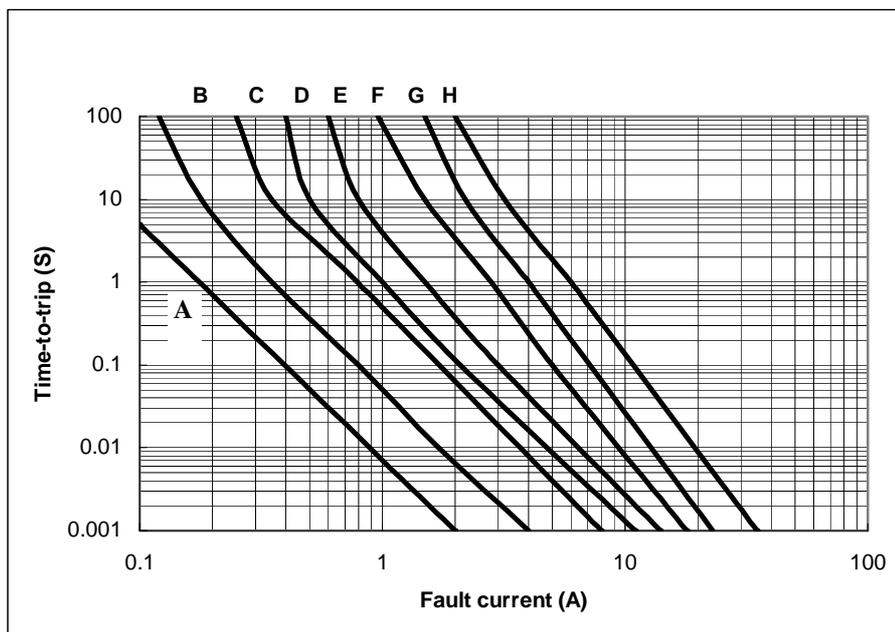
P<sub>d</sub>=Typical power dissipated from device when in the tripped state in 23 °C still air environment.

R<sub>MIN</sub>=Minimum device resistance at 23 °C.

R<sub>1MAX</sub>=Maximum device resistance at 23 °C 1 hour after tripping .

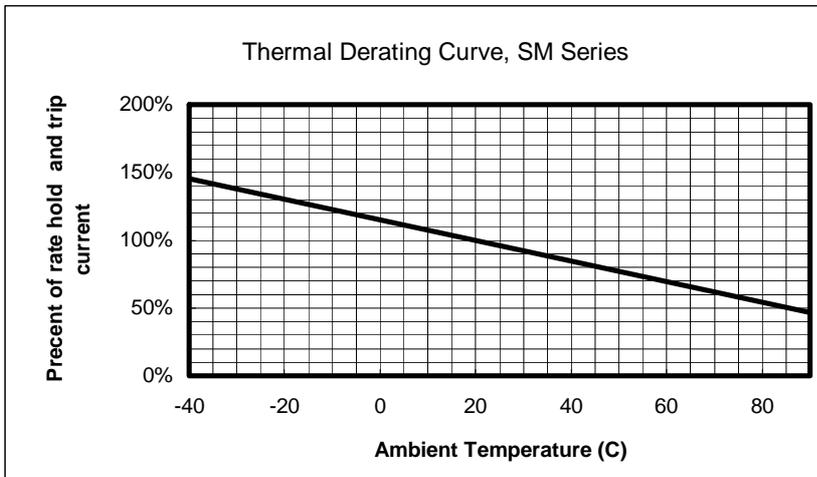
## Typical time-to-trip-at 23

A=SM005  
B=SM010  
C=SM020  
D=SM035  
E=SM050  
F=SM075  
G=SM110  
H=SM150



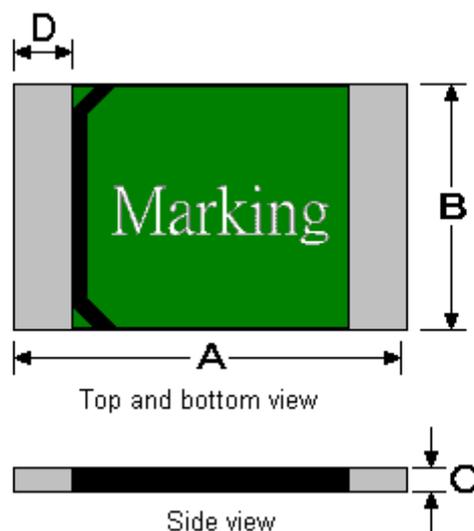
**NOTE: Specifications subject to change without prior notice.**

## Thermal Derating Curve



## SM Product Dimensions (UNIT: mm)

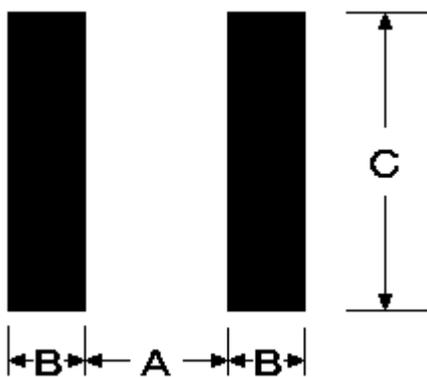
Part Number	A		B		C		D
	Min	Max	Min	Max	Min	Max	Min
<b>SM005</b>	3.0	3.43	2.35	2.80	0.60	1.15	0.25
<b>SM010</b>	3.0	3.43	2.35	2.80	0.60	1.15	0.25
<b>SM020</b>	3.0	3.43	2.35	2.80	0.45	0.85	0.25
<b>SM035</b>	3.0	3.43	2.35	2.80	0.45	0.80	0.25
<b>SM050</b>	3.0	3.43	2.35	2.80	0.40	0.75	0.25
<b>SM075</b>	3.0	3.43	2.35	2.80	0.35	0.70	0.25
<b>SM100</b>	3.0	3.43	2.35	2.80	0.90	1.30	0.25
<b>SM150</b>	3.0	3.43	2.35	2.80	1.45	2.25	0.25



**NOTE: Specifications subject to change without prior notice.**

## Pad Layouts and Soldering Reflow Recommendations

The dimension in the table below provide the recommended pad layout for each surface mount device



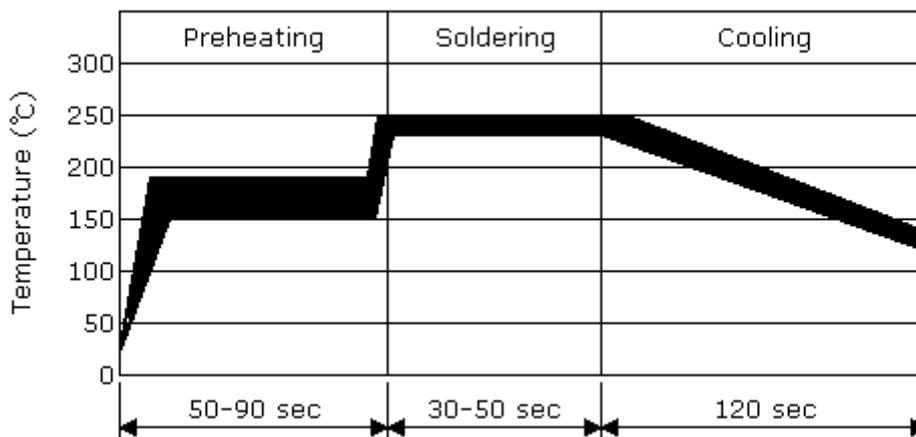
Pad dimensions(millimeters)			
Device	A Nominal	B Nominal	C Nominal
SL MODEL	5.10	2.30	5.60
SD MODEL	3.45	1.78	3.50
SM MODEL	2.00	1.00	2.80
SN MODEL	2.00	1.00	1.90

### SOLDERING REFLOW (LEAD FREE)

- 1.Suggested reflow methods: IR, vapor phase oven, hot air oven.
- 2.Suitable for use with wave-soldering methods.
- 3.Recommended maximum paste thickness is 0.25mm.

### CAUTION

If reflow temperatures exceed the recommended standard, devices may not be able to meet the performance requirements.



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