

# Surface Mountable PTC Resettable Fuse



## Specifications:

Applications	: All high-density boards
Product Features	: Small surface mountable, Solid state, Faster time to trip than standard SMD devices, Lower resistance than standard SMD devices
Temperature Range	: -40°C to 85°C



## Electrical Characteristics (23°C)

Hold Current	Trip Current	Rated Voltage	Maximum Current	Typical Power	Max Time to Trip		Resistance		Part Number
					Current	Time	R Minimum	R1 Maximum	
I <sub>H</sub> , A	I <sub>T</sub> , A	V Maximum, V dc	I Maximum, A	Pd, W	Amp	Sec	ohms	ohms	
0.20	0.40	30	10	0.4	8.00	0.10	0.600	2.500	MC36207
0.35	0.75	16	40				0.300	1.200	MC36211
0.75	1.50	6	100	0.6		0.20	0.090	0.290	MC36216
1.00	1.80						0.30	0.055	0.210
1.10	2.20			0.8		0.040		0.180	MC36222
1.50	3.00					1.00	0.030	0.120	MC36229

$I_H$  = 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 its rated current. (I maximum)

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

$P_d$  = Typical power dissipated-type amount of power dissipated by the device when in the tripped state in 23°C still air environment.

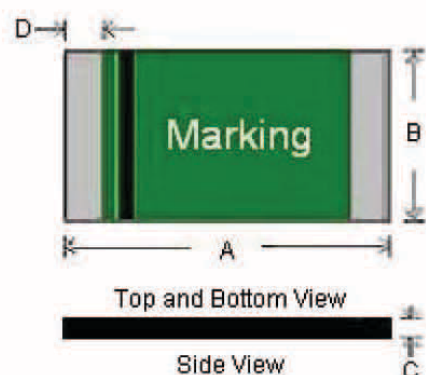
$R_{MIN}$  = Minimum device resistance at 23°C prior to tripping.

$R1_{MAX}$  = Maximum device resistance at 23°C measured 1 hour after tripping or reflow soldering of 260°C for 20 seconds.

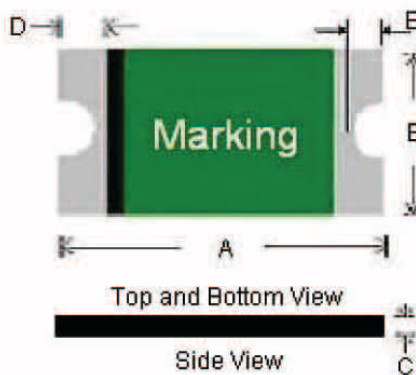
Termination pad characteristics

Termination pad materials: Pure Tin

## FSMD Product Dimensions (Millimetres)



MC36207  
MC36211



MC36216  
MC36221  
MC36222  
MC36229

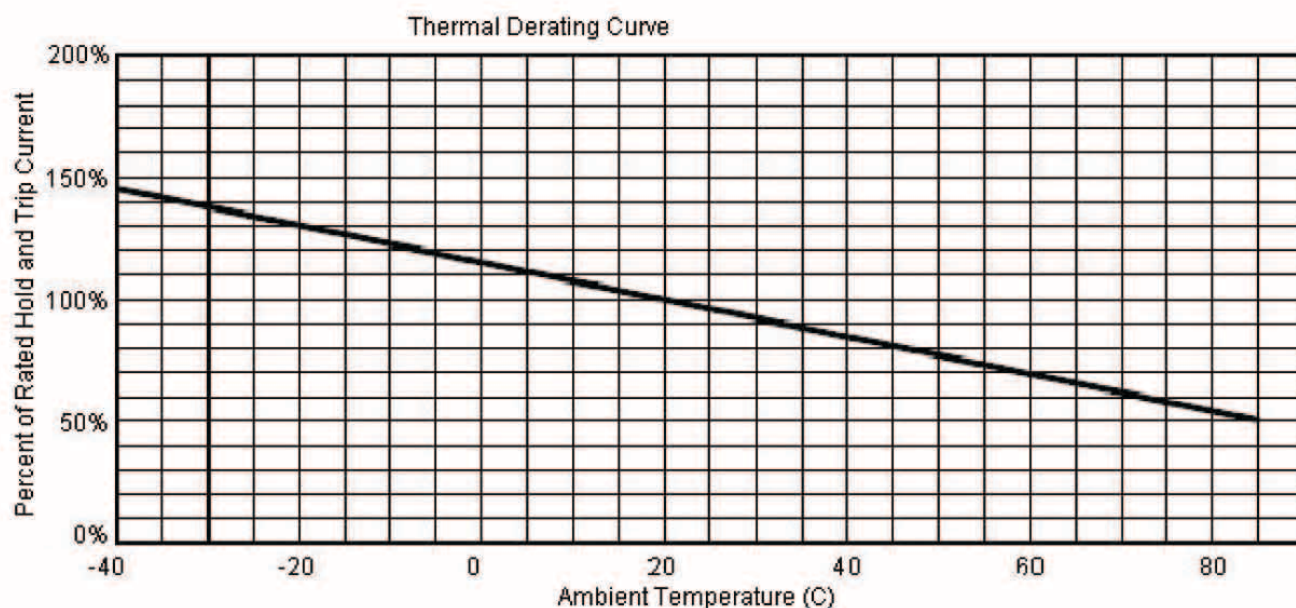
# Surface Mountable PTC Resettable Fuse



Specification Table

A		B		C		D		E		Part Number
Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	
3.00	3.50	1.50	1.80	0.45	0.75	0.10	0.75	—	—	MC36207
					1.25	0.25		0.10	0.45	MC36211
					1.00					MC36216
				0.80	1.40		MC36221			
				MC36222						
				MC36229						

Thermal Derating Curve

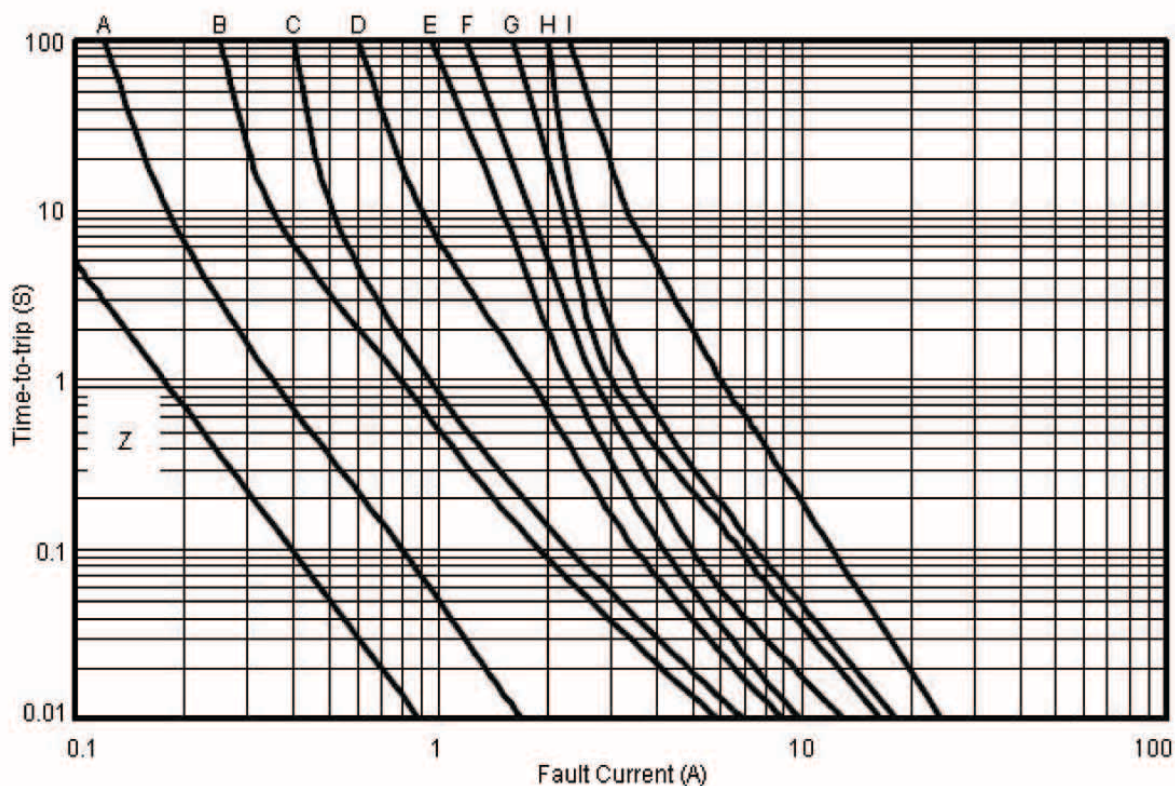


# Surface Mountable PTC Resettable Fuse



## Typical Time-To-Trip at 23°C

**B = MC36207**  
**C = MC36211**  
**E = MC36216**  
**F = MC36221**  
**G = MC36222**  
**H = MC36229**

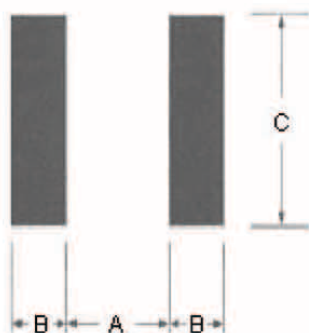


## Material Specification

Terminal pad material : Pure Tin  
 Soldering characteristics : Meets EIA specification RS 186-9E, ANSI/J-std-002 Category 3

## Pad Layouts, Solder Reflow and Rework Recommendations

The dimension in the table below provide the recommended pad layout for each FSMD1812 device



Device	A Nominal	B Nominal	C Nominal
All 1206 Series	2.00	1.00	1.90

Dimensions: millimetres

# Surface Mountable PTC

## Resettable Fuse



Profile Feature	Pb-Free Assembly
Average Ramp-Up Rate (T <sub>smax</sub> to T <sub>p</sub> )	3 °C/second maximum
Preheat : Temperature Minimum (T <sub>smin</sub> ) Temperature Maximum (T <sub>smax</sub> ) Time (t <sub>smin</sub> to t <sub>smax</sub> )	150 °C 200 °C 60-180 seconds
Time maintained above: Temperature(T <sub>L</sub> ) Time (t <sub>L</sub> )	217 °C 60-150 seconds
Peak/Classification Temperature(T <sub>p</sub> )	260 °C
Time within 5°C of actual Peak Temperature (t <sub>p</sub> )	20-40 seconds
Ramp-Down Rate :	6 °C/second maximum
Time 25 °C to Peak Temperature :	8 minutes maximum

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

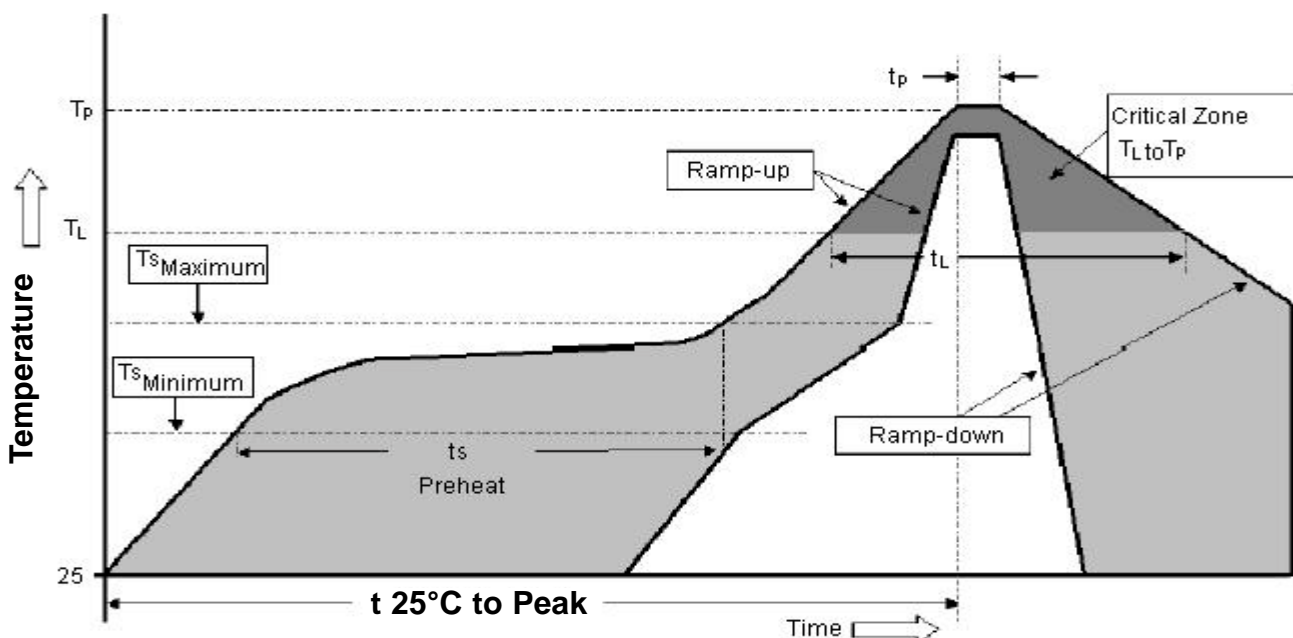
### Solder reflow

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.



# Surface Mountable PTC Resettable Fuse



## Part Number Table

Description	Part Number
Surface Mountable PTC Resettable Fuse	MC36207
Surface Mountable PTC Resettable Fuse	MC36211
Surface Mountable PTC Resettable Fuse	MC36216
Surface Mountable PTC Resettable Fuse	MC36221
Surface Mountable PTC Resettable Fuse	MC36222
Surface Mountable PTC Resettable Fuse	MC36229

**Disclaimer** This data sheet and its contents (the "Information") belong to the Premier Farnell Group (the "Group") or are licensed to it. No licence is granted for the use of it other than for information purposes in connection with the products to which it relates. No licence of any intellectual property rights is granted. The Information is subject to change without notice and replaces all data sheets previously supplied. The Information supplied is believed to be accurate but the Group assumes no responsibility for its accuracy or completeness, any error in or omission from it or for any use made of it. Users of this data sheet should check for themselves the Information and the suitability of the products for their purpose and not make any assumptions based on information included or omitted. Liability for loss or damage resulting from any reliance on the Information or use of it (including liability resulting from negligence or where the Group was aware of the possibility of such loss or damage arising) is excluded. This will not operate to limit or restrict the Group's liability for death or personal injury resulting from its negligence. SPC Multicomp is the registered trademark of the Group. © Premier Farnell plc 2011.

<http://www.farnell.com>  
<http://www.newark.com>  
<http://www.cpc.co.uk>

