



1206 Slow Blow SMD  
Fuses 高分断

DOC.No. :  
ISS: F12TH Series

## INDIVIDUAL SPECIFICATION SHEET

**Product Name:** 1206 Slow Blow SMD Fuses 高分断

**Part Number:** :F12TH Series

**Revision:** A



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Rev.	Effective Date	Changed Contents
A	2020-9-18	New Release

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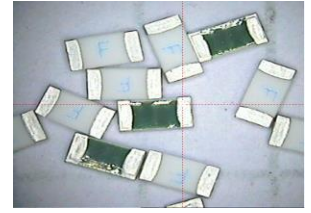
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## Description

F12TH 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~40A	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 † (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 Mark
	Voltage							
	DC							
F12TH4.5	72V	32V	4.5	50A	27	164	2.65	X
F12TH5	63V		5	50A	22	145	4	T
F12TH6	72V	32V	6	50A	14.5	140	12	F
F12TH7	63V		7	50A	10.5	130	14	7
F12TH8	48V	32V	8	150A@48Vdc 150A@32Vdc	7.0	123	16	V
F12TH10			10		5.0	110	22	U
F12TH12			12		4.3	80	40	W
F12TH15			15		3.5	85	45	Y
F12TH20			20		2.2	80	50	Q
F12TH25	36V	32V	25	200A@32Vdc 200A@36Vdc	1.55	90	58	L
F12TH30			30		1.32	90	95	Z
F12TH40			40		0.85	95	240	XL

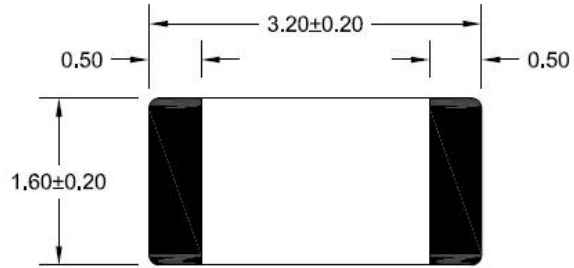
1. DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
2. DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C
3. Typical Pre-arcing I<sup>2</sup>t are measured at 10In Current

Choice fuse for surge application (USB charger etc.), make sure the I<sup>2</sup>t of fuse is 4 times than surge. Specifications are subject to change without notice. Application testing is strongly recommended.

**Dimension**

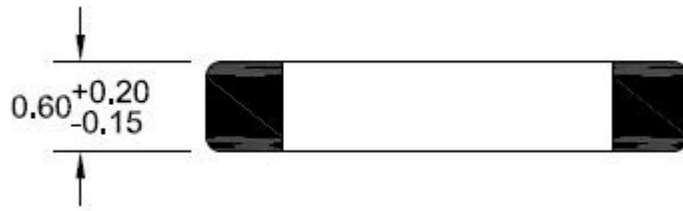
Drawing not to scale (Unit: mm)

Top view

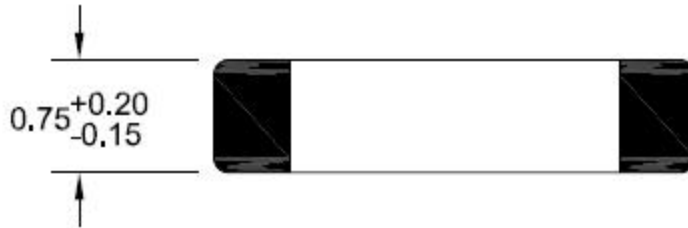


Side view:

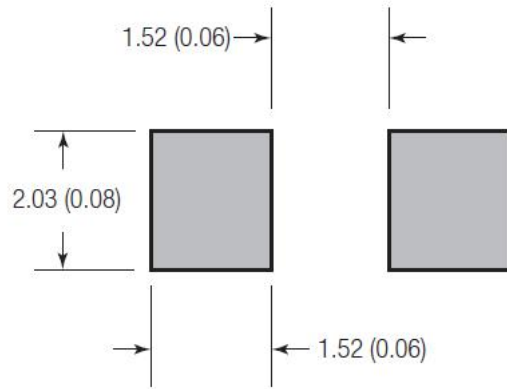
4.5A-30A



40A



**Recommended land pattern**

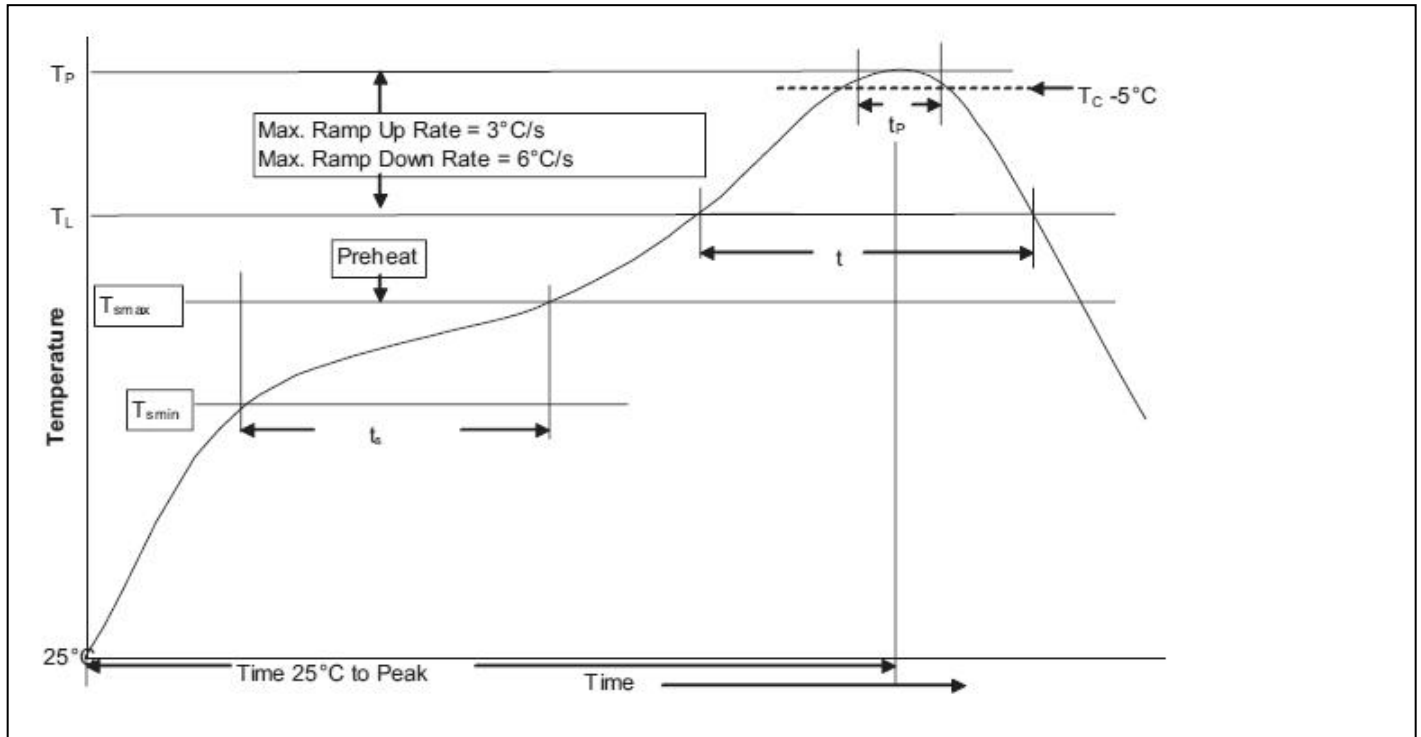


Unit: mm(inch)



**Soldering method**

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

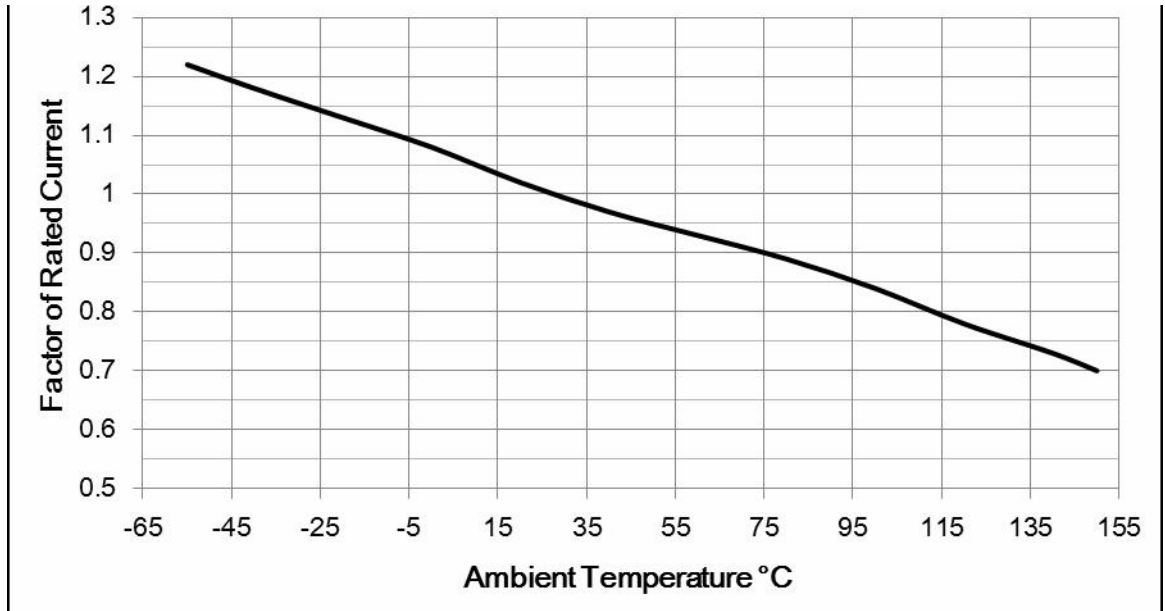
**Solder reflow profile**


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:  $23 \pm 3^\circ\text{C}$

Operating temperature:  $-55 \sim 125^\circ\text{C}$ , with proper correction factor applied



### Package

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

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