 <small>As ISO 9001 & 14001 Company</small>	EXCEL CELL ELECTRONIC CO., LTD.	NO.	A31010	PAGE
		SPECIFICATION	Edition	3

Resettable Fuse : SD Model (Lead free)

1. Features

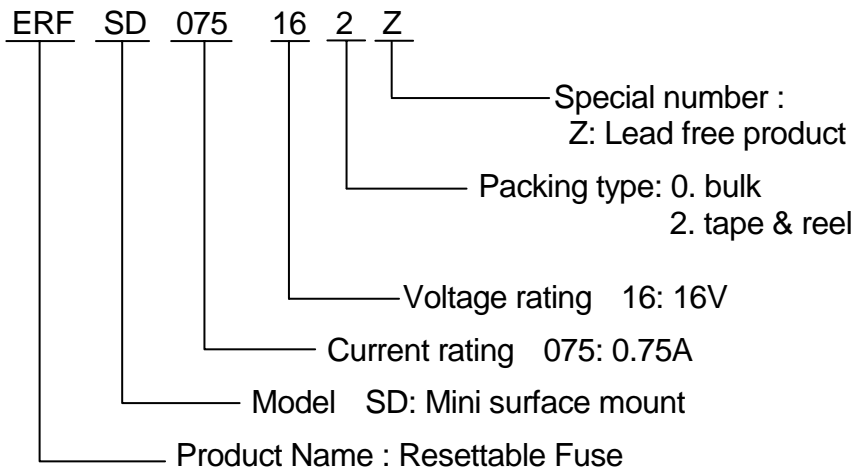
- 1-1 Lead free component
- 1-2 Mini surface mount, solid state
- 1-3 Faster time to trip than standard SMD devices
- 1-4 Lower resistance than standard SMD devices
- 1-5 Operation current:140mA~1.6 A
- 1-6 Maximum voltage:6V~60Vdc
- 1-7 Temperature range:-40 to 85
- 1-8 Tape and reel available on most models

2. Applications

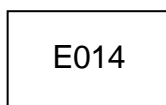
Almost anywhere there High-density boards is a low voltage power supply and a load to be protected including :

- 2-1 Computers &peripherals
- 2-2 General electronics
- 2-3 Automotive applications

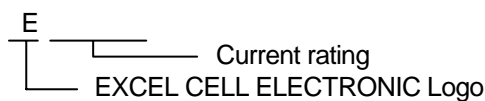
3. Part number system



4. Marking system



Example



5. Electrical characteristics(23)

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Pd	Max time to trip		Resistance Tolerance	
						CURRENT	Time	RMIN	R1MAX
						I _H ,A	I _T ,A	V _{MAX} ,V	I _{MAX} A
SD014-Z	0.14	0.30	60	10	0.8	8.0	0.02	1.50	6.50
SD020-Z	0.20	0.40	30	10	0.8	8.0	0.02	0.80	5.00
SD035-Z	0.35	0.70	16	40	0.8	8.0	0.10	0.32	1.50
SD050-Z	0.50	1.00	16	40	0.8	8.0	0.15	0.15	1.00
SD075-Z	0.75	1.50	16	40	0.8	8.0	0.02	0.11	0.45
SD110-Z	1.10	2.20	6	40	0.8	8.0	0.30	0.04	0.21
SD160-Z	1.60	3.20	6	40	0.8	8.0	0.50	0.03	0.10

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

I_T=Trip current-minimum current at which the device will always trip at 23 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}).

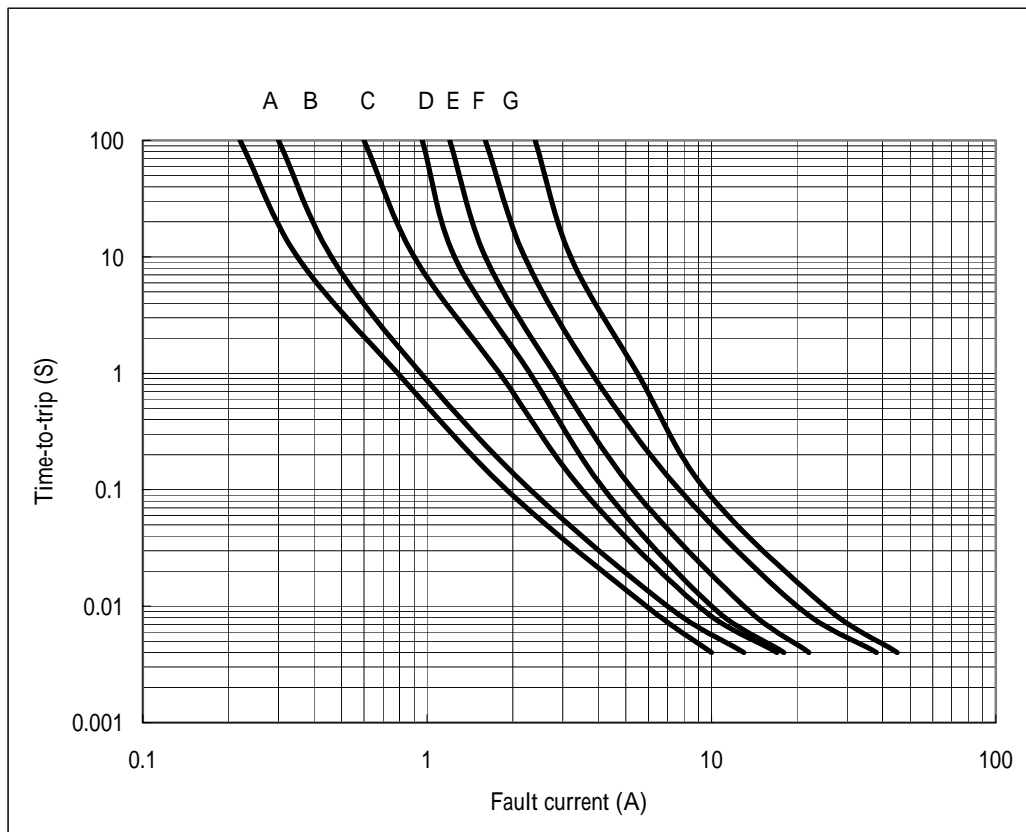
P_d=Typical power dissipated from device when in the tripped state in 23 still air environment.

R_{MIN}=Minimum device resistance at 23 .

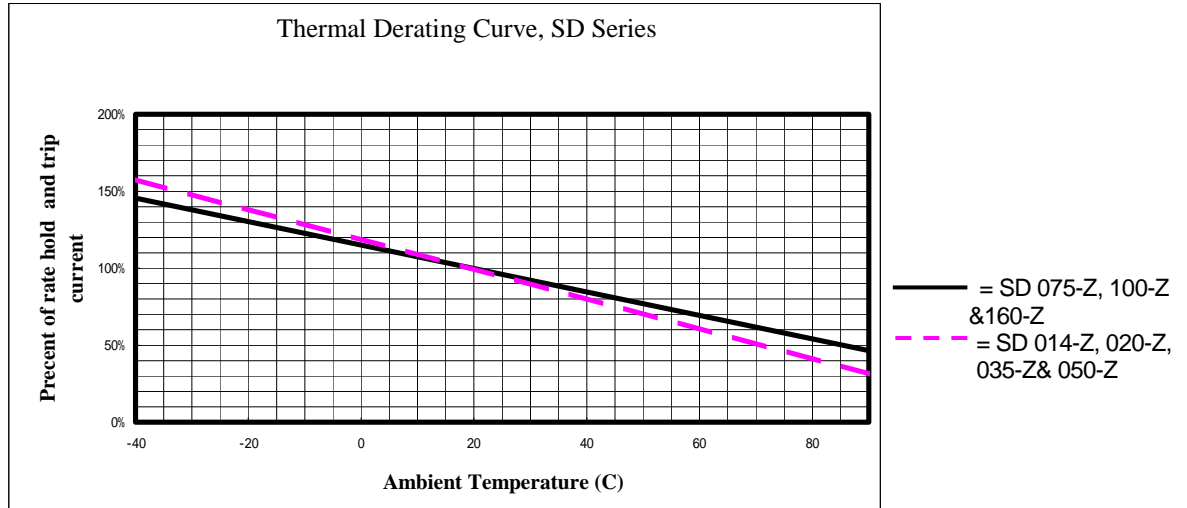
R_{1MAX}=Maximum device resistance at 23 1 hour after tripping .

6. Typical time-to-trip-at 23

A =SD014-Z
 B =SD020-Z
 C =SD035-Z
 D =SD050-Z
 E =SD075-Z
 F =SD110-Z
 G =SD160-Z



7. Thermal Derating Curve



8. Material And Physical Specifications:

Lead material: Pure Tin Plated Ni/Cu (Lead Free)

9. SD Product Dimensions (Millimeters)

PART NUMBER	A		B		C		D
	Min	Max	Min	Max	Min	Max	Min
SD014-Z	4.37	4.73	3.07	3.41	0.7	1.0	0.35
SD020-Z	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD035-Z	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD050-Z	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD075-Z	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD110-Z	4.37	4.73	3.07	3.41	0.4	0.7	0.35
SD160-Z	4.37	4.73	3.07	3.41	0.4	0.7	0.35



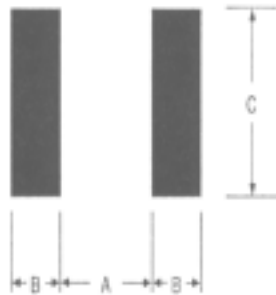
10. Packing

P/N	Pcs/Bag	Reel /Tape
SD014-Z	-----	2K
SD020-Z	-----	2K
SD035-Z	-----	2K
SD050-Z	-----	2K

P/N	Pcs/Bag	Reel /Tape
SD075-Z	-----	2K
SD110-Z	-----	2K
SD160-Z	-----	2K

11. Pad Layouts, Solder Reflow and Rework Recommendations

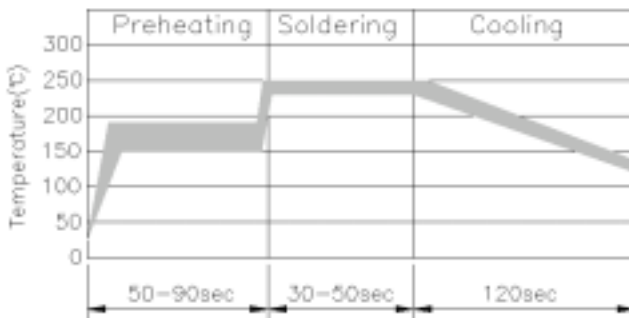
The dimension in the table below provide the recommended pad layout for each SD device



Pad dimensions(millimeters)

Device	A Nominal	B Nominal	C Nominal
SD014-Z	3.45	1.78	3.15
SD020-Z	3.45	1.78	3.15
SD035-Z	3.45	1.78	3.15
SD050-Z	3.45	1.78	3.15
SD075-Z	3.45	1.78	3.15
SD110-Z	3.45	1.78	3.15
SD160-Z	3.45	1.78	3.15

Solder reflow



- 1、 Recommended reflow methods; IR , vapor phase oven, hot air oven.
- 2、 The ERFSD series devices are suitable for use with wave-solder application methods.
- 3、 Recommended maximum paste thickness is 0.25mm.
- 4、 Devices can be cleaned using standard industry methods and solvents.

CAUTION:

If reflow temperatures exceed the recommended

Profile, devices may not meet the performance requirements.

Rework:

Use standard industry practices.