

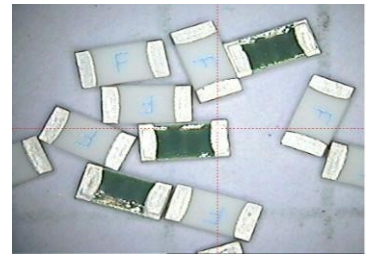
Type 12S

1206 Slow Blow SMD Fuses



Description

12S Series are the fuses set the industry standard for performance, reliability and quality. The solder-free design provides excellent on-off and temperature cycling characteristics during use and also makes our SMD fuses more heat and shock tolerant than typical subminiature fuses.



| Rated Current | Electrical Characteristics | | | | |
|---------------|----------------------------|------------|---------------|------------|--------------|
| | 1.0In | 2.5In | 3.0In | 3.5In | 10.0In |
| 4.5A~5A | 4 hour min. | 5 sec max. | 0.1sec – 3sec | - | 0.2ms – 20ms |
| 6A~30A | 4 hour min. | - | - | 5 sec max. | 0.2ms – 10ms |

Features

- High inrush current withstanding capability
- AEC-Q200 Automotive Grade Certified
- Compatible with reflow and wave solder
- Ceramic and glass construction
- Excellent environmental integrity
- One time positive disconnect
- Lead Free and Halogen free material

Specifications

| Specification | | | | | | | | |
|---------------|---------|-----|---------------|------------------------------------|--|---------------------------|---|------------|
| Part No. | Rated | | Rated Current | Breaking Capacity (A) ¹ | Typical Cold Resistance (mOhms) ² | Typical Voltage Drop (mV) | Typical Pre-Arcing I ² t (A ² Sec) ³ | Alpha Mark |
| | Voltage | | | | | | | |
| | DC | | | | | | | |
| 12S1450 | 72V | 32V | 4.5 | 50A | 27 | 164 | 2.65 | X |
| 12S1500 | 63V | | 5 | 50A | 22 | 145 | 4 | T |
| 12S1600 | 72V | 32V | 6 | 50A | 14.5 | 140 | 12 | F |
| 12S1700 | 63V | | 7 | 50A | 10.5 | 130 | 14 | 7 |
| 12S1800 | 48V | 32V | 8 | 150A | 7.0 | 123 | 16 | V |
| 12S2100 | | | 10 | 150A | 5.0 | 110 | 22 | U |
| 12S2120 | | | 12 | 150A | 3.7 | 80 | 40 | W |
| 12S2150 | | | 15 | 150A | 3.0 | 85 | 45 | Y |
| 12S2200 | | | 20 | 150A | 2.0 | 80 | 50 | Q |
| 12S2250 | 36V | 32V | 25 | 150 | 1.55 | 90 | 58 | L |
| 12S2300 | | | 30 | 150 | 1.32 | 90 | 95 | Z |

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 I²t are measured at 10In Current

Choice fuse for surge application (USB charger etc.), make sure the I²t of fuse is 4 times than surge.

Specifications are subject to change without notice. Application testing is strongly recommended.

Type 12S

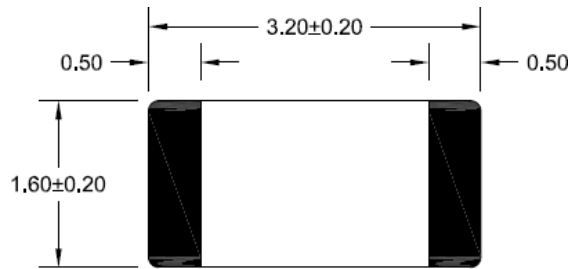
1206 Slow Blow SMD Fuses



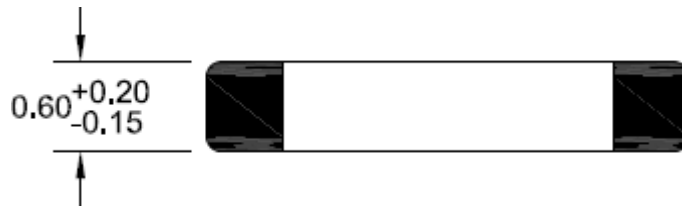
Dimension

Drawing not to scale (Unit: mm)

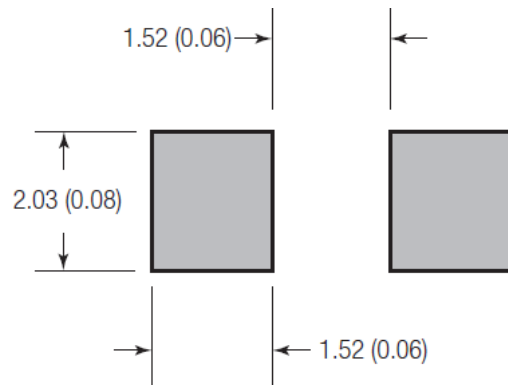
Top view



Side view



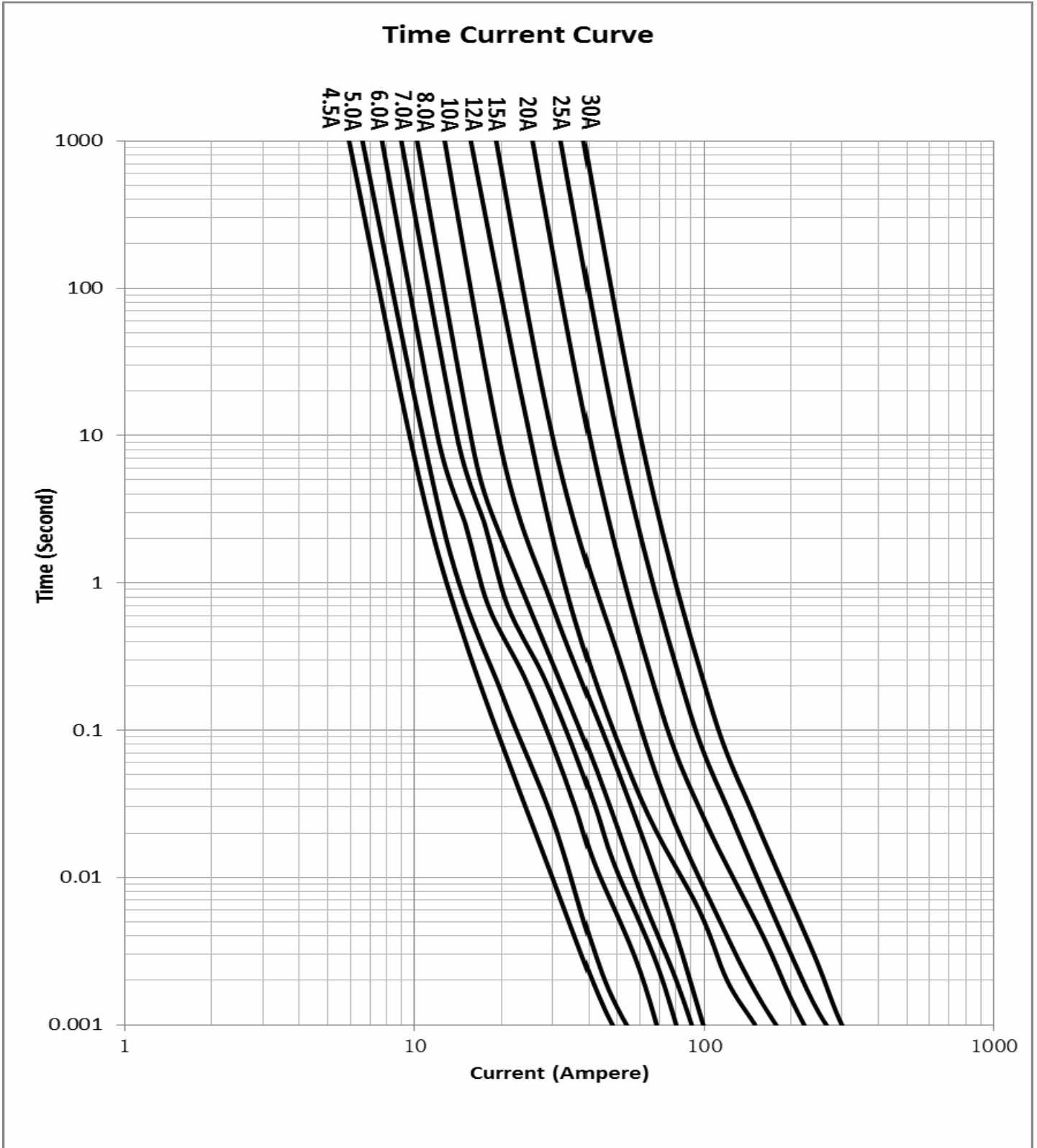
Recommended land pattern



Unit: mm(inch)

Type 12S

1206 Slow Blow SMD Fuses



Type 12S

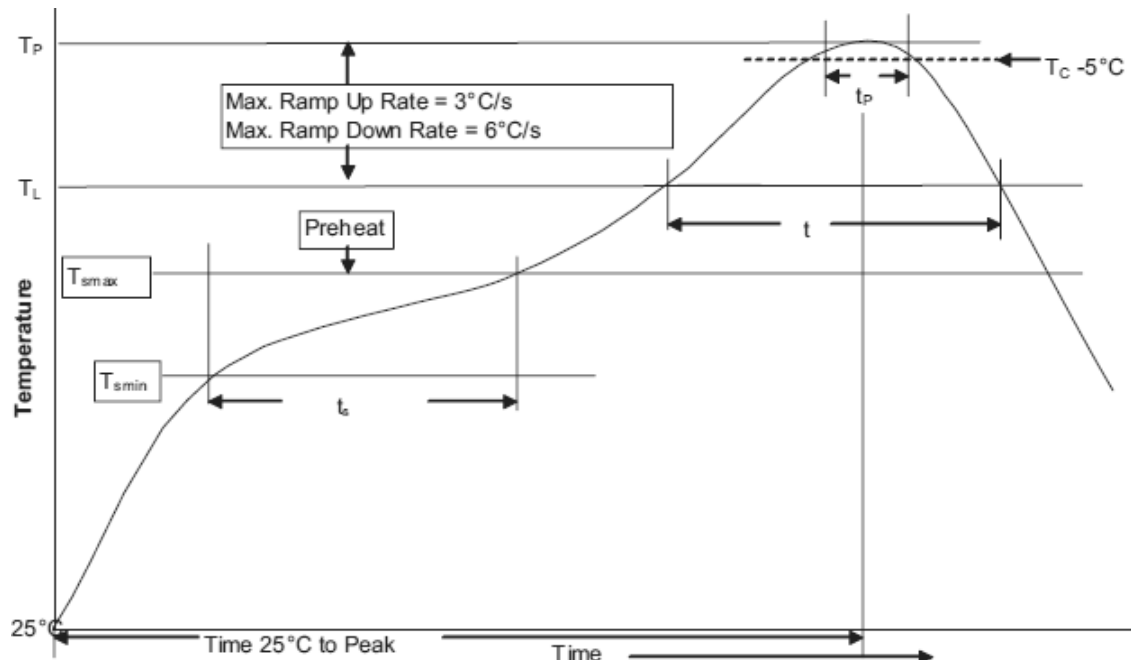
1206 Slow Blow SMD Fuses



Soldering method

- Wave solder
 - Reservoir temperature: 260°C
 - Time in reservoir: 10 seconds maximum
- Infrared reflow
 - Temperature: 260°C
 - Time: 30 seconds maximum

Solder reflow profile



| Profile Feature | | Lead(Pb) free solder |
|---|---|----------------------|
| Preheat and soak | • Temperature min.(T_{smin}) | 150°C |
| | • Temperature max. (T_{smax}) | 200°C |
| | • Time (T_{smin} to T_{smax}) (t_s) | 60 - 120 Seconds |
| Average ramp up rate T_{smax} to T_P | | 3°C / Second Max. |
| Liquidous temperature (T_L) | | 217°C |
| Time at liquidous (t_L) | | 60 - 150 Seconds |
| Peak package body temperature (T_P) | | 260°C |
| Time (t_p) within 5°C of the specified classification temperature (T_C) | | 30 Seconds |
| Average ramp-down rate (T_P to T_{smax}) | | 6°C / Second Max. |
| Time (25°C to Peak Temperature) | | 8 Minutes Max. |

Type 12S

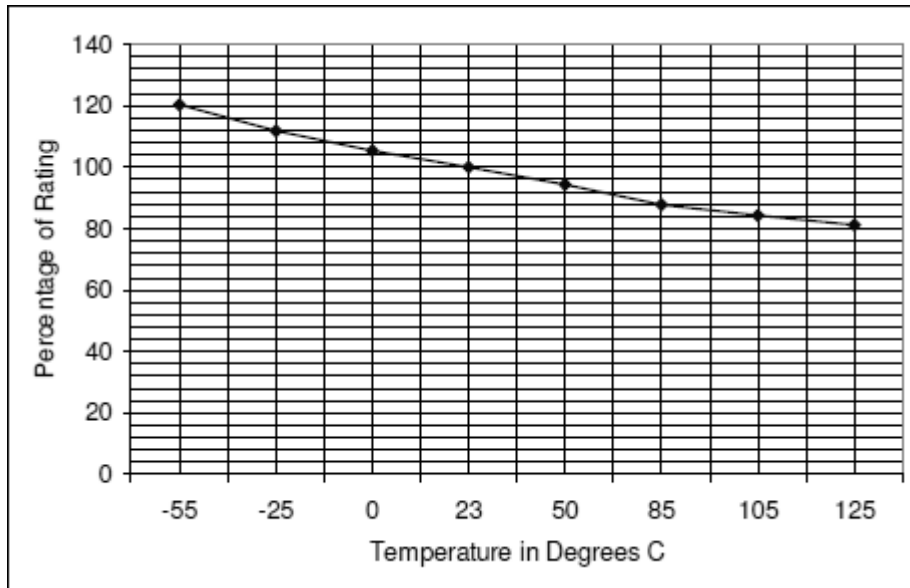
1206 Slow Blow SMD Fuses



Temperature Derating Curve

Normal ambient temperature: 23+/-3°C

Operating temperature: -55 ~ 125°C, with proper correction factor applied



Package

3000 fuses on 8mm tape-and-reel on a 7 inch (178mm) reel per EIA Standard 481.

--- End of Document ---