

**FEATURES**

- 1812 size Surface Mount
- Application: All high-density boards
- Operation Current: 140mA ~ 1.6A
- Maximum Voltage: 6V ~ 60V
- Temperature Range: -40°C to 85°C
- RoHS Compliant

**AGENCY RECOGNITION**

- UL (E211981)
- C-UL (E211981)
- TÜV (R50004084)

**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	$V_{MAX}$ , Vdc	$I_{MAX}$ , A	$P_d$ , W	Current	Time	$R_{MIN}$	$R_{1MAX}$
	Amp	Sec	OHMS	OHMS					
FSMD014-1812	0.14	0.30	60	10	0.8	8.0	0.008	1.20	6.50
FSMD020-1812	0.20	0.40	30	10	0.8	8.0	0.02	0.80	5.00
FSMD035-1812	0.35	0.70	16	40	0.8	8.0	0.10	0.32	1.50
FSMD050-1812	0.50	1.00	16	40	0.8	8.0	0.15	0.15	1.00
FSMD075-1812	0.75	1.50	16	40	0.8	8.0	0.20	0.11	0.45
FSMD110-1812	1.10	2.20	8	100	0.8	8.0	0.30	0.04	0.21
FSMD110-16-1812	1.10	1.95	16	40	0.8	8.0	0.50	0.04	0.18
FSMD125-1812	1.25	2.50	6	40	0.8	8.0	0.40	0.05	0.14
FSMD150-1812	1.50	3.00	6	40	0.8	8.0	0.50	0.04	0.11
FSMD160-1812	1.60	3.20	6	40	0.8	8.0	0.50	0.03	0.10
FSMD200-1812	2.00	3.50	8	40	0.8	8.0	2.00	0.02	0.07

$I_H$ =Hold current-maximum current at which the device will not trip at 23°C still air.  
 $I_T$ =Trip current-maximum current at which the device will always trip at 23°C still air.  
 $V_{MAX}$ =Maximum voltage device can withstand without damage at its rated current ( $I_{MAX}$ ).  
 $I_{MAX}$ =Maximum fault current device can withstand without damage at rated voltage ( $V_{MAX}$ ).  
 $P_d$ =Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.  
 $R_{MIN}$ =Minimum device resistance at 23°C prior to tripping.  
 $R_{1MAX}$ =Maximum device resistance at 23°C measured 1 hour post trip.  
Termination pad characteristics  
Termination pad materials: Tin-plated copper

**FSMD PRODUCT DIMENSIONS (MILLIMETERS)**

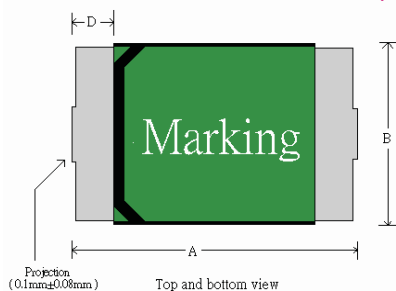


Figure 1

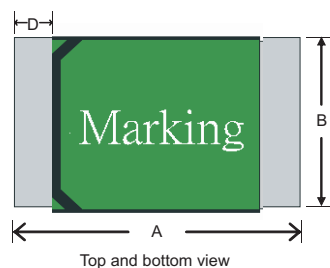
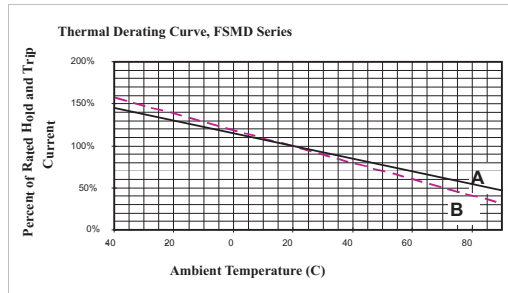


Figure 2



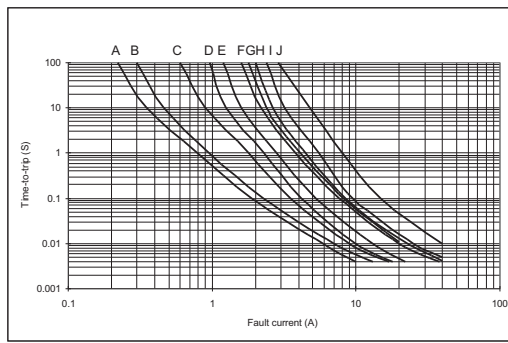
Part Number	A		B		C		D
	Min	Max	Min	Max	Min	Max	Min
FSMD014-2920	4.37	4.73	3.07	3.41	0.60	0.90	0.30
FSMD020-2920	4.37	4.73	3.07	3.41	0.60	0.90	0.30
FSMD035-2920	4.37	4.73	3.07	3.41	0.40	0.70	0.30
FSMD050-2920	4.37	4.73	3.07	3.41	0.35	0.65	0.30
FSMD075-2920	4.37	4.73	3.07	3.41	0.35	0.65	0.30
FSMD110-2920	4.37	4.73	3.07	3.41	0.25	0.55	0.30
FSMD110-16-2920	4.37	4.73	3.07	3.41	0.25	0.90	0.30
FSMD125-2920	4.37	4.73	3.07	3.41	0.25	0.55	0.30
FSMD150-2920	4.37	4.73	3.07	3.41	0.25	0.55	0.30
FSMD160-2920	4.37	4.73	3.07	3.41	0.25	0.90	0.30
FSMD200-2920	4.37	4.73	3.07	3.41	0.50	0.90	0.30

**THERMAL PRODUCT DIMENSIONS (MILLIMETERS)**



A= FSMD 075, 110, 110-16, 125, 150  
160 & 200  
B= FSMD 014, 020, 035 & 050

**TYPICAL TIME-TO-TRIP AT 23°C**

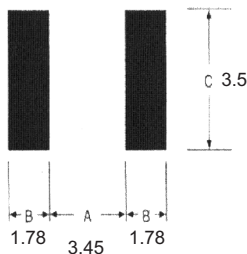


A = FSMD014  
B = FSMD020  
C = FSMD035  
D = FSMD050  
E = FSMD075  
F = FSMD110/110-16  
G = FSMD125  
H = FSMD150  
I = FSMD160  
J = FSMD200

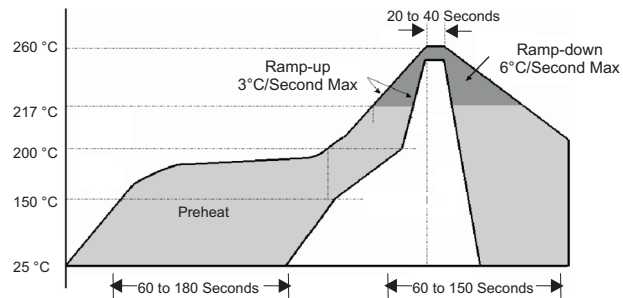
**PAD LAYOUTS, SOLDER REFLOW AND REWORK RECOMMENDATIONS**

The dimensions in the table below provide the recommended pad layout for each FSMD 1812 device

**NOMINAL PAD DIMENSIONS (MILLIMETERS)**



**SOLDER REFLOW**



**Solder Reflow**

Due to "Lead Free" nature, up to 40 seconds dwelling time for the soldering zone is strongly recommended.

1. Recommended reflow methods; IR, vapor phase oven, hot air oven.
2. The FSMD Series are suitable for use with wave-solder application methods. (Top side only)
3. Recommended maximum paste thickness is 0.25mm.
4. Devices can be cleaned by using standard industry methods and solvents.
5. Storage Environment: <30°C / 60%RH

**Caution:**

If reflow temperatures exceed the recommended profile, devices may not meet performance requirements.

**Rework:**

Use standard industry practices.