

**Surface Mountable PTC Resettable Fuse: FSMD050-0805R****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: 500mA**(e) **Maximum Voltage: 6V_{DC}**(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	Trip	Rated	Max	Typical	Max Time to Trip		Resistance	
	Current	Current	Voltage	Current	Power	Current	Time	R _{MIN}	R _{1MAX}
	I _H , A	I _T , A	V _{MAX} , VDC	I _{MAX} , A	P _d , W	Amp	Sec	Ohms	Ohms
FSMD050-0805R	0.50	1.00	6	100	0.5	8.00	0.10	0.150	0.850

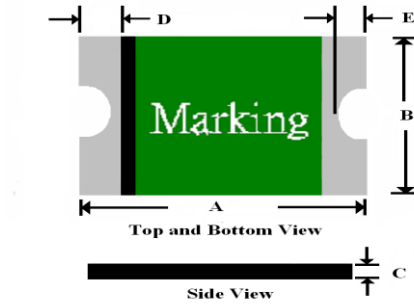
I_H=Hold current-maximum current at which the device will not trip at 23°C still air.I_T=Trip current-minimum current at which the device will always trip at 23°C still air.V_{MAX}=Maximum voltage device can withstand without damage at it rated current.(I_{MAX})I_{MAX}= Maximum fault current device can 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: 100% Tin

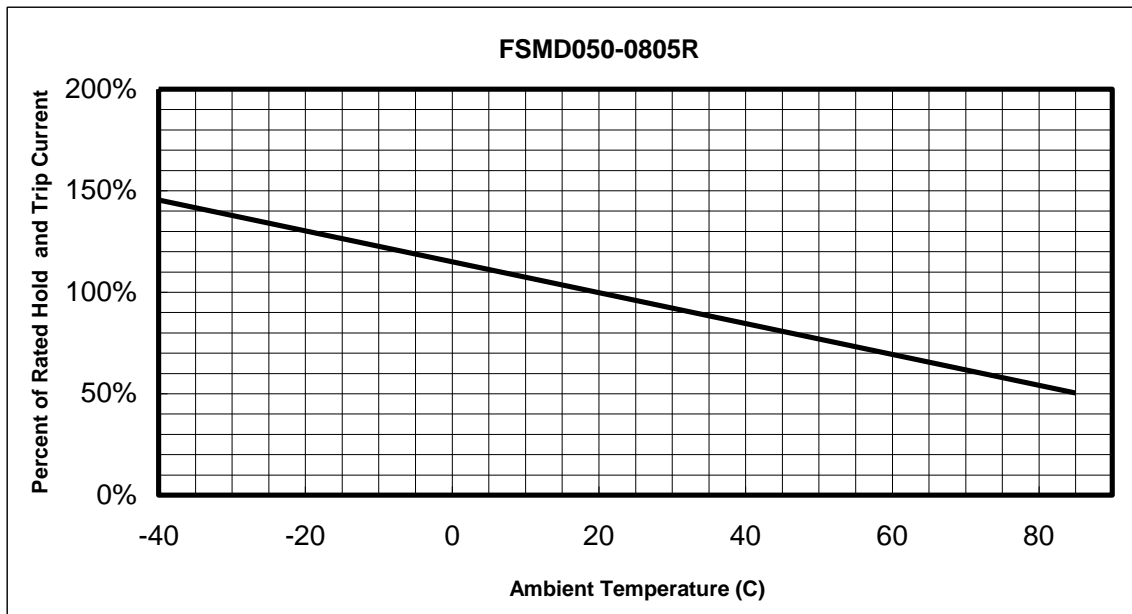


4. FSMD Product Dimensions (Millimeters)



Part Number	A		B		C		D		E	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
FSMD050-0805R	2.00	2.30	1.20	1.50	0.40	0.90	0.20	0.60	0.10	0.45

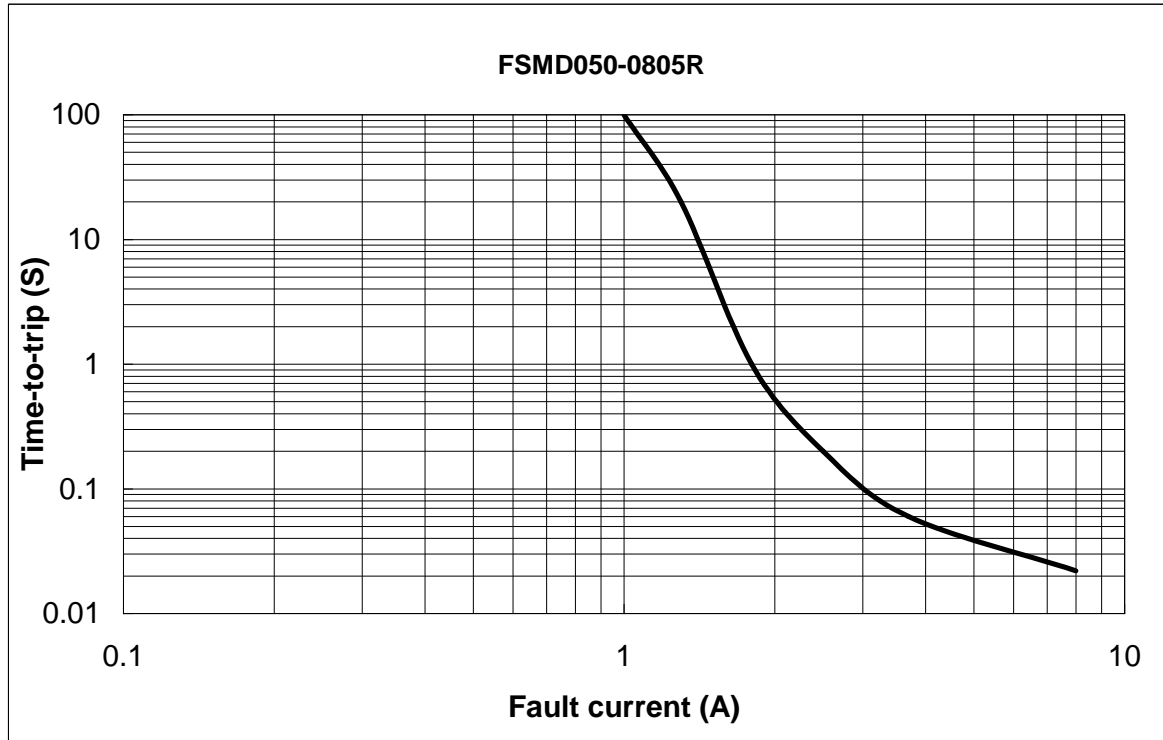
5. Thermal Derating Curve



NOTE : Specification subject to change without notice.



6. Typical Time-To-Trip at 23°C



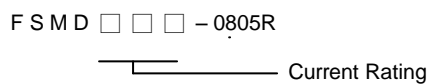
7. Material Specification

Terminal pad material: Tin - Plated Copper

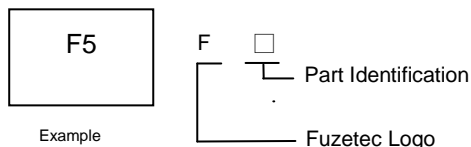
Soldering characteristics: Meets EIA specification RS 186-9E, ANSI/J-std-002 Category 3

8. Part Numbering and Marking System

Part Numbering System



Part Marking System



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.

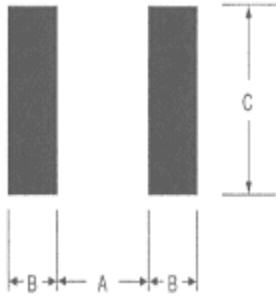
-Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.

NOTE : Specification subject to change without notice.



9. Pad Layouts 、 Solder Reflow and Rework Recommendations

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



Pad dimensions (millimeters)			
Device	A Nominal	B Nominal	C Nominal
FSMD050-0805R	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.

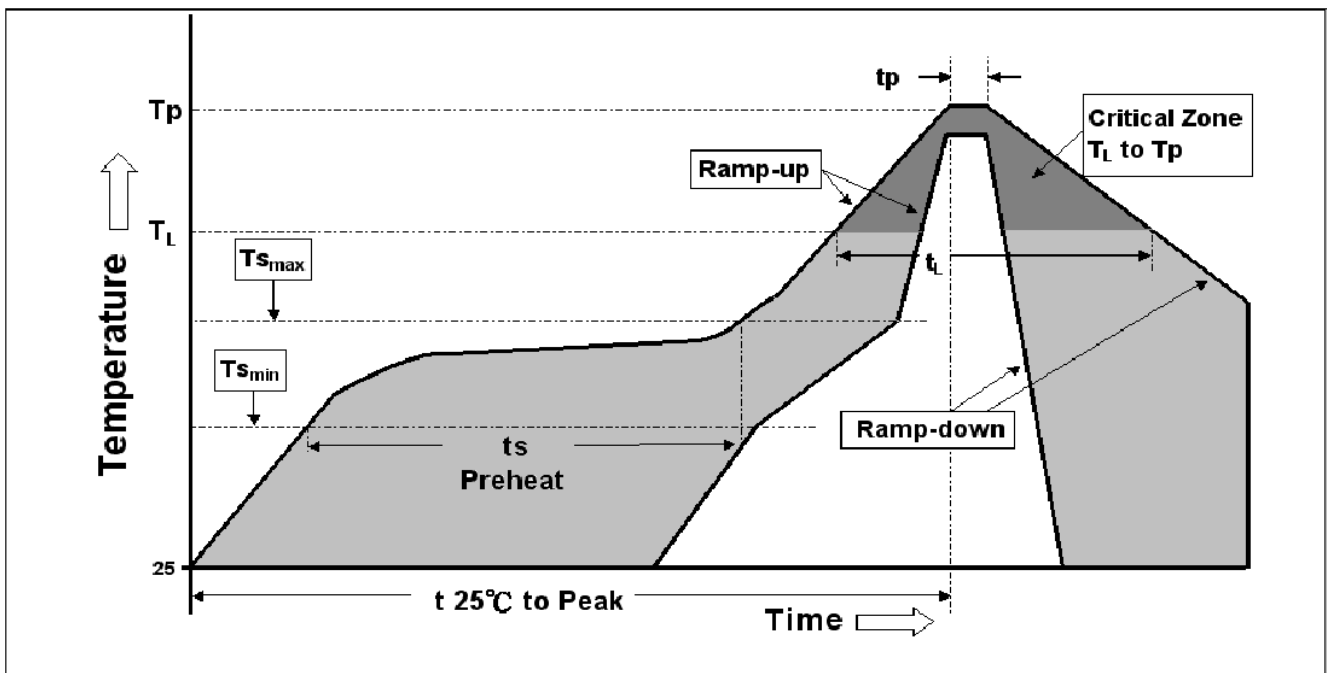
Note 1: All temperatures refer to of the package, measured on the package body surface.

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.



NOTE : Specification subject to change without notice.