

# Surface Mountable PTC Resettable Fuse



**RoHS  
Compliant**

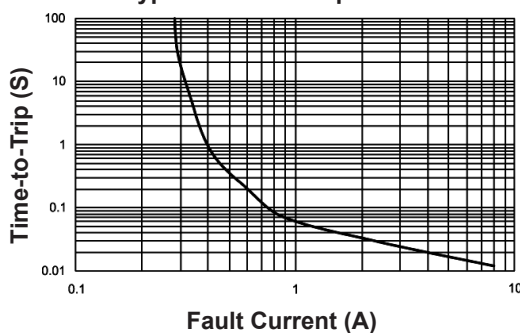


## Specifications:

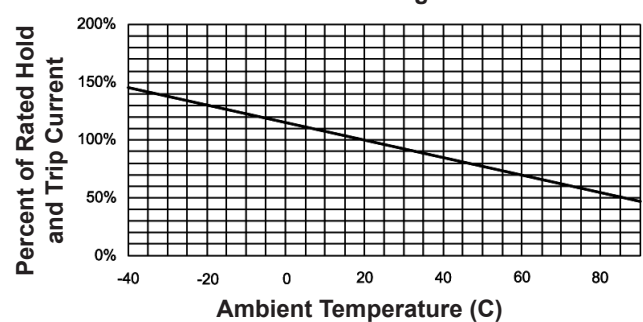
|                          |   |
|--------------------------|---|
| Terminal Pad Material    | : Pure Tin  |
| Soldering Characteristic | : Meets EIA specs. RS 186-9E, ANSI/J-std-002 Category 3 |
| Series                   | : FSMD  |
| PTC Fuse Case            | : SMD   |
| External Depth           | : 1.35mm  |
| External Length / Height | : 0.775mm   |
| External Width           | : 2.15mm  |
| Operating Temperature    | : -40°C to +85°C  |

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

Typical Time-to-Trip at 23°C



Thermal Derating Curve



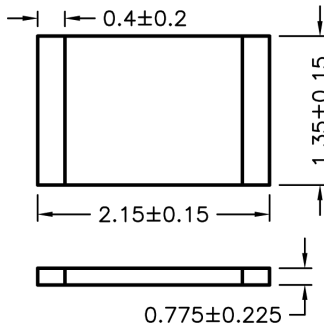
| Hold Current       | Trip Current       | Max. Time-to-trip |      | Rated Voltage           | Max. Current         | Typical Power | Resistance Tolerance |                   |
|--------------------|--------------------|-------------------|------|-------------------------|----------------------|---------------|----------------------|-------------------|
|                    |                    | Current           | Time |                         |                      |               | R <sub>MIN</sub>     | R <sub>1MAX</sub> |
| I <sub>H</sub> , A | I <sub>T</sub> , A | A                 | Sec  | V <sub>MAX</sub> , V DC | I <sub>MAX</sub> , A | Pd, W         | Ω                    | Ω                 |
| 0.1                | 0.3                | 0.5               | 1.5  | 15                      | 100                  | 0.5           | 0.7                  | 6                 |



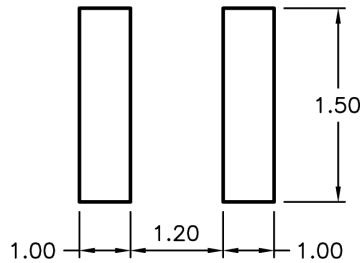
# Surface Mountable PTC Resettable Fuse



## Dimension

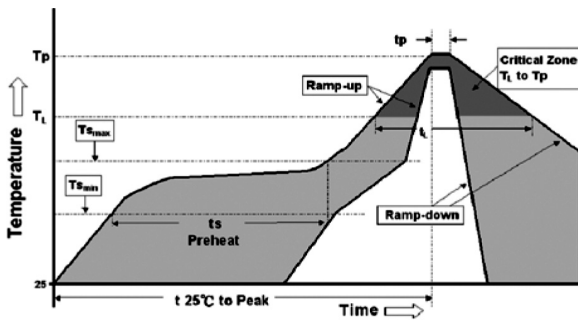


## Pad Layout



Dimensions : Millimetres

## Reflow Profile



## 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.

## Part Number Table

| Description                 | Part Number |
|-----------------------------|-------------|
| Fuse, Resettable, SMD, 0.1A | MC33186     |

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