

# Fast-Acting SMD Fuses 1206

**multicomp** PRO

**RoHS  
Compliant**



## Description

The SMD fuses stand out due to their ultra-small size and excellent electrical performance, reliability and quality. The solder-free design provides outstanding on-off and temperature cycling characteristics during operation and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.

## Applications

Industrial products such as cellphones, DVD players, battery packs, hard disk drives and digital cameras.

## Features

- AEC-Q200 automotive grade certified
- Compatible with reflow and wave soldering
- Ceramic and glass construction
- Excellent environmental integrity
- One time positive disconnect
- Lead-free and Halogen-free
- Designed to UL 248-14

## Specifications

|                       |   |
|-----------------------|---|
| Operating Temperature | : -55°C to +125°C   |
| Storage Conditions    | : +10°C to +60°C  |
| Relative Humidity     | : ≤ 75% yearly average without dew, maximum 30 days at 95%                                  |
| Vibration Resistance  | : 24 cycles at 15 min. each<br>10-60Hz at 0.75mm amplitude<br>60-2000Hz at 10g acceleration |

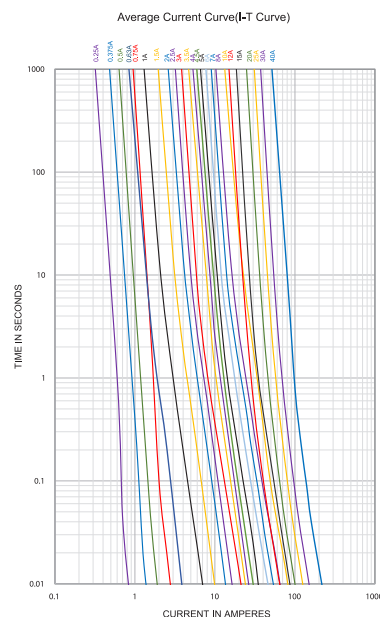
## Electrical Characteristics

### Time vs Current Characteristics Table

(measured with constant current power supply)

| Time vs Current Characteristics |      |      |      |
|---------------------------------|------|------|------|
| Rated current                   | 100% | 250% | 350% |
| 0.25A to 5A                     | >4h  | <5s  | -    |
| 6A to 20A                       | >4h  | -    | <5s  |

## Average Time Current (I-T) Curves



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sg.element14.com/b/multicomp-pro

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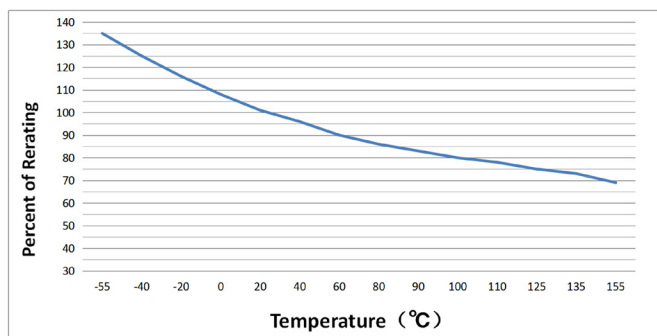
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## Electrical Characteristics at 25°C

| Amp Code | Rated Current | Rated Voltage DC                 | Typical Voltage Drop (mV) | Breaking Capacity                                      | Typical Melting I <sup>2</sup> T (A <sup>2</sup> s) | Typical Cold Resistance (mΩ) | Alpha Mark |
|----------|---------------|----------------------------------|---------------------------|--|---|------------------------------|------------|
| 0250     | 0.25A         | 72VDC<br>63VDC<br>32VDC<br>24VDC | 1400                      | 50A@72V DC<br>50A@63V DC<br>50A@32V DCC<br>300A@24V DC | 0.00043   | 3500                         | .25        |
| 0375     | 0.375A        |                                  | 715                       |  | 0.00083   | 1750                         | E          |
| 0500     | 0.5A          |                                  | 648                       |  | 0.0025  | 1000                         | 0.5        |
| 0750     | 0.75A         |                                  | 605                       |  | 0.0058  | 540                          | .75        |
| 1100     | 1A            |                                  | 515                       |  | 0.13  | 465                          | H          |
| 1150     | 1.5A          |                                  | 365                       |  | 0.16  | 215                          | K          |
| 1200     | 2A            |                                  | 315                       |  | 0.42  | 120                          | N          |
| 1250     | 2.5A          |                                  | 242                       |  | 0.66  | 75                           | O          |
| 1300     | 3A            |                                  | 185                       |  | 1.41  | 48                           | P          |
| 1400     | 4A            |                                  | 175                       |  | 1.75  | 33                           | S          |
| 1500     | 5.00A         | 32VDC                            | 143                       | 50A@32V DC   | 2.92  | 20                           | T          |
| 1700     | 7.00A         | 24VDC                            | 141                       | 300A@24V DC  | 12.7  | 11.75                        | 7          |
| 1800     | 8.00A         | 32VDC<br>24VDC                   | 112                       | 150A@32V DC<br>300A@24V DC                             | 14.5  | 8.25                         | M          |
| 2100     | 10.00A        |                                  | 105                       |  | 20.5  | 6.50                         | U          |
| 2120     | 12.00A        |                                  | 88                        |  | 11.6  | 5.00                         | 12         |
| 2150     | 15.00A        |                                  | 80                        |  | 16.8  | 3.65                         | 15         |
| 2200     | 20.00A        |                                  | 65                        |  | 47.8  | 1.75                         | 20         |

1. DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
2. DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C
3. Typical Pre-arcing I<sup>2</sup>t are measured at 10In Current

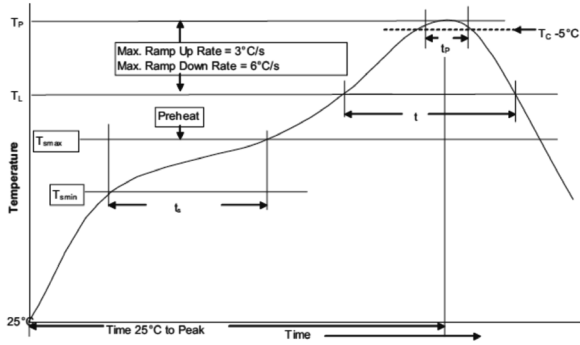
## Temperature Re-rating Curve



Normal ambient temperature : 23 ±3°C  
 Operating temperature : -55°C ~ +150°C, with proper correction factor applied

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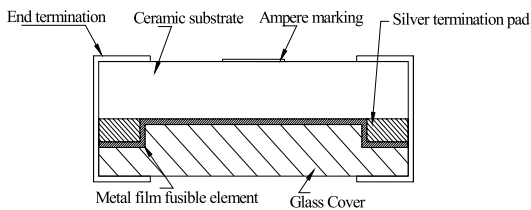
## Soldering Parameters



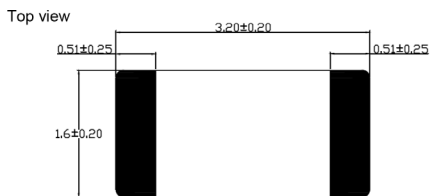
1. Infrared Reflow:
  - Temperature: 260°C
  - Time: 5S
  - Recommend reflow profile
2. Wave Soldering:
  - Reservoir Temperature: 260°C
  - Time in Reservoir: 10sec Max.

|   |                          |                 |
|---|--------------------------|-----------------|
| Profile Feature   | Pb-Free Assembly         |                 |
| Average Ramp-UP Rate(Tsmax to Tp)                                     | 3°C/s Max.               |                 |
| Preheat   | Temperature Min (Ts min) | 150°C           |
|   | Temperature Max (Ts max) | 200°C           |
|   | Time (Tmin to Ts max)    | 60sec to 120sec |
| Liquidous temperature(TL)   | 217°C                    |                 |
| Time at liquidous(tL)   | 60 to 150S               |                 |
| Peak package body temperature (Tp)                                    | 260°C                    |                 |
| Time (tp) within 5°C of the specified classification temperature (Tc) | 30S                      |                 |
| Average ramp-down rate (Tp to Tsmax)                                  | 6°C/s Max.               |                 |
| Time (25°C to Peak Temperature)                                       | 8 Minutes Max.           |                 |

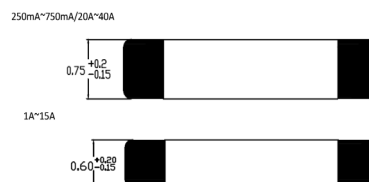
## Mechanical Specifications



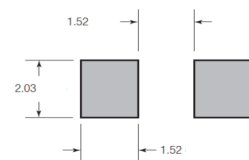
## Diagram



Side view



## Recommended Land Pattern

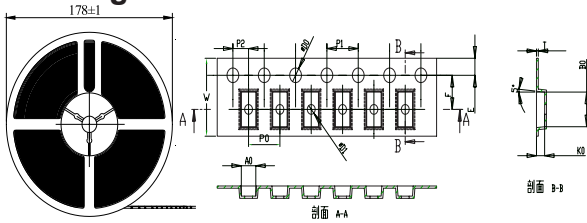


Dimensions : Millimetres

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## Packing Information



### 1A to 15A

| P2      | P0×10   | t          | A0        | B0        | K0        |
|---------|---------|------------|-----------|-----------|-----------|
| 2 ±0.05 | 40 ±0.2 | 0.25 ±0.05 | 1.85 ±0.1 | 3.56 ±0.1 | 1.04 ±0.1 |

| W      | E         | F         | D0          | D1     | P0      | P1      |
|--------|-----------|-----------|-------------|--------|---------|---------|
| 8 ±0.2 | 1.75 ±0.1 | 3.5 ±0.05 | 1.5 +0.1/-0 | 1 ±0.1 | 4 ±0.05 | 4 ±0.01 |

### 0.25A to 0.75A & 20A to 40A

| W      | E         | F         | D0          | D1     | P0      | P1      | P2      | P0×10   | t          | A0        | B0        | K0        |
|--------|-----------|-----------|-------------|--------|---------|---------|---------|---------|------------|-----------|-----------|-----------|
| 8 ±0.2 | 1.75 ±0.1 | 3.5 ±0.05 | 1.5 +0.1/-0 | 1 ±0.1 | 4 ±0.05 | 4 ±0.01 | 2 ±0.05 | 40 ±0.2 | 0.25 ±0.05 | 1.85 ±0.1 | 3.56 ±0.1 | 1.27 ±0.1 |

## Part Number Table

| Description                                 | Part Number      |
|---|------------------|
| SMD Fuse, Fast-Acting, 0.25A, 32V DC, 1206  | MCCFB1206TFF/250 |
| SMD Fuse, Fast-Acting, 0.375A, 32V DC, 1206 | MCCFB1206TFF/375 |
| SMD Fuse, Fast-Acting, 0.5A, 32V DC, 1206   | MCCFB1206TFF/500 |
| SMD Fuse, Fast-Acting, 0.5A, 72V DC, 1206   | MP001605         |
| SMD Fuse, Fast-Acting, 0.75A, 32V DC, 1206  | MCCFB1206TFF/750 |
| SMD Fuse, Fast-Acting, 1A, 32V DC, 1206     | MCCFB1206TFF/1   |
| SMD Fuse, Fast-Acting, 1A, 72V DC, 1206     | MP001599         |
| SMD Fuse, Fast-Acting, 1.5A, 32V DC, 1206   | MCCFB1206TFF/1.5 |
| SMD Fuse, Fast-Acting, 1.5A, 72V DC, 1206   | MP001600         |
| SMD Fuse, Fast-Acting, 2A, 32V DC, 1206     | MCCFB1206TFF/2   |
| SMD Fuse, Fast-Acting, 2.5A, 32V DC, 1206   | MCCFB1206TFF/2.5 |
| SMD Fuse, Fast-Acting, 2.5A, 72V DC, 1206   | MP001601         |
| SMD Fuse, Fast-Acting, 3A, 32V DC, 1206     | MCCFB1206TFF/3   |
| SMD Fuse, Fast-Acting, 4A, 32V DC, 1206     | MCCFB1206TFF/4   |
| SMD Fuse, Fast-Acting, 5A, 32V DC, 1206     | MP001602         |
| SMD Fuse, Fast-Acting, 7A, 32V DC, 1206     | MCCFB1206TFF/7   |
| SMD Fuse, Fast-Acting, 8A, 32V DC, 1206     | MCCFB1206TFF/8   |
| SMD Fuse, Fast-Acting, 10A, 32V DC, 1206    | MCCFB1206TFF/10  |
| SMD Fuse, Fast-Acting, 12A, 32V DC, 1206    | MCCFB1206TFF/12  |
| SMD Fuse, Fast-Acting, 15A, 32V DC, 1206    | MCCFB1206TFF/15  |
| SMD Fuse, Fast-Acting, 20A, 32V DC, 1206    | MCCFB1206TFF/20  |

Dimensions : Millimetres

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