

# Surface Mount PTC FSMD1206 Series



## ※ Lead Free Component

### Application:

All high-density boards

### Product Features:

Small surface mount, Solid state

Faster time to trip than standard SMD devices

Lower resistance than standard SMD devices

**Operation Current:** 50mA~1.5A

**Maximum Voltage:** 6V~60V

**Temperature Range:** -40°C to 85°C

**Agency Recognition:** Pending

## Electrical Characteristics(23°C)

Part Number	Hold Current	Trip Current	Rated Voltage	Max Current	Typical Power	Max Time to Trip		Resistance Tolerance	
						Current	Time	R MIN	R1 MAX
						I <sub>H</sub> , A	I <sub>T</sub> , A	V <sub>MAX</sub> , Vdc	I <sub>MAX</sub> , A
FSMD005-1206	0.05	0.15	60	10	0.4	0.25	1.50	3.60	50.00
FSMD010-1206	0.10	0.25	60	10	0.4	0.50	1.00	1.60	15.00
FSMD020-1206	0.20	0.40	30	10	0.4	8.00	0.05	0.60	2.50
FSMD035-1206	0.35	0.75	16	40	0.4	8.00	0.10	0.30	1.20
FSMD050-1206	0.50	1.00	8	40	0.4	8.00	0.10	0.15	0.70
FSMD075-1206	0.75	1.50	6	40	0.6	8.00	0.20	0.10	0.29
FSMD100-1206	1.00	1.80	6	40	0.6	8.00	0.30	0.055	0.210
FSMD150-1206	1.50	3.00	6	40	0.8	8.00	1.00	0.040	0.120

I<sub>H</sub>=Hold current-maximum current at which the device will not trip at 23°C still air.

I<sub>T</sub>=Trip current-minimum current at which the device will always trip at 23°C still air.

V<sub>MAX</sub>=Maximum voltage device can withstand without damage at it rated current.(I max)

I<sub>MAX</sub>= Maximum fault current device can withstand without damage at rated voltage (V max).

P<sub>d</sub>=Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

R<sub>MIN</sub>=Minimum device resistance at 23°C prior to tripping.

R<sub>1MAX</sub>=Maximum device resistance at 23°C measured 1 hour post trip.

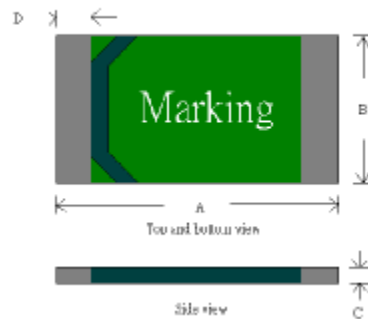
Termination pad characteristics

Termination pad materials : solder-plated copper

# Surface Mount PTC FSMD1206 Series

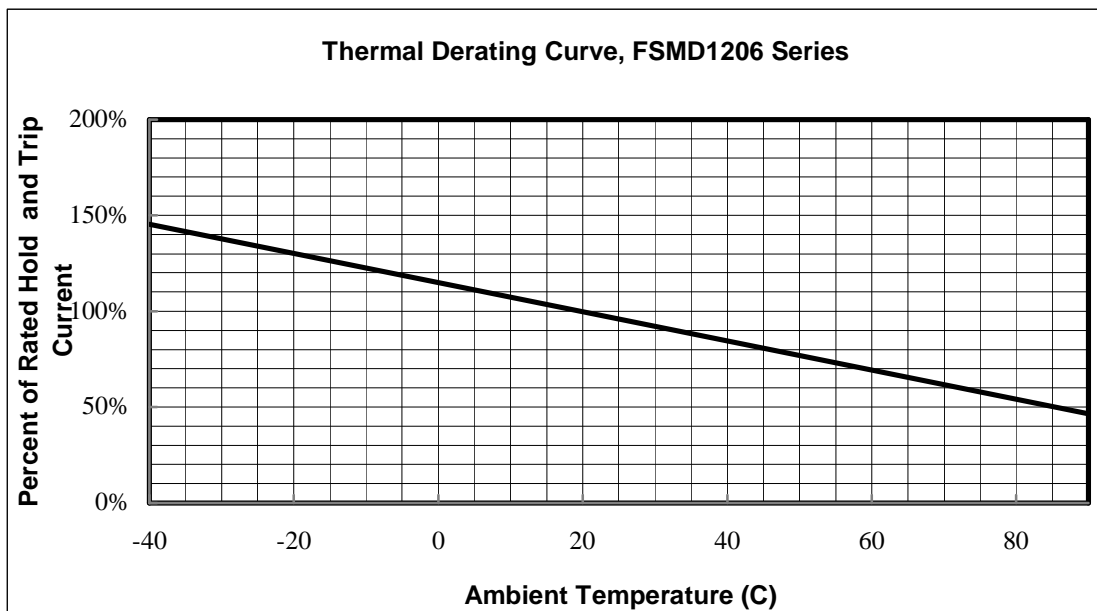


## FSMD Product Dimensions (Millimeters)



Part Number	A		B		C		D
	Min	Max	Min	Max	Min	Max	Min
FSMD005-1206	3.0	3.5	1.50	1.80	0.45	0.75	0.10
FSMD010-1206	3.0	3.5	1.50	1.80	0.45	0.75	0.10
FSMD020-1206	3.0	3.5	1.50	1.80	0.45	0.75	0.10
FSMD035-1206	3.0	3.5	1.50	1.80	0.45	0.75	0.10
FSMD050-1206	3.0	3.5	1.50	1.80	0.25	0.55	0.10
FSMD075-1206	3.0	3.5	1.50	1.80	0.45	1.25	0.10
FSMD100-1206	3.0	3.5	1.50	1.80	0.75	1.25	0.10
FSMD150-1206	3.0	3.5	1.50	1.80	0.80	1.80	0.10

## Thermal Derating Curve



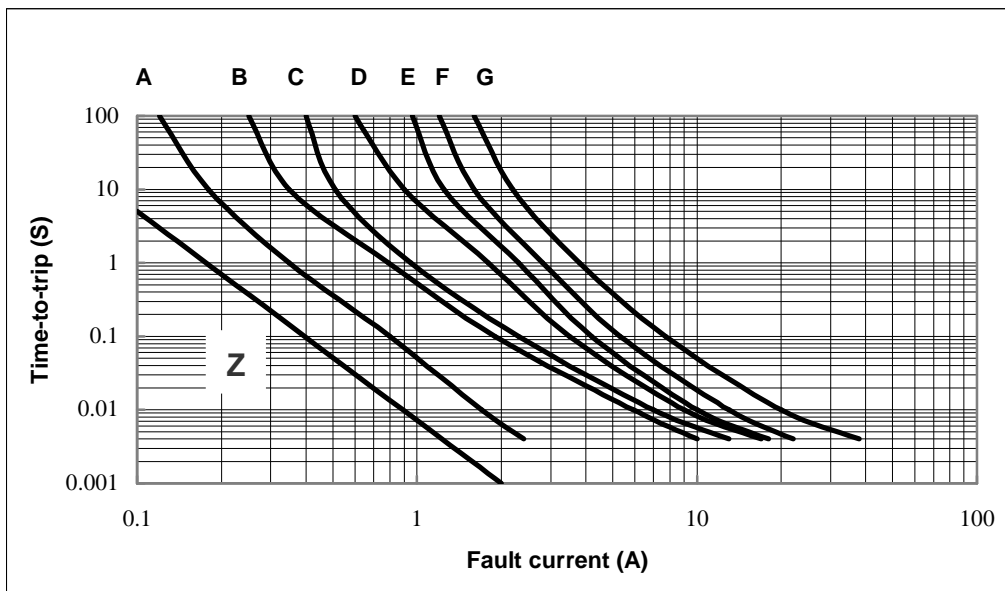
NOTE : All Specification subject to change without notice. 50

# Surface Mount PTC FSMD1206 Series

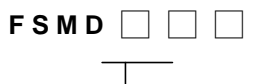


## Typical Time-To-Trip at 23°C

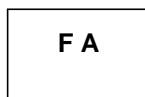
- Z =FSMD005-1206
- A =FSMD010-1206
- B =FSMD020-1206
- C =FSMD035-1206
- D =FSMD050-1206
- E =FSMD075-1206
- F =FSMD100-1206
- G =FSMD150-1206



## Part Numbering System



Current rating



Example

## Part Marking System



- FZ =FSMD005-1206
- FA =FSMD010-1206
- FB =FSMD020-1206
- FC =FSMD035-1206
- FD =FSMD050-1206
- FE =FSMD075-1206
- FF =FSMD100-1206
- FG =FSMD150-1206

## Standard Package

P/N	Pcs /Bag	Reel/Tape
FSMD005-1206	-----	4K
FSMD010-1206	-----	4K
FSMD020-1206	-----	4K
FSMD035-1206	-----	4K

P/N	Pcs /Bag	Reel/Tape
FSMD050-1206	-----	4K
FSMD075-1206	-----	4K
FSMD100-1206	-----	4K
FSMD150-1206	-----	4K

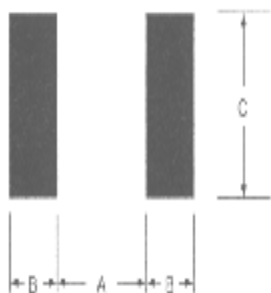
### Warning:



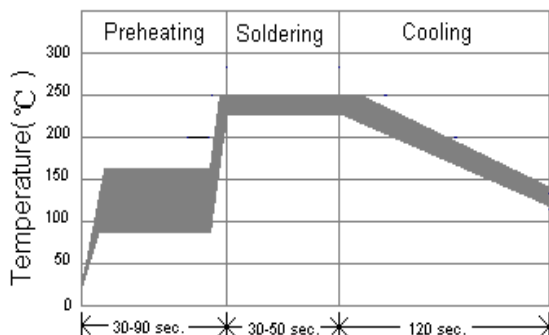
- Operation beyond the specified maximum ratings or improper use may result in damage and possible electrical arcing and/or flame.
- PPTC device are intended for occasional overcurrent protection. Application for repeated overcurrent condition and/or prolonged trip are not anticipated.
- Avoid contact of PPTC device with chemical solvent. Prolonged contact will damage the device performance.

## Pad Layouts · Solder Reflow and Rework Recommendations

The dimension in the table below provide the recommended pad layout for each FSMD1206 device



Pad dimensions(millimeters)			
Device	A Nominal	B Nominal	C Nominal
FSMD005-1206	2.00	1.00	1.90
FSMD010-1206	2.00	1.00	1.90
FSMD020-1206	2.00	1.00	1.90
FSMD035-1206	2.00	1.00	1.90
FSMD050-1206	2.00	1.00	1.90
FSMD075-1206	2.00	1.00	1.90
FSMD100-1206	2.00	1.00	1.90
FSMD150-1206	2.00	1.00	1.90



### 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 reflow methods; IR , vapor phase oven, hot air oven.
2. The FSMD1206 Series 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.