



1206 Slow Blow SMD Fuses

12 110 Series



Description

12 110 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 | 2.0In | 2.5In | 3.0In | 3.5In | 10.0In |
| 1A~3A | 4 hour min. | 1sec – 60sec | 5 sec max. | 0.1sec – 3sec | - | 0.2ms – 20ms |
| 3.5~5A | 4 hour min. | - | 5 sec max. | 0.1sec – 3sec | - | 0.2ms – 20ms |
| 7A~20A | 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 Voltage | | Rated Current (A) | Breaking Capacity (A) 1 | Typical Cold Resistance (mOhms) 2 | Typical Voltage Drop (mV) | Typical Pre-Arcing I²t (A²Sec) 3 | Alpha Mark |
| | DC | | | | | | | |
| 12 110.1 | 72V | 63V | 1 | 50A | 480 | 510 | 0.11 | H |
| 12 110.1.5 | | | 1.5 | 50A | 230 | 367 | 0.17 | K |
| 12 110.2 | | | 2 | 50A | 140 | 316 | 0.41 | N |
| 12 110.2.5 | | | 2.5 | 50A | 80 | 240 | 0.68 | O |
| 12 110.3 | | | 3 | 50A | 50 | 187 | 1.5 | P |
| 12 110.3.5 | | | 3.5 | 50A | 38 | 180 | 2 | R |
| 12 110.4 | | | 4 | 50A | 34 | 173 | 2.5 | S |
| 12 110.4.5 | 32V | | 4.5 | 50A | 25 | 164 | 2.65 | X |
| 12 110.5 | | | 5 | 50A | 21.5 | 145 | 4 | T |
| 12 110.7 | | | 7 | 50A | 12.3 | 140 | 6.6 | 7 |
| 12 110.8 | 24V | | 8 | 300A | 10 | 123 | 16 | M |
| 12 110.10 | | | 10 | 300A | 7 | 110 | 18 | U |
| 12 110.12 | | | 12 | 300A | 5 | 85 | 22 | 12 |
| 12 110.15 | | | 15 | 300A | 3.5 | 78 | 30 | 15 |
| 12 110.20 | | | 20 | 300A | 2 | 80 | 50 | Q |

* DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)

* DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C

* 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.



1206 Slow Blow SMD Fuses

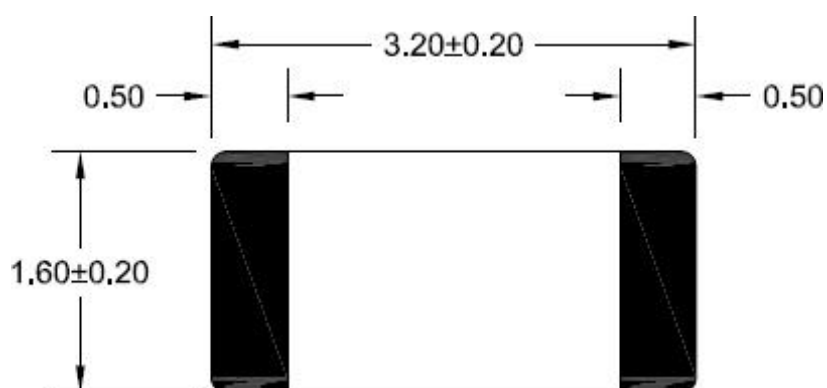
12 110 Series



Dimension

Drawing not to scale (Unit: mm)

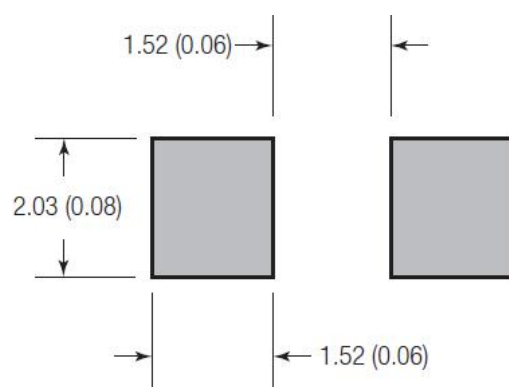
Top view



Side view



Recommended land pattern

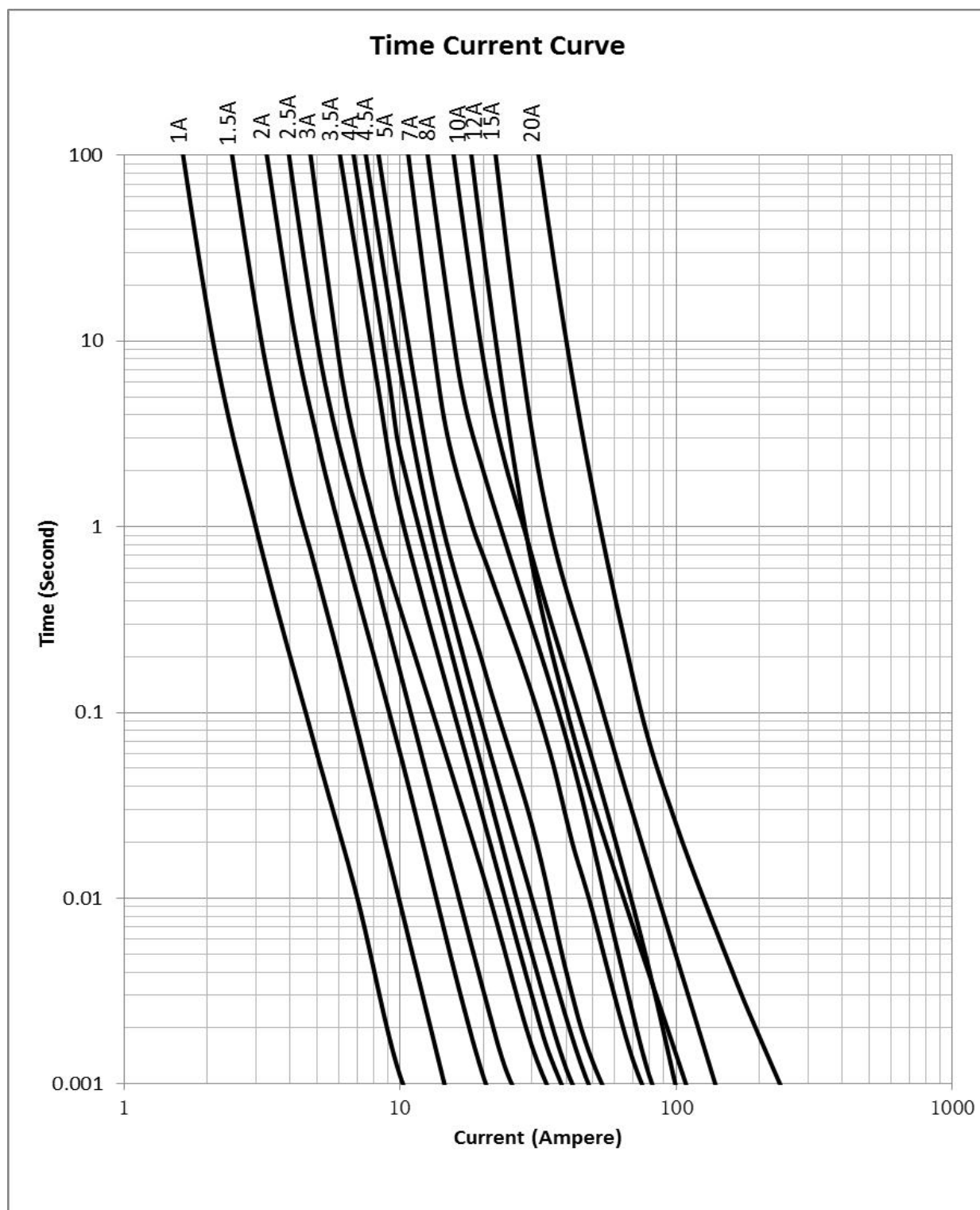


Unit: mm(inch)



1206 Slow Blow SMD Fuses

12 110 Series





1206 Slow Blow SMD Fuses

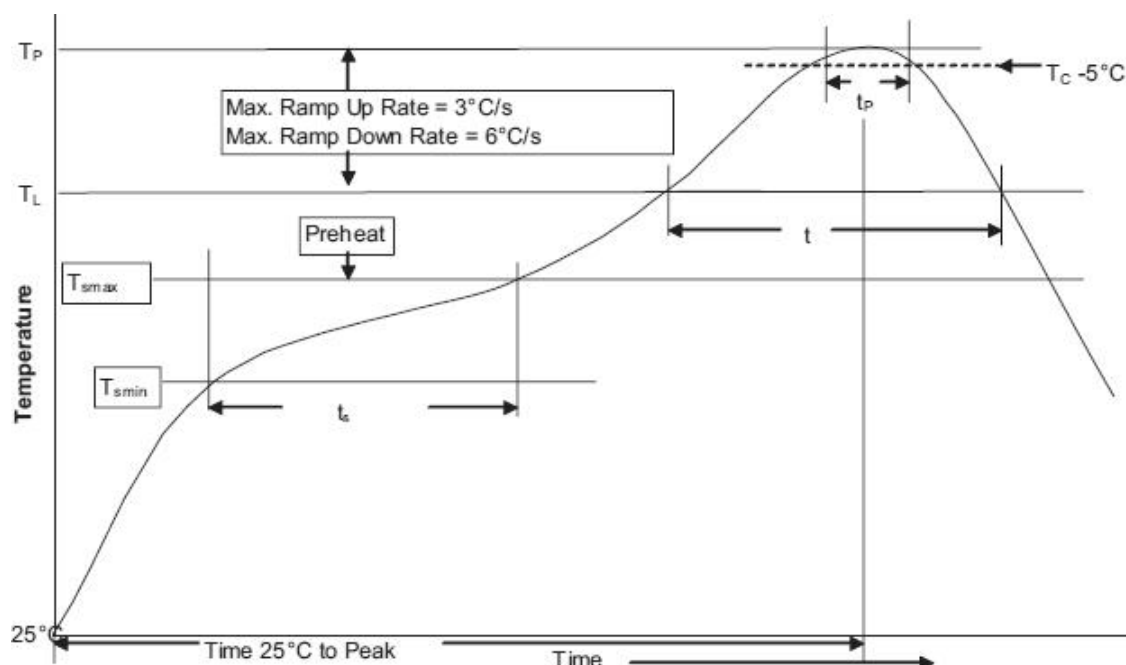
12 110 Series



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. |



1206 Slow Blow SMD Fuses

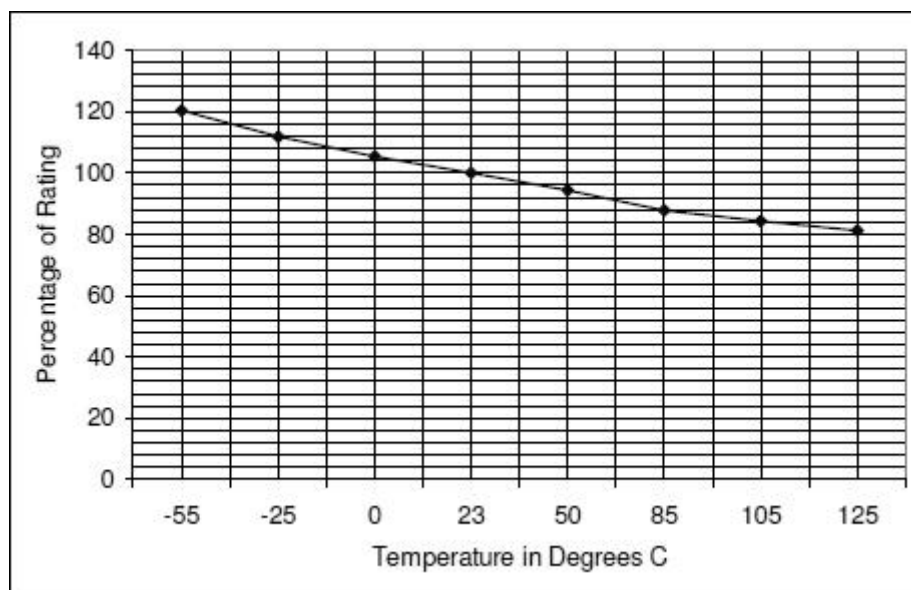
12 110 Series



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 ---

Website: <http://www.jksemi.com>

For additional information, please contact your local Sales Representative.

©Copyright 2016, jksemi



is a registered trademark of jksemi All rights are reserved