

**Surface Mountable PTC Resettable Fuse: Low Rho FSMD0805 Series****1. Summary**

- (a) **RoHS Compliant & Halogen Free**
- (b) **Applications: All high-density boards**
- (c) **Product Features: Small surface mountable, Solid state, Faster time to trip than standard SMD devices, Lower resistance than standard SMD devices**
- (d) **Operation Current: 0.75A~3.50A**
- (e) **Maximum Voltage: 6VDC**
- (f) **Temperature Range : -40°C to 85°C**

2. Agency Recognition

UL: File No. E211981
C-UL: File No. E211981
TÜV: File No. R50090556

3. Electrical Characteristics (23°C)

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance	
	I _H , A	I _T , A	V _{MAX} , VDC	I _{MAX} , A	P _d , W	Current	Time	R _{MIN}	R _{1MAX}
	I _H , A	I _T , A	V _{MAX} , VDC	I _{MAX} , A	P _d , W	A	Sec	Ohms	Ohms
FSMD075-0805RZ	0.75	1.50	6	100	0.6	8.0	0.20	0.040	0.160
FSMD110-0805RZ	1.10	1.80	6	100	0.6	8.0	0.30	0.030	0.130
FSMD125-0805RZ	1.25	2.50	6	100	0.6	8.0	0.30	0.025	0.110
FSMD150-0805RZ	1.50	3.00	6	100	0.6	8.0	0.30	0.015	0.065
FSMD175-0805RZ	1.75	3.50	6	100	0.6	8.0	0.60	0.005	0.055
FSMD200-0805RZ	2.00	4.00	6	100	0.6	8.0	1.00	0.005	0.045
FSMD260-0805RZ	2.60	5.20	6	100	0.6	8.0	4.00	0.003	0.035
FSMD300-0805RZ	3.00	7.00	6	100	0.6	8.0	5.00	0.003	0.030
FSMD350-0805RZ	3.50	7.00	6	100	0.6	8.0	5.00	0.002	0.025

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 it 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.

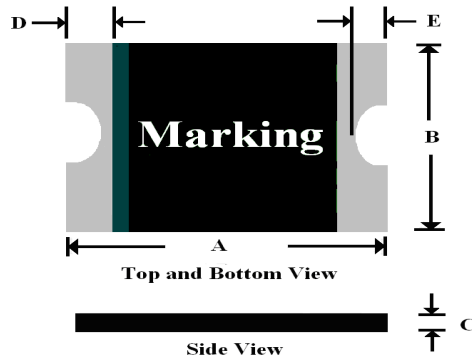
R_{1MAX}=Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

Termination pad characteristics

Termination pad materials: Pure Tin

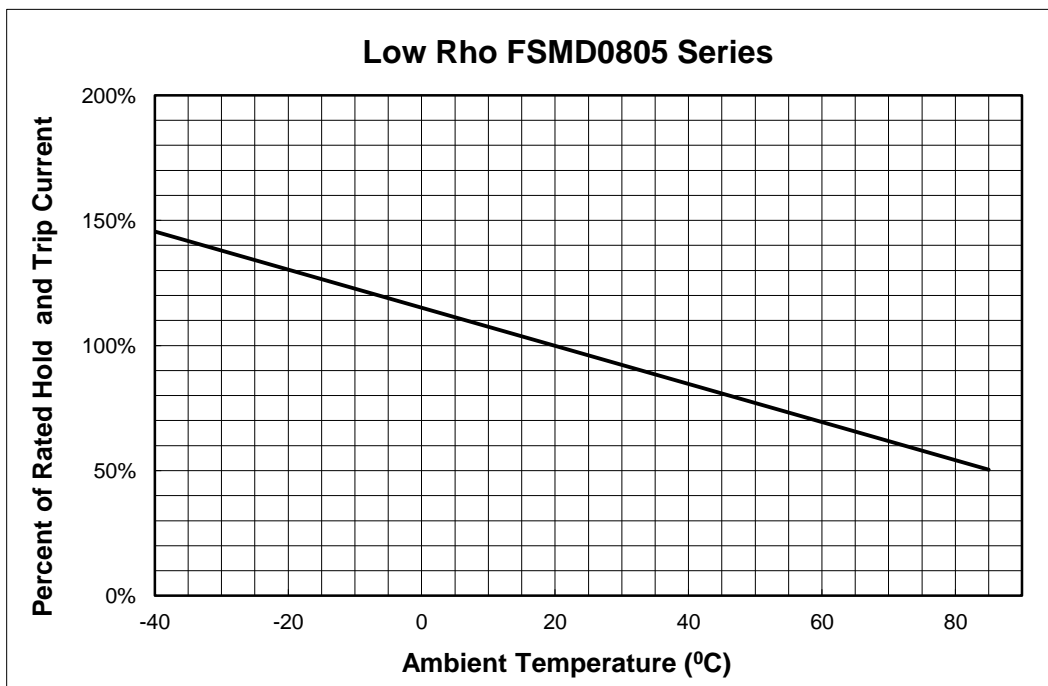


4. FSMD Product Dimensions (Millimeters)



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
FSMD075-0805RZ	2.00	2.20	1.20	1.50	0.30	0.70	0.20	0.60	0.10	0.45
FSMD110-0805RZ	2.00	2.20	1.20	1.50	0.30	0.70	0.20	0.60	0.10	0.45
FSMD125-0805RZ	2.00	2.20	1.20	1.50	0.30	0.70	0.20	0.60	0.10	0.45
FSMD150-0805RZ	2.00	2.20	1.20	1.50	0.30	0.70	0.20	0.60	0.10	0.45
FSMD175-0805RZ	2.00	2.20	1.20	1.50	0.30	0.70	0.20	0.60	0.10	0.45
FSMD200-0805RZ	2.00	2.20	1.20	1.50	0.30	1.00	0.20	0.60	0.10	0.45
FSMD260-0805RZ	2.00	2.20	1.20	1.50	0.60	1.40	0.20	0.60	0.10	0.45
FSMD300-0805RZ	2.00	2.20	1.20	1.50	0.60	1.40	0.20	0.60	0.10	0.45
FSMD350-0805RZ	2.00	2.20	1.20	1.50	0.60	1.40	0.20	0.60	0.10	0.45

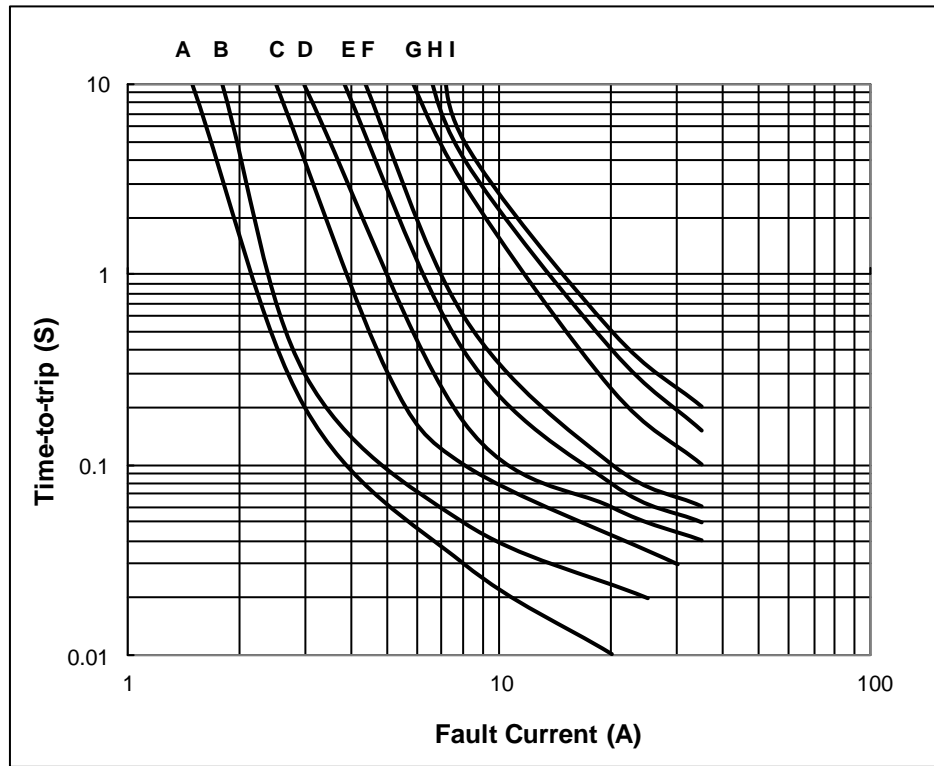
5. Thermal Derating Curve





6. Typical Time-To-Trip at 23°C

- A = FSMD075-0805RZ
- B = FSMD110-0805RZ
- C = FSMD125-0805RZ
- D = FSMD150-0805RZ
- E = FSMD175-0805RZ
- F = FSMD200-0805RZ
- G = FSMD260-0805RZ
- H = FSMD300-0805RZ
- I = FSMD350-0805RZ



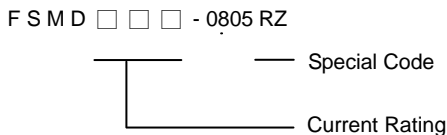
7. Material Specification

Terminal pad material: Pure Tin

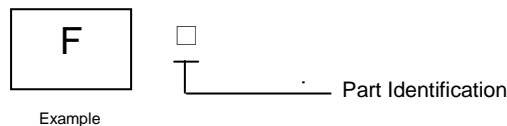
Soldering characteristics: Meets EIA specification RS 186-9E, ANSI/J-std-002 Category 3

8. Part Numbering and Marking System

Part Numbering System



Part Marking System



- F = FSMD075-0805RZ
- H = FSMD110-0805RZ
- I = FSMD125-0805RZ
- J = FSMD150-0805RZ
- K = FSMD175-0805RZ
- M = FSMD200-0805RZ
- Q = FSMD260-0805RZ
- S = FSMD300-0805RZ
- V = FSMD350-0805RZ

Warning: -Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.

-PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.

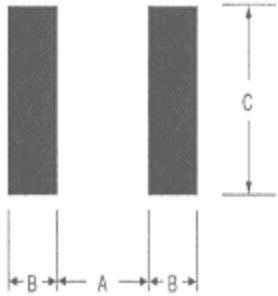
-Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.





9. Pad Layouts 、 Solder Reflow and Rework Recommendations

The dimension in the table below provide the recommended pad layout for each Low Rho FSMD0805 device



Pad dimensions (millimeters)

Device	A Nominal	B Nominal	C Nominal
All FSMD0805 Series	1.20	1.00	1.50

Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T _{smax} to T _p)	3 °C/second max.
Preheat :	
Temperature Min (T _{smin})	150 °C
Temperature Max (T _{smax})	200 °C
Time (t _{smin} to t _{smax})	60-180 seconds
Time maintained above:	
Temperature(T _L)	217 °C
Time (t _L)	60-150 seconds
Peak/Classification Temperature(T _p) :	260 °C
Time within 5°C of actual Peak :	
Temperature (t _p)	20-40 seconds
Ramp-Down Rate :	6 °C/second max.
Time 25 °C to Peak Temperature :	8 minutes max.

Note 1: All temperatures refer to of the package, measured on the package body surface.

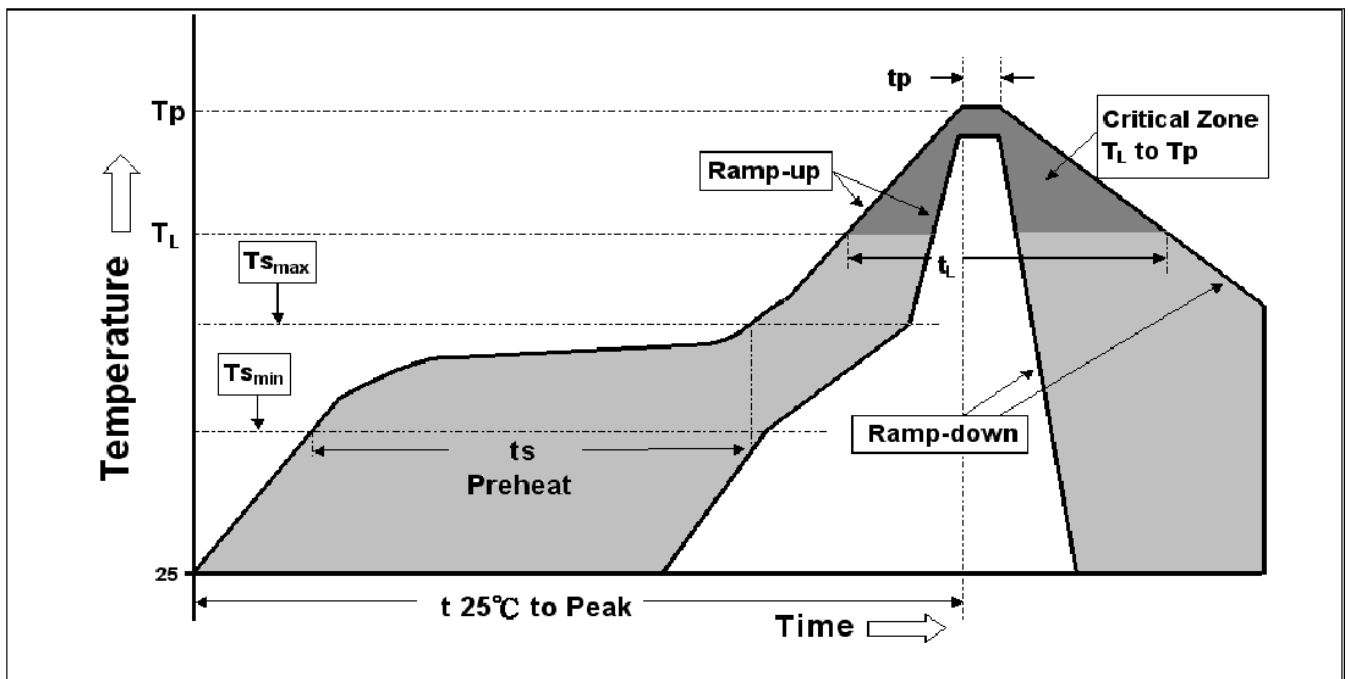
Solder reflow

- ※ Due to "Lead Free" nature, Temperature and Dwelling time for the soldering zone is higher than those for Regular. This may cause damage to other components.
- 1. Recommended max past thickness > 0.25mm.
- 2. Devices can be cleaned using standard methods and aqueous solvent.
- 3. Rework use standard industry practices.
- 4. Storage Environment : < 30°C / 60%RH

Caution:

- 1. If reflow temperatures exceed the recommended profile, devices may not meet the performance requirements.
- 2. Devices are not designed to be wave soldered to the bottom side of the board.

Reflow Profile



NOTE : Specification subject to change without notice.