

SURFACE MOUNT PTC SD (1812) MODEL

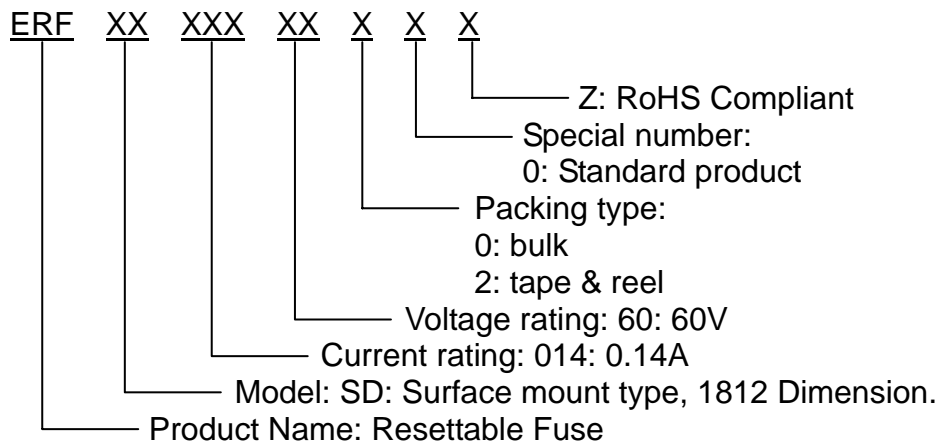
■ FEATURES

- Mini surface mount, solid state
- Faster time to trip than standard SMD devices
- Lower resistance than standard SMD devices
- Operation current: 100mA~3.0A
- Maximum voltage: 6V~60Vdc
- Temperature range: -40°C to 85°C
- Tape and reel available on most models

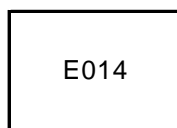
■ APPLICATIONS

- ◆ 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

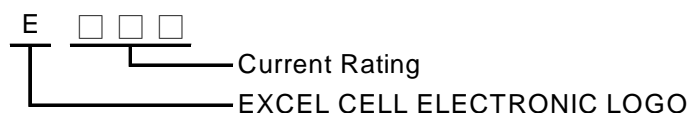
■ PART NUMBERING SYSTEM



■ Marking system



Example



NOTE: Specifications subject to change without prior notice.

■ Electrical characteristics(23°C)

Part Number	Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical Power	Max. Time to trip		Resistance Tolerance	
	I _H , A	I _T , A	V _{MAX} , V _{dc}	I _{MAX} , A	P _d , W	Amp	Sec	R _{MIN}	R _{1MAX}
								Ω	Ω
SD010-60	0.10	0.30	60	10	0.8	8.0	<0.02	1.600	15.00
SD014-60	0.14	0.30	60	10	0.8	8.0	0.008	1.200	6.500
SD020-30	0.20	0.40	30	10	0.8	8.0	0.02	0.800	5.000
SD035-16	0.35	0.70	16	40	0.8	8.0	0.10	0.320	1.500
SD050-16	0.50	1.00	16	40	0.8	8.0	0.15	0.150	1.000
SD075-16	0.75	1.50	16	40	0.8	8.0	0.20	0.110	0.450
SD075-24	0.75	1.50	24	40	1.0	8.0	0.20	0.110	0.290
SD075-33	0.75	1.50	33	40	1.0	8.0	0.20	0.110	0.400
SD110-08	1.10	2.20	8	100	0.8	8.0	0.30	0.040	0.210
SD110-16	1.10	1.95	16	40	0.8	8.0	0.50	0.040	0.180
SD110-24	1.10	2.20	24	100	1.0	8.0	0.50	0.060	0.200
SD125-06	1.25	2.50	6	40	0.8	8.0	0.40	0.050	0.140
SD150-06	1.50	3.00	6	40	0.8	8.0	0.50	0.040	0.110
SD150-12	1.50	3.00	12	100	1.0	8.0	0.50	0.040	0.110
SD150-24	1.50	3.00	24	100	1.0	8.0	1.50	0.040	0.120
SD160-06	1.60	3.20	6	40	0.8	8.0	0.50	0.030	0.100
SD160-12	1.60	3.20	12	100	1.0	8.0	1.00	0.030	0.100
SD160-16	1.60	3.20	16	100	1.0	8.0	1.00	0.030	0.100
SD190-06	1.90	4.90	6	100	1.0	8.0	5.00	0.003	0.025
SD200-08	2.00	3.50	8	100	1.0	8.0	2.00	0.020	0.070
SD260-06	2.60	5.00	6	100	1.0	8.0	2.50	0.015	0.047
SD260-13	2.60	5.00	13.2	100	1.3	8.0	5.00	0.015	0.050
SD260-16	2.60	5.00	16	100	1.3	8.0	5.00	0.015	0.050
SD300-06	3.00	5.00	6	100	1.0	8.0	4.00	0.012	0.040

I_H=Hold current-maximum current at which the device will not trip at 23°C still air.

I_T=Trip current-minimum current at which the device will always trip at 23°C still air.

V_{MAX}=Maximum voltage device can withstand without damage at rated current.

I_{MAX}= Maximum fault current device can withstand without damage at rated voltage (V max).

P_d=Typical power dissipated from device when in the tripped state in 23°C still air environment.

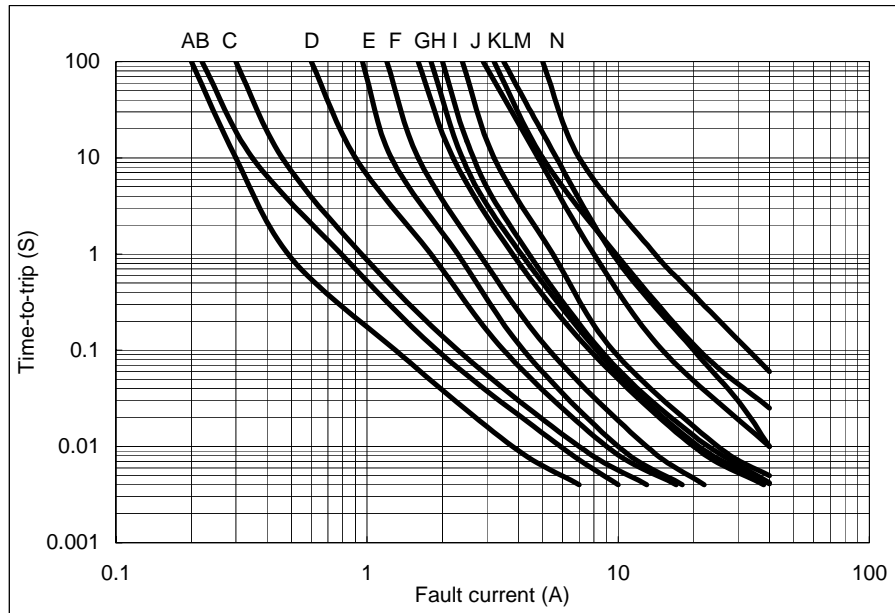
R_{MIN}=Minimum device resistance at 23°C.

R_{1MAX}=Maximum device resistance at 23°C 1 hour after tripping .

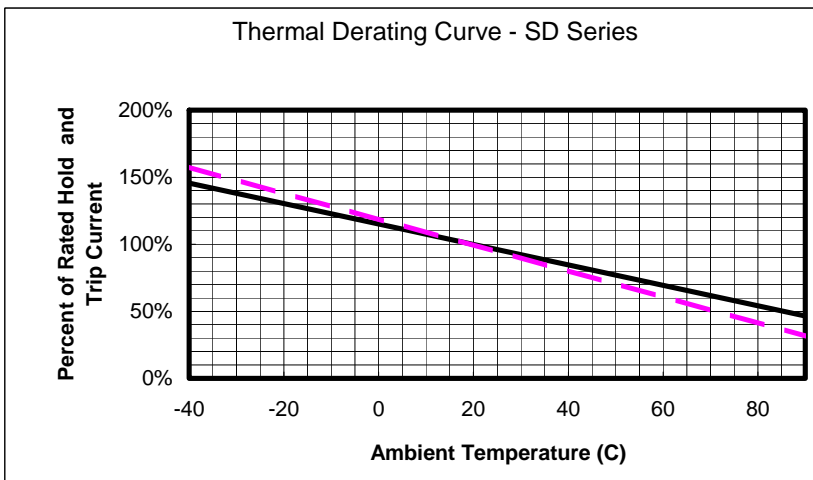
NOTE: Specifications subject to change without prior notice.

■ **Typical time-to-trip-at 23°C**

- A=SD010
- B=SD014
- C=SD020
- D=SD035
- E=SD050
- F=SD075
- G=SD110
- H=SD125
- I=SD150
- J=SD160
- K=SD190
- L=SD200
- M=SD260
- N=SD300



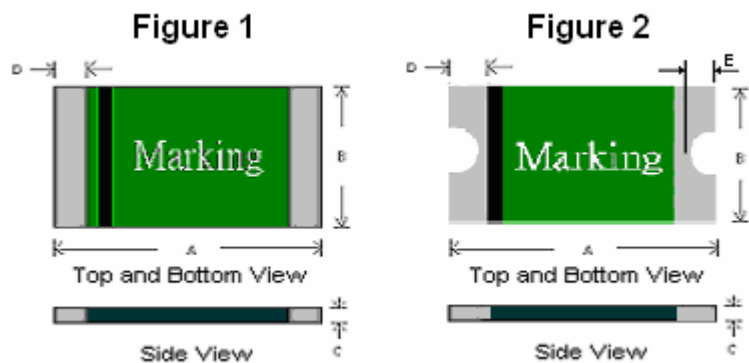
■ **Thermal Derating Curve**



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SD Product Dimensions (UNIT: mm)

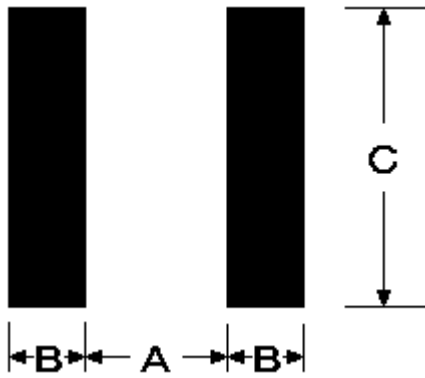
Part Number	A		B		C		D		E		Figure
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
SD010-60	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	-----	-----	1
SD014-60	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	-----	-----	1
SD020-30	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	-----	-----	1
SD035-16	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	-----	-----	1
SD050-16	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	-----	-----	1
SD075-16	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	-----	-----	1
SD075-24	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65	2
SD075-33	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65	2
SD110-08	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	-----	-----	1
SD110-16	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	-----	-----	1
SD110-24	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65	2
SD125-06	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	-----	-----	1
SD150-06	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	-----	-----	1
SD150-12	4.37	4.73	3.07	3.41	0.60	1.10	0.25	0.95	0.25	0.65	2
SD150-24	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65	2
SD160-06	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	-----	-----	1
SD160-12	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65	2
SD160-16	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65	2
SD190-06	4.37	4.73	3.07	3.41	0.30	0.70	0.25	0.95	0.25	0.65	2
SD200-08	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65	2
SD260-06	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65	2
SD260-13	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65	2
SD260-16	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65	2
SD300-06	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65	2



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■ Pad Layouts and Soldering Reflow Recommendations

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



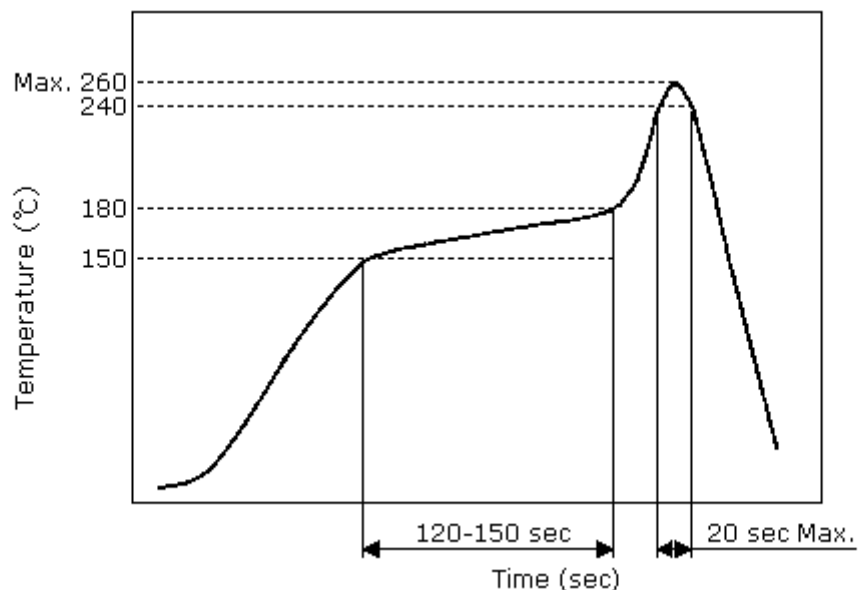
Pad dimensions(millimeters)			
Device	A Nominal	B Nominal	C Nominal
SL MODEL	5.10	2.30	5.60
SD MODEL	3.45	1.78	3.50
SM MODEL	2.00	1.00	2.80
SN MODEL	2.00	1.00	1.90
SR MODEL	1.20	1.00	1.50

■ SOLDERING REFLOW (LEAD FREE)

- 1.Suggested reflow methods: IR, vapor phase oven, hot air oven.
- 2.Recommended maximum paste thickness is 0.25mm.
- 3.Devices are not designed to wave soldered to the bottom side of the board.

■ CAUTION

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



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