SURFACE MOUNT PTC

SD(1812) MODEL

cULus E175689
TÜV 50006513

FEATURES

- 1812 Dimension, 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℃ 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

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ERF XX XXX XX X X X
 |   |  |   | | | |
 |   |  |   | | | +--- Z:RoHS Compliant
 |   |  |   | | +--- Special number:
 |   |  |   | |        0:Standard product
 |   |  |   | +--- Packing type:
 |   |  |   |        0:bulk
 |   |  |   |        2:tape & reel
 |   |  |   +--- Voltage rating: 60:60V
 |   |  +--- Current rating: 014:0.14A
 |   +--- Model:
 |          SD:Surface mount type, 1812 Dimension
 +--- Product Name: Resettable Fuse
```

MARKING SYSTEM

E014

Example

E □□□
Current Rating
EXCEL CELL ELECTRONIC LOGO

ELECTRICAL CHARACTERISTICS (23°C)

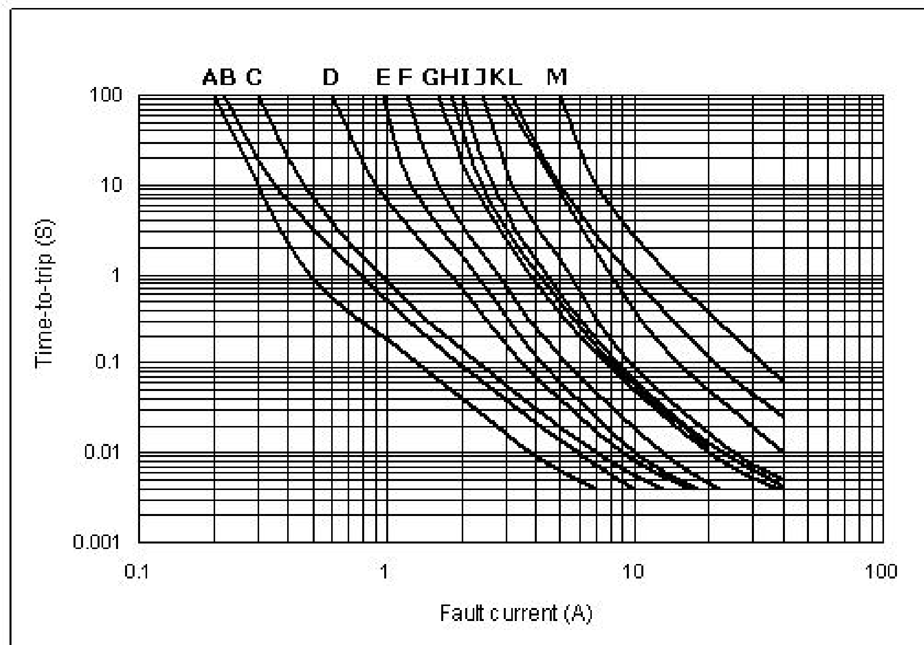
Resistance

Part Number	Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical Power	Max. Time to trip		Resistance Tolerance	
								RMIN	R1MAX
	IH, A	IT, A	VMAX, Vdc	IMAX, A	Pd, W	Amp	Sec	Ω	Ω
SD010	0.10	0.30	60	10	0.8	8.0	<0.02	1.600	15.00
SD014	0.14	0.30	60	10	0.8	8.0	0.008	1.200	6.500
SD020	0.20	0.40	30	10	0.8	8.0	0.02	0.800	5.000
SD035	0.35	0.70	16	40	0.8	8.0	0.10	0.320	1.500
SD050	0.50	1.00	16	40	0.8	8.0	0.15	0.150	1.000
SD075	0.75	1.50	16	40	0.8	8.0	0.20	0.110	0.450
SD110	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
SD125	1.25	2.50	6	40	0.8	8.0	0.40	0.050	0.140
SD150	1.50	3.00	6	40	0.8	8.0	0.50	0.040	0.110
SD160	1.60	3.20	6	40	0.8	8.0	0.50	0.030	0.100
SD200	2.00	3.50	8	100	1.0	8.0	2.00	0.020	0.070
SD260	2.60	5.00	6	100	1.0	8.0	2.50	0.015	0.047
SD300	3.00	5.00	6	100	1.0	8.0	4.00	0.012	0.040

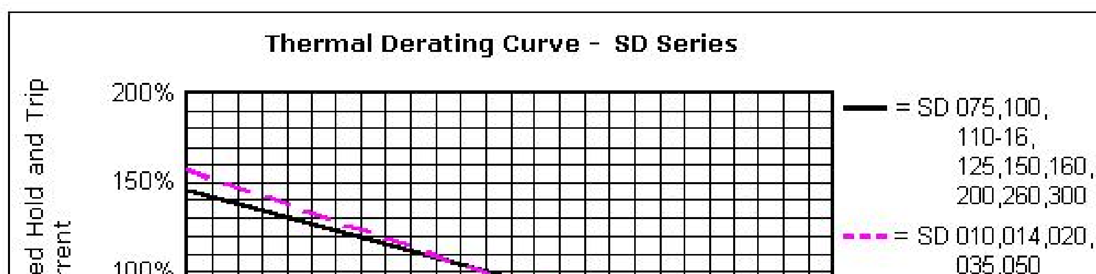
IH=Hold current-maximum current at which the device will not trip at 23℃ still air.
IT=Trip current-minimum current at which the device will always trip at 23℃ still air.
VMAX=Maximum voltage device can withstand without damage at rated current.
IMAX= Maximum fault current device can withstand without damage at rated voltage (V max).
Pd=Typical power dissipated from device when in the tripped state in 23℃ still air environment.
RMIN=Minimum device resistance at 23℃.
R1MAX=Maximum device resistance at 23℃ 1 hour after tripping.

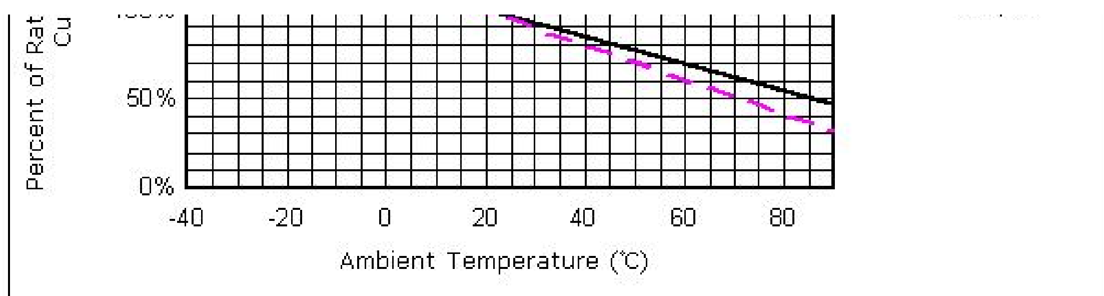
Typical time-to-trip-at 23°C

A=SD010
B=SD014
C=SD020
D=SD035
E=SD050
F=SD075
G=SD110
SD110-16
H=SD125
I=SD150
J=SD160
K=SD200
L=SD260
M=SD300



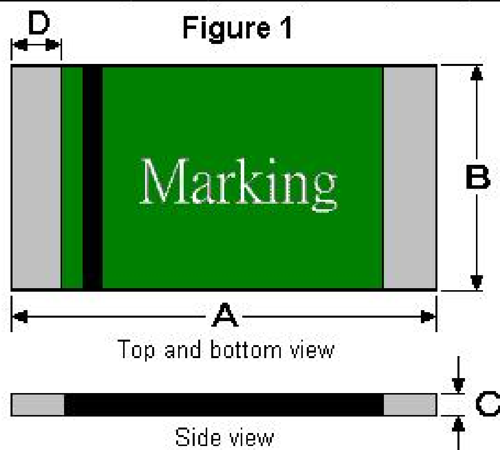
Thermal Derating Curve

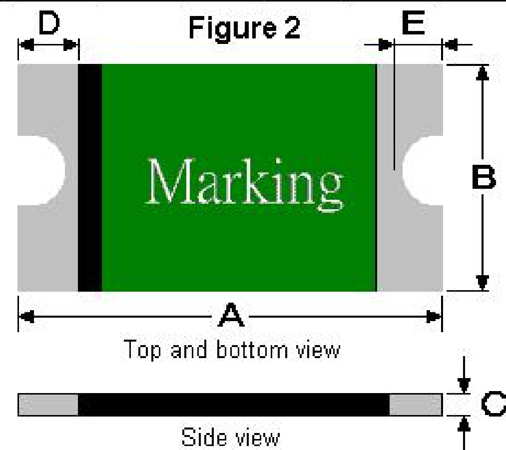




SD Product Dimensions (UNIT:mm)

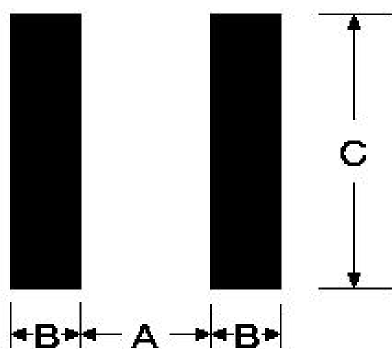
Part Number	A		B		C		D		E		Figure
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	
SD010	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	-----	-----	1
SD014	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	-----	-----	1
SD020	4.37	4.73	3.07	3.41	0.60	0.90	0.30	0.95	-----	-----	1
SD035	4.37	4.73	3.07	3.41	0.40	0.70	0.30	0.95	-----	-----	1
SD050	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	-----	-----	1
SD075	4.37	4.73	3.07	3.41	0.35	0.65	0.30	0.95	-----	-----	1
SD110	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
SD125	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	-----	-----	1
SD150	4.37	4.73	3.07	3.41	0.25	0.55	0.30	0.95	-----	-----	1
SD160	4.37	4.73	3.07	3.41	0.25	0.90	0.30	0.95	-----	-----	1
SD200	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65	2
SD260	4.37	4.73	3.07	3.41	0.55	1.20	0.25	0.95	0.25	0.65	2
SD300	4.37	4.73	3.07	3.41	0.80	1.55	0.25	0.95	0.25	0.65	2





Pad Layouts and Soldering Reflow Recommendations

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



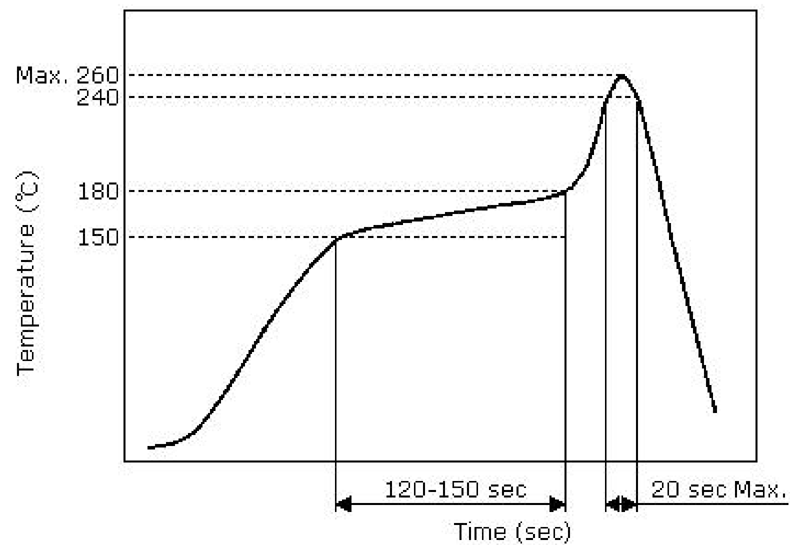
Pad dimensions(millimeters)			
Device	A Nominal	B Nominal	C Nominal
SL MODEL	5.10	2.30	5.60
SD MODEL	3.45	1.78	3.50
SM MODEL	2.00	1.00	2.80
SN MODEL	2.00	1.00	1.90
SR MODEL	1.20	1.00	1.50

SOLDERING REFLOW (LEAD FREE)

- Suggested reflow methods: IR, vapor phase oven, hot air oven.
- Recommended maximum paste thickness is 0.25mm.
- 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.



Note: Specifications subject to change without prior notice.