

# INDIVIDUAL SPECIFICATION SHEET

**Product Name:** 1206 Fast Acting SMD Fuses

**Part Number:** F12F20

**Revision:** A



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Rev.	Effective Date	Changed Contents
A	2020-12-07	New Release

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## Description

F12F 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.

Electrical Characteristics			
Rated Current	1.0In	2.5In	3.5In
20A	4 hour min.	-	5 sec max.

## Features

- AEC-Q200 Automotive Grade Certified
- Rapid interruption of excessive current
- Compatible with reflow and wave solder
- Ceramic and glass construction
- One time positive disconnect
- Lead Free and Halogen free material

## Specifications

Specification							
Part No.	Rated Voltage DC	Rated Current (A)	Breaking Capacity(A) <sup>1</sup>	Typical Cold Resistance (mOhms) <sup>2</sup>	Typical Voltage Drop (mV)	Typical Pre-Arcing I <sup>2</sup> t (A <sup>2</sup> Sec) <sup>3</sup>	Alpha Marking
F12F20	32V	20A	150A@32Vdc	1.8	60	47.17	20

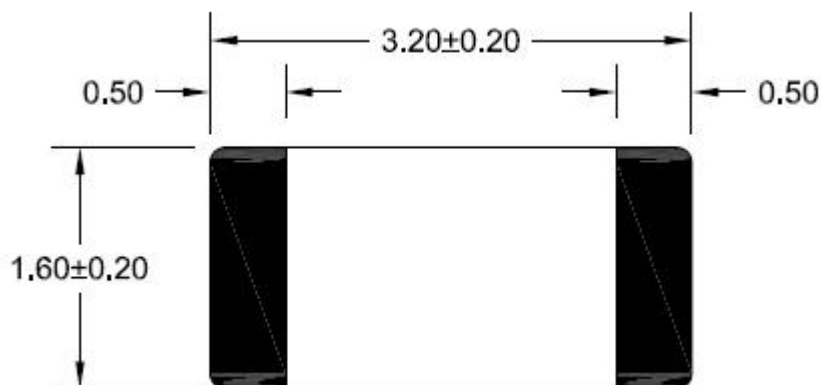
1. DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
2. DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C
3. Typical Pre-arcing I<sup>2</sup>t are measured at 10In Current

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

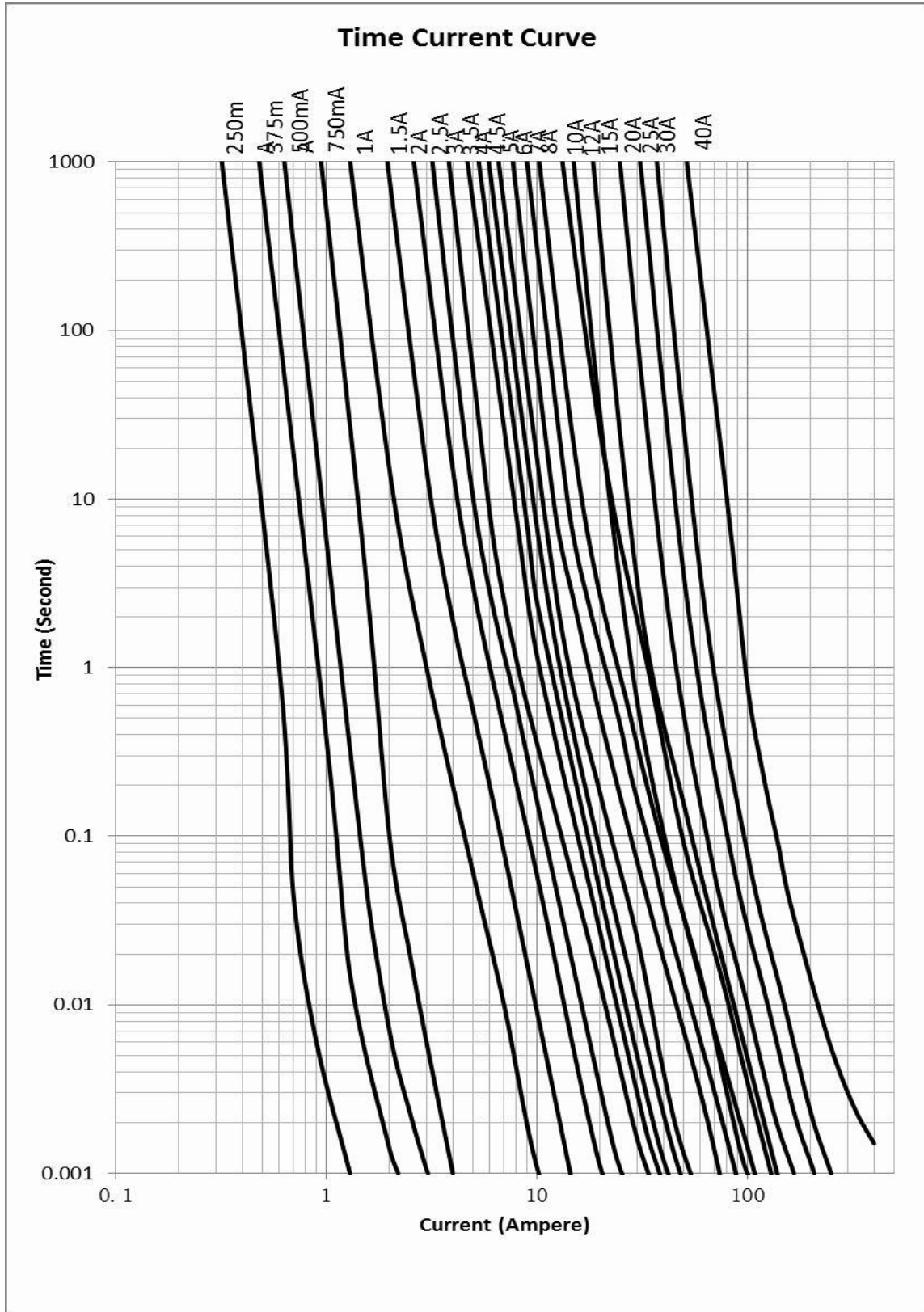
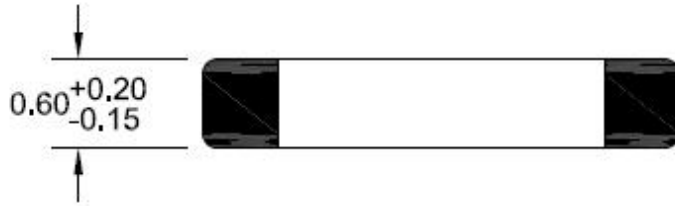
## Dimension

Drawing not to scale (Unit: mm) Top

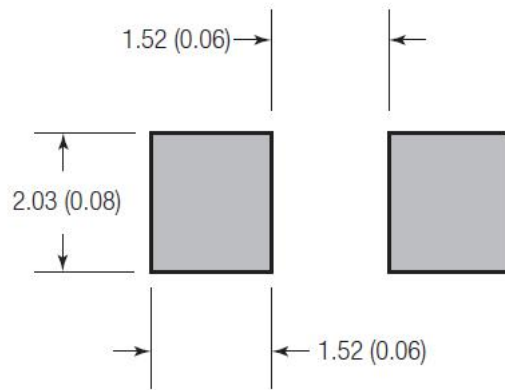
view



Side view: 1A~15A



### Recommended land pattern

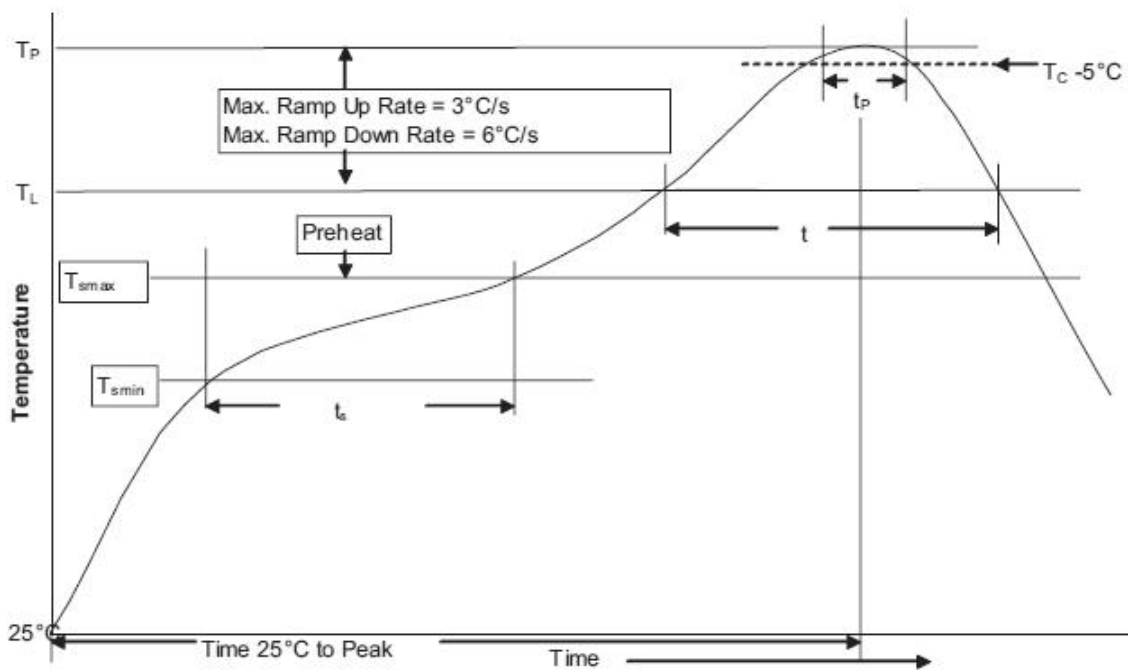


Unit: mm(inch)

### 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



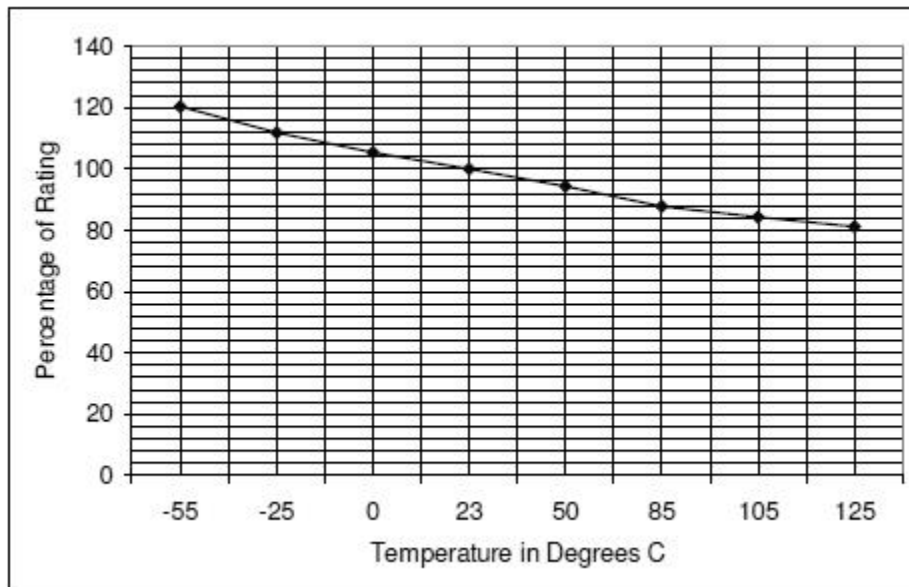
Profile Feature		Lead(Pb) free solder
Preheat and soak	• Temperature min.( $T_{smin}$ )	150°C
	• Temperature max. ( $T_{smax}$ )	200°C
	• Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60 - 120 Seconds

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.

### 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 ---

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