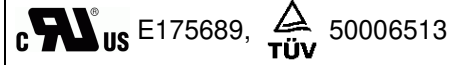




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SURFACE MOUNT PTC SD (1812) MODEL



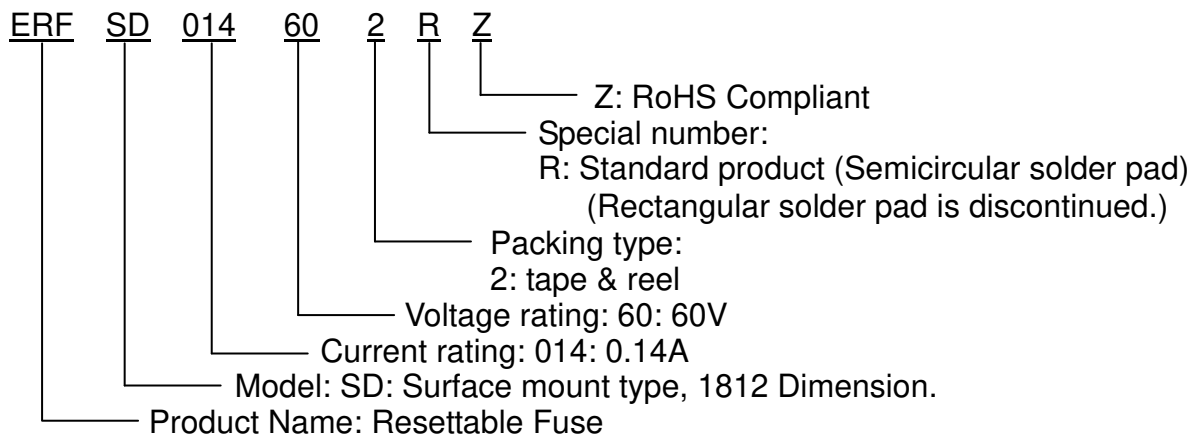
FEATURES

- 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

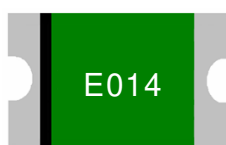
APPLICATIONS

- ◆ 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

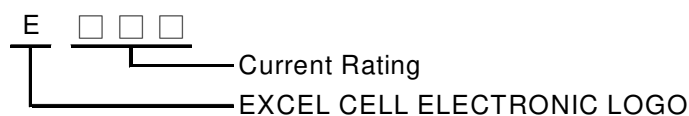
PART NUMBERING SYSTEM



Marking system



Example





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■ Electrical characteristics(23°C)

Part Number	Hold Current I _H , A	Trip Current I _T , A	Rated Voltage V _{MAX} , V _{dc}	Maximum Current I _{MAX} , A	Typical Power Pd, W	Max. Time to trip		Resistance Tolerance	
						Amp	Sec	R _{MIN} Ω	R _{1MAX} Ω
SD010-60	0.10	0.30	60	100	0.8	8.0	0.02	1.600	15.00
SD014-60	0.14	0.30	60	100	0.8	8.0	0.008	1.200	6.500
SD020-30	0.20	0.40	30	100	0.8	8.0	0.02	0.800	5.000
SD020-60	0.20	0.40	60	100	0.8	8.0	0.02	0.800	5.000
SD030-30	0.30	0.60	30	100	0.8	8.0	0.10	0.200	1.750
SD035-16	0.35	0.70	16	100	0.8	8.0	0.10	0.320	1.500
SD035-30	0.35	0.70	30	100	0.8	8.0	0.10	0.320	1.500
SD050-16	0.50	1.00	16	100	0.8	8.0	0.15	0.150	1.000
SD050-30	0.50	1.00	30	100	0.8	8.0	0.15	0.150	1.000
SD075-16	0.75	1.50	16	100	0.8	8.0	0.20	0.110	0.450
SD075-24	0.75	1.50	24	100	1.0	8.0	0.20	0.110	0.290
SD075-33	0.75	1.50	33	100	1.0	8.0	0.20	0.110	0.400
SD110-06	1.10	2.20	6	100	0.8	8.0	0.30	0.040	0.210
SD110-08	1.10	2.20	8	100	0.8	8.0	0.30	0.040	0.210
SD110-16	1.10	2.20	16	100	0.8	8.0	0.50	0.060	0.180
SD110-24	1.10	2.20	24	100	1.0	8.0	0.50	0.060	0.200
SD110-33	1.10	2.20	33	100	0.8	8.0	0.50	0.060	0.200
SD125-06	1.25	2.50	6	100	0.8	8.0	0.40	0.050	0.140
SD125-16	1.25	2.50	16	100	0.8	8.0	0.40	0.050	0.140
SD150-08	1.50	3.00	8	100	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
SD160-08	1.60	3.20	8	100	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
SD160-24	1.60	3.20	24	100	1.0	8.0	1.00	0.030	0.100
SD200-08	2.00	3.50	8	100	1.0	8.0	2.00	0.020	0.070
SD200-16	2.00	3.50	16	100	1.0	8.0	5.00	0.020	0.085
SD260-08	2.60	5.00	8	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).

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

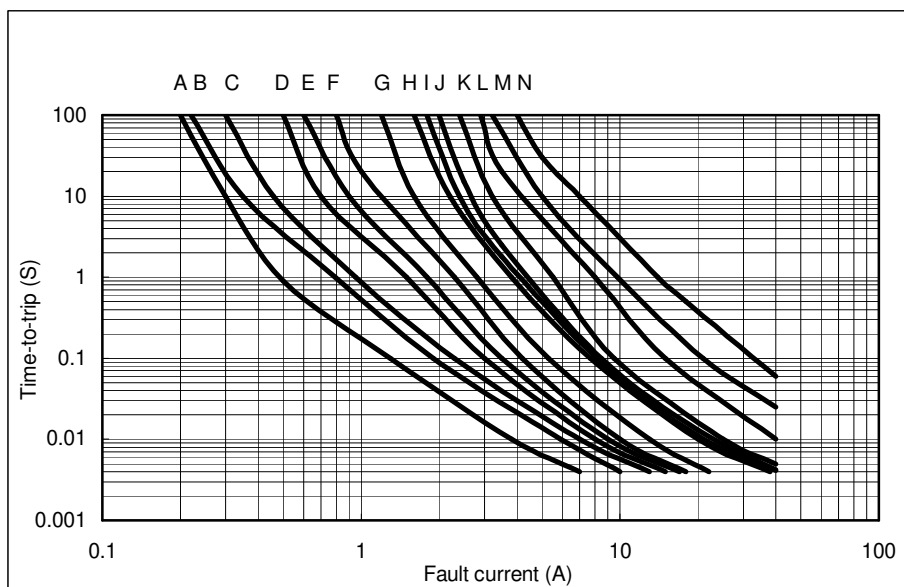
R_{MIN}=Minimum device resistance at 23°C.

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



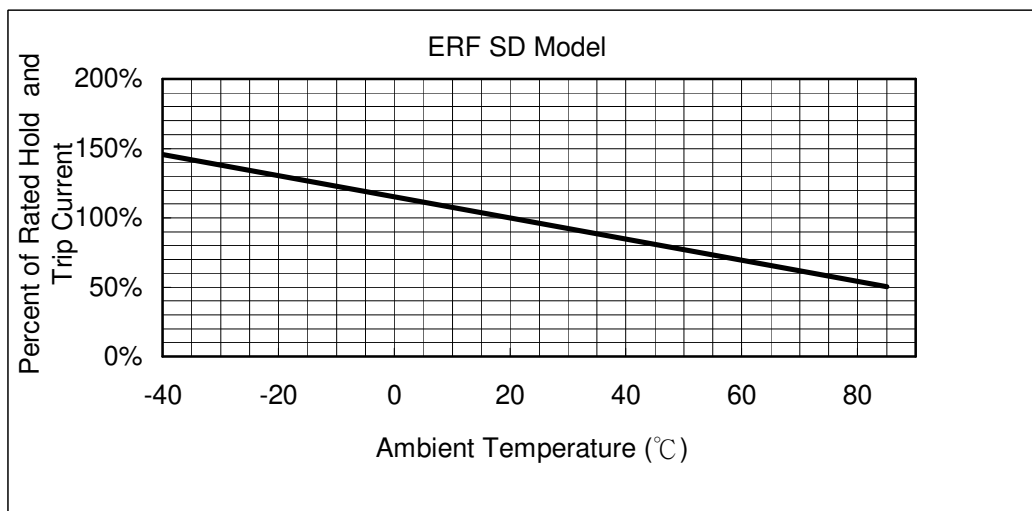
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■ Typical time-to-trip-at 23°C



A=SD010
B=SD014
C=SD020
D=SD030
E=SD035
F=SD050
G=SD075
H=SD110
I=SD125
J=SD150
K=SD160
L=SD200
M=SD260
N=SD300

■ Thermal Derating Curve

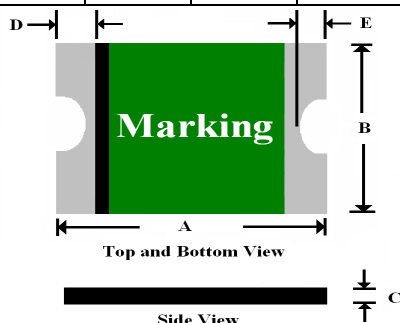


■ Standard Package for Reference

P/N	Reel/Tape	P/N	Reel/Tape	P/N	Reel/Tape	P/N	Reel/Tape
SD010-60	2.0K	SD050-30	2.0K	SD110-33	1.5K	SD160-16	2.0K
SD014-60	2.0K	SD075-16	2.0K	SD125-06	2.0K	SD160-24	2.0K
SD020-30	2.0K	SD075-24	1.5K	SD125-16	1.5K	SD200-08	2.0K
SD020-60	2.0K	SD075-33	1.5K	SD150-08	2.0K	SD200-16	1.5K
SD030-30	2.0K	SD110-06	2.0K	SD150-12	2.0K	SD260-08	1.5K
SD035-16	2.0K	SD110-08	2.0K	SD150-24	2.0K	SD260-13	1.5K
SD035-30	2.0K	SD110-16	2.0K	SD160-08	2.0K	SD260-16	1.5K
SD050-16	2.0K	SD110-24	1.5K	SD160-12	2.0K	SD300-06	1.5K

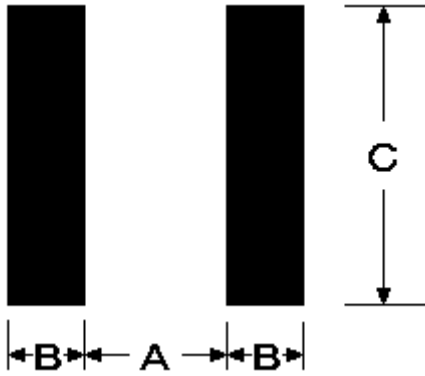
■ SD Product Dimensions (UNIT: mm)

PART NUMBER	A		B		C		D		E	
	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	0.25	0.65
SD014-60	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
SD020-30	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
SD020-60	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	0.25	0.65
SD030-30	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
SD035-16	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
SD035-30	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	0.25	0.65
SD050-16	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
SD050-30	4.37	4.73	3.07	3.41	0.45	0.75	0.30	0.95	0.25	0.65
SD075-16	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	0.25	0.65
SD075-24	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
SD075-33	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
SD110-06	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
SD110-08	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
SD110-16	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
SD110-24	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65
SD110-33	4.37	4.73	3.07	3.41	0.80	1.30	0.25	0.95	0.25	0.65
SD125-06	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
SD125-16	4.37	4.73	3.07	3.41	0.50	1.00	0.30	0.95	0.25	0.65
SD150-08	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	0.25	0.65
SD150-12	4.37	4.73	3.07	3.41	0.60	1.10	0.25	0.95	0.25	0.65
SD150-24	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65
SD160-08	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	0.25	0.65
SD160-12	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
SD160-16	4.37	4.73	3.07	3.41	0.60	1.35	0.25	0.95	0.25	0.65
SD160-24	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
SD200-08	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
SD200-16	4.37	4.73	3.07	3.41	0.60	1.55	0.25	0.95	0.25	0.65
SD260-08	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65
SD260-13	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
SD260-16	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65
SD300-06	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65



■ 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
SB MODEL	3.60	1.80	4.60
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
SS MODEL	0.80	0.60	0.80

■ 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.

