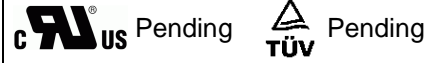




ECE —
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SURFACE MOUNT PTC SS (0603) MODEL



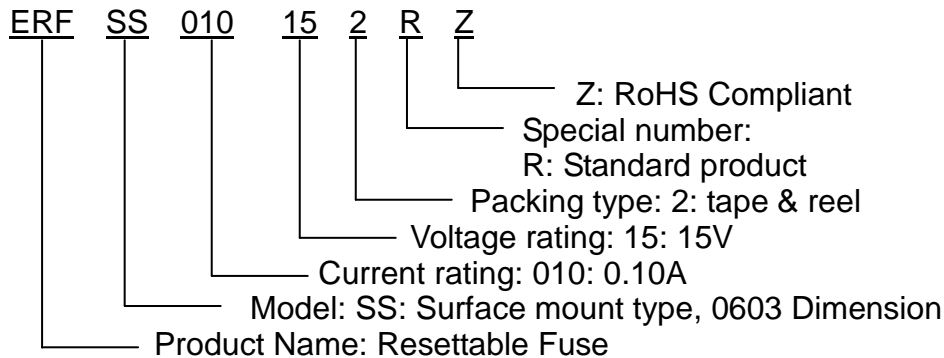
FEATURES

- 0603 Dimension, surface mount, solid state
- Faster time to trip than standard SMD devices
- Lower resistance than standard SMD devices
- Operation current: 50mA~200mA
- Maximum voltage: 9V~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



X=ERFSS001-60 D=ERFSS010-15
Y=ERFSS002-60 E=ERFSS012-09
Z=ERFSS003-30 F=ERFSS016-09
A=ERFSS004-24 G=ERFSS020-09
B=ERFSS005-15



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■ 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
SS001-60	0.01	0.03	60	40	0.5	0.20	1.00	15.00	100.0
SS002-60	0.02	0.06	60	40	0.5	0.20	1.00	12.00	70.00
SS003-30	0.03	0.09	30	40	0.5	0.20	1.00	6.00	50.00
SS004-24	0.04	0.12	24	40	0.5	0.20	1.00	4.00	40.00
SS005-15	0.05	0.15	15	40	0.5	0.50	0.10	3.80	30.00
SS010-15	0.10	0.25	15	40	0.5	0.70	0.10	0.90	8.00
SS012-09	0.12	0.30	9	40	0.5	0.80	0.10	1.10	5.80
SS016-09	0.16	0.40	9	40	0.5	1.00	0.10	1.00	4.20
SS020-09	0.20	0.45	9	40	0.5	2.00	0.10	0.55	3.50

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.

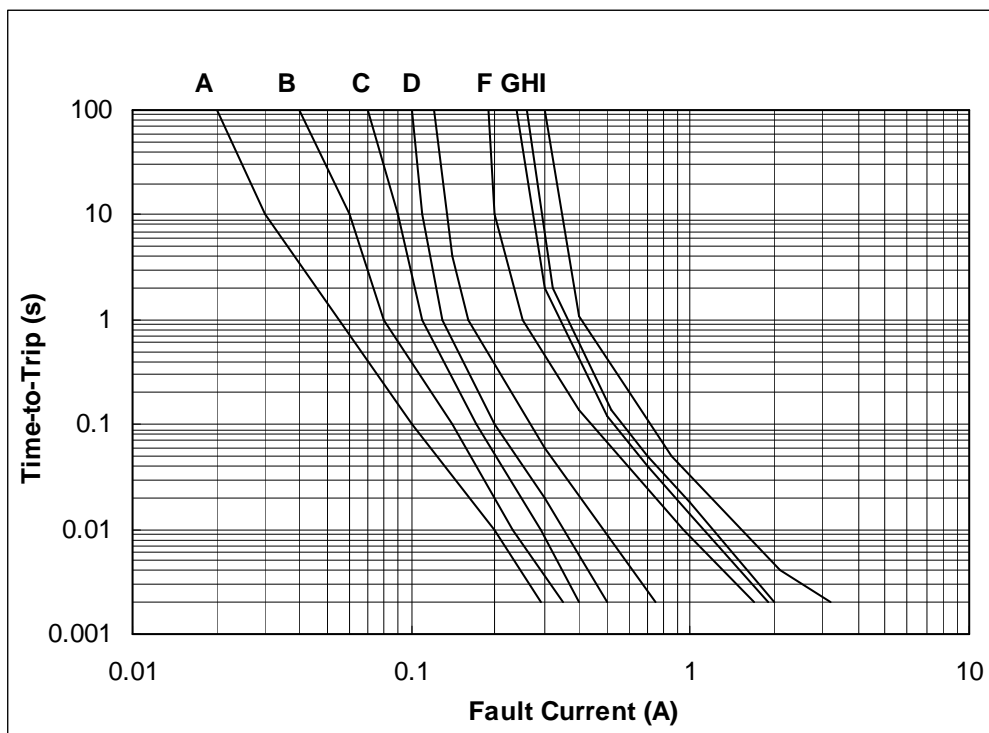
I_{MAX} = Maximum fault current device can withstand without damage at rated voltage (V max).

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.

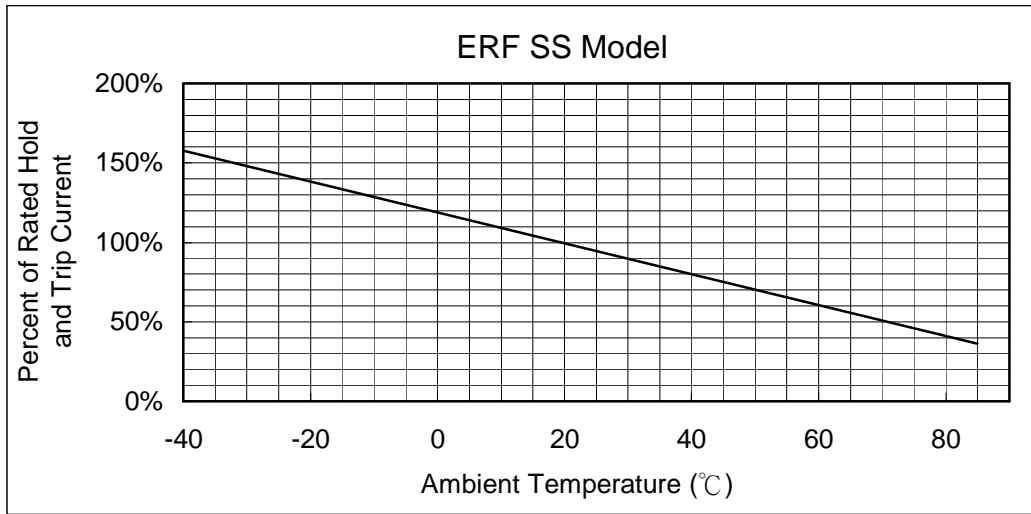
R_{1MAX} =Maximum device resistance at 23°C 1 hour after tripping .

■ Typical time-to-trip-at 23°C



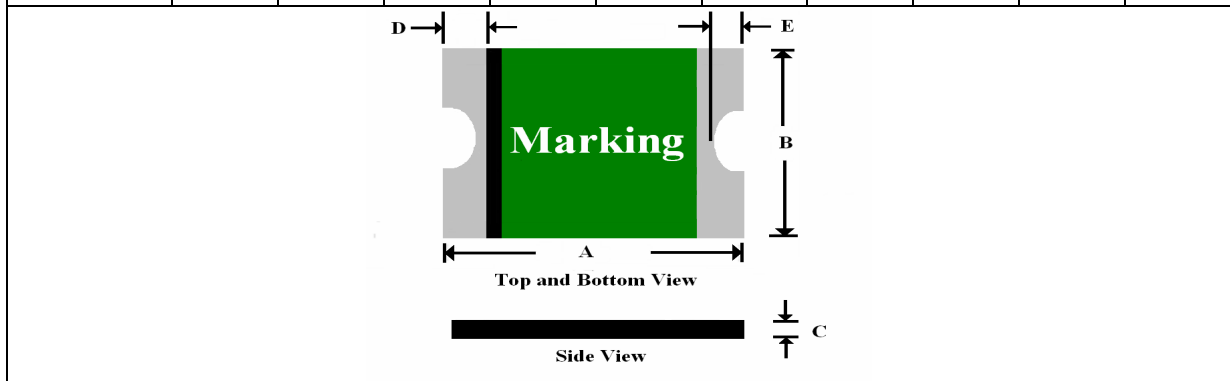
A=SS001-60
B=SS002-60
C=SS003-30
D=SS004-24
E=SS005-15
F=SS010-15
G=SS012-09
H=SS016-09
I= SS020-09

Thermal Derating Curve



SS Product Dimensions (UNIT: mm)

PART NUMBER	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
SS001-60	1.40	1.80	0.45	1.00	0.35	0.85	0.10	0.50	0.08	0.40
SS002-60	1.40	1.80	0.45	1.00	0.35	0.85	0.10	0.50	0.08	0.40
SS003-30	1.40	1.80	0.45	1.00	0.35	0.75	0.10	0.50	0.08	0.40
SS004-24	1.40	1.80	0.45	1.00	0.35	0.75	0.10	0.50	0.08	0.40
SS005-15	1.40	1.80	0.45	1.00	0.35	0.75	0.10	0.50	0.08	0.40
SS010-15	1.40	1.80	0.45	1.00	0.35	0.75	0.10	0.50	0.08	0.40
SS012-09	1.40	1.80	0.45	1.00	0.35	0.75	0.10	0.50	0.08	0.40
SS016-09	1.40	1.80	0.45	1.00	0.35	0.75	0.10	0.50	0.08	0.40
SS020-09	1.40	1.80	0.45	1.00	0.35	0.75	0.10	0.50	0.08	0.40

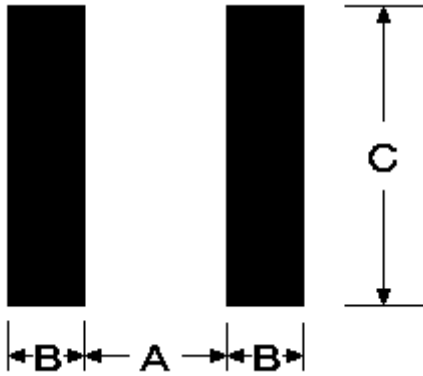


Standard Package for Reference

P/N	Reel/Tape	P/N	Reel/Tape	P/N	Reel/Tape
SS001-60	4.0K	SS005-15	4.0K	SS020-09	4.0K
SS002-60	4.0K	SS010-15	4.0K		
SS003-30	4.0K	SS012-09	4.0K		
SS004-24	4.0K	SS016-09	4.0K		

■ 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	3.40	1.50	4.60
SD/RSD MODEL	3.45	1.78	3.50
SM/RSM MODEL	2.00	1.00	2.80
SN/RSN MODEL	2.00	1.00	1.90
SR/RSR MODEL	1.20	1.00	1.50
SS/RSS 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.

