

# INDIVIDUAL SPECIFICATION SHEET

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

**Part Number:** F12F Series

**Revision:** A



**Dongguan TLC Electronic Technology Co., LTD**

No.18,5th GaoLi Road,TangXia Town,DongGuan,GuangDong,P.R China 523710

TEL: 86-0769-3892 0511

FAX: 86-0769-8793 2077

Http: [www.tlcet.com.cn](http://www.tlcet.com.cn)

Rev.	Effective Date	Changed Contents
A	2020-8-12	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
250mA~5A	4 hour min.	5 sec max.	-
6A~40A		-	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
F12F0.25	72V 63V 32V 24V	250mA	50A@72Vdc 50A@63Vdc 150A@32Vdc 300A@24Vdc	3608	1407	0.0004	.25
F12F0.375		375mA		1882	718	0.0008	E
F12F0.5		500mA		1028	650	0.0022	0.5
F12F0.75		750mA		601	616	0.0057	.75
F12F1		1A		490	510	0.10	H
F12F1.5		1.5A		240	367	0.15	K
F12F2		2A		132	316	0.41	N
F12F2.5		2.5A		77	240	0.65	O
F12F3		3A		48	187	1.39	P
F12F3.5		3.5A		40	180	1.68	R
F12F4		4A		35	173	1.73	S
F12F4.5	32V	4.5A	150A@32Vdc 300A@24Vdc	30	164	2.62	X
F12F5		5A		25	141	2.89	T
F12F6		6A		16.5	142	11	F
F12F7		7A		12	140	12.5	7
F12F8	24V	8A	150A@32Vdc 300A@24Vdc	8.5	110	14	M
F12F10		10A		6.8	100	20	U
F12F12		12A		5	85	11.5	12
F12F15		15A		3.9	78	16.5	15
F12F20		20A		1.8	60	47.17	20
F12F25		25A		1.5	57	32	25
F12F30		30A		1.25	68	43	30
F12F40		32V 24V		40A	200A@32Vdc 200A@24Vdc	0.85	95

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

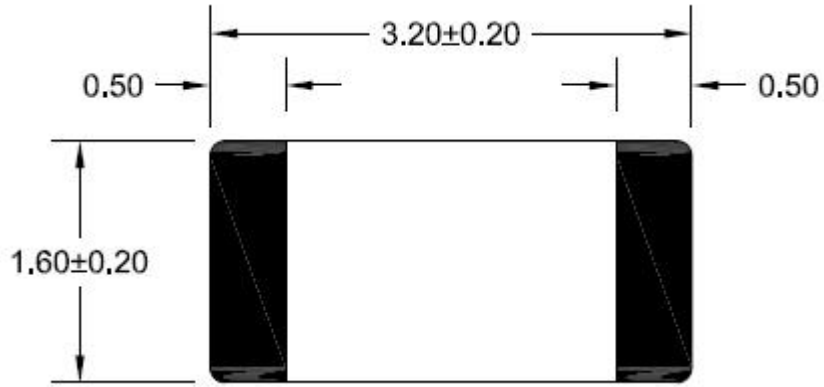
3. Typical Pre-arcing I<sup>2</sup>t are measured at 10In Current

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

**Dimension**

Drawing not to scale (Unit: mm) Top

view

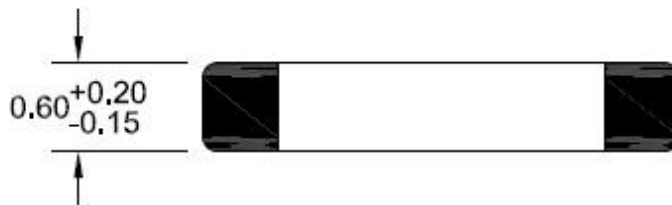


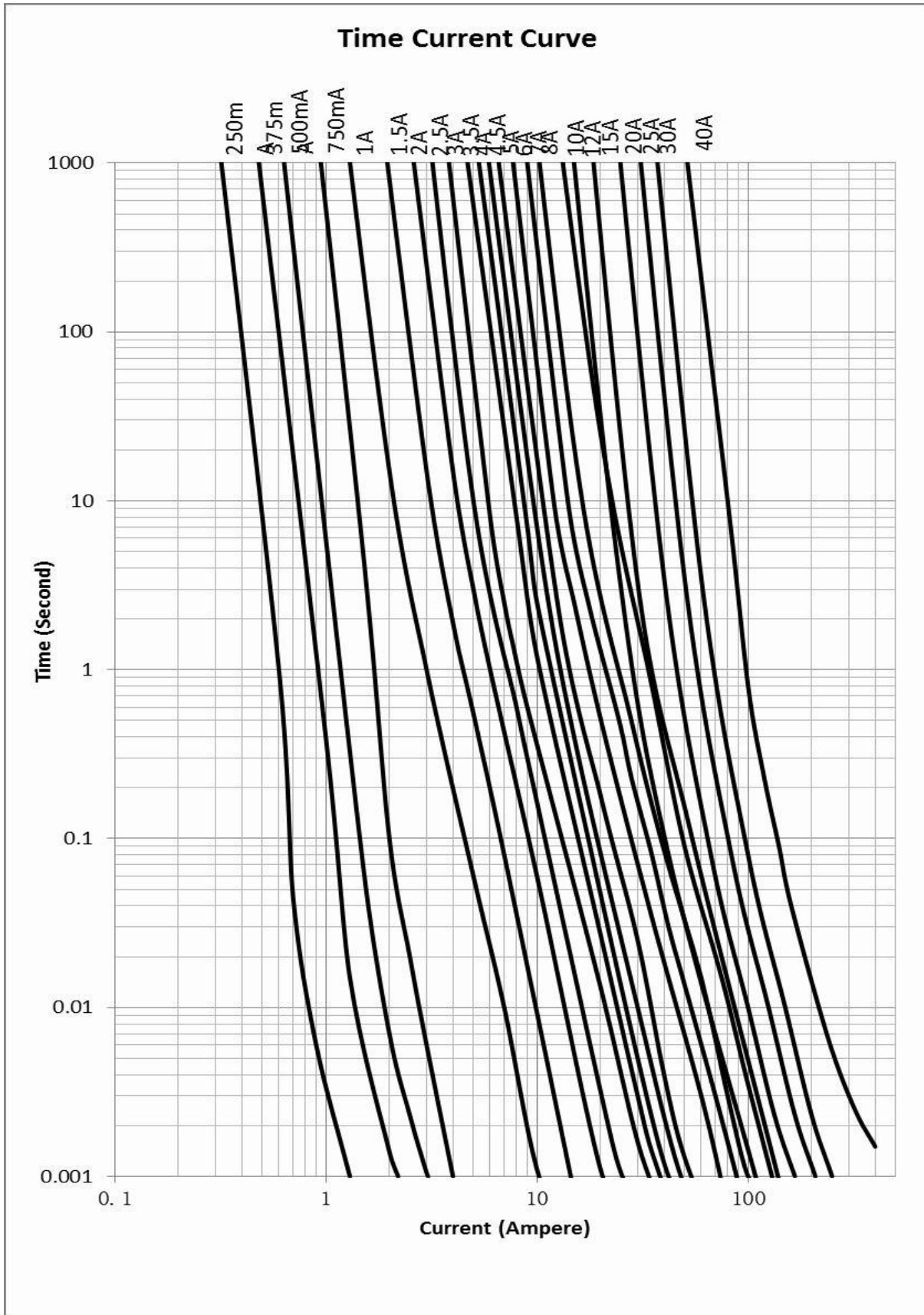
Side view:

250mA~750mA/20A~40A

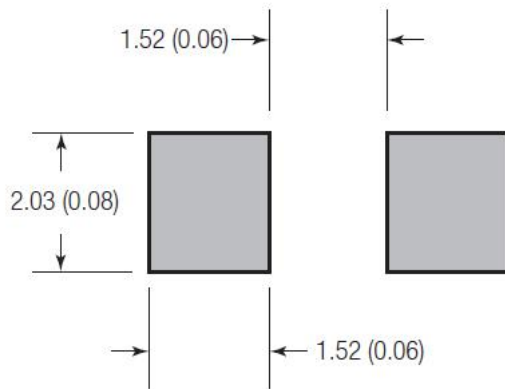


1A~15A





### Recommended land pattern

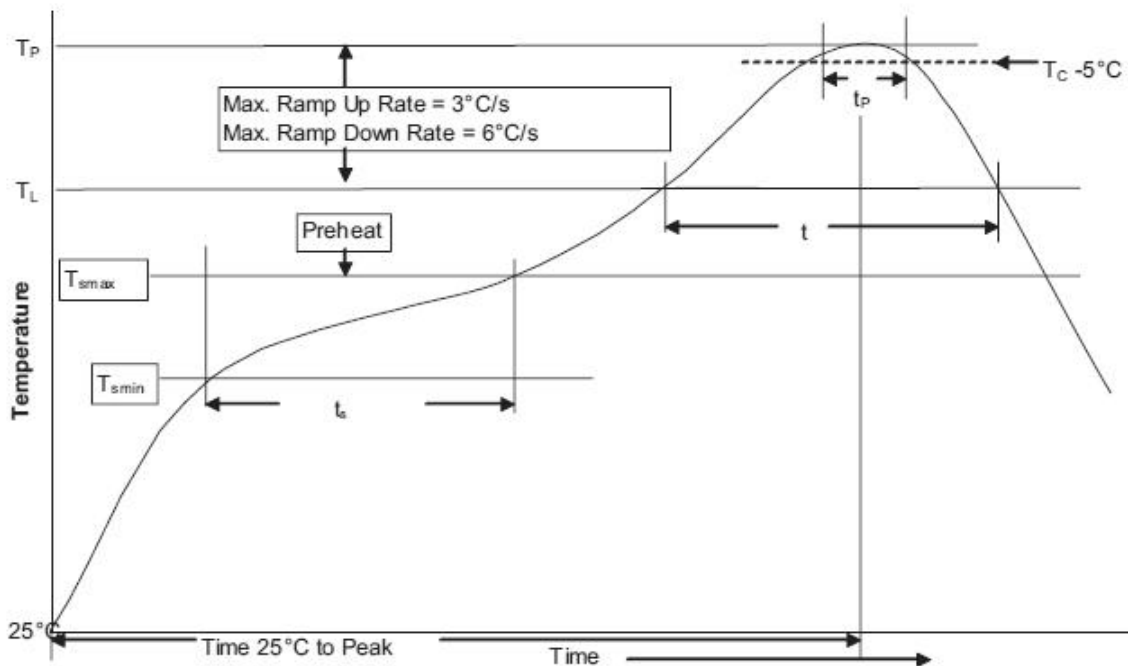


Unit: mm(inch)

### 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



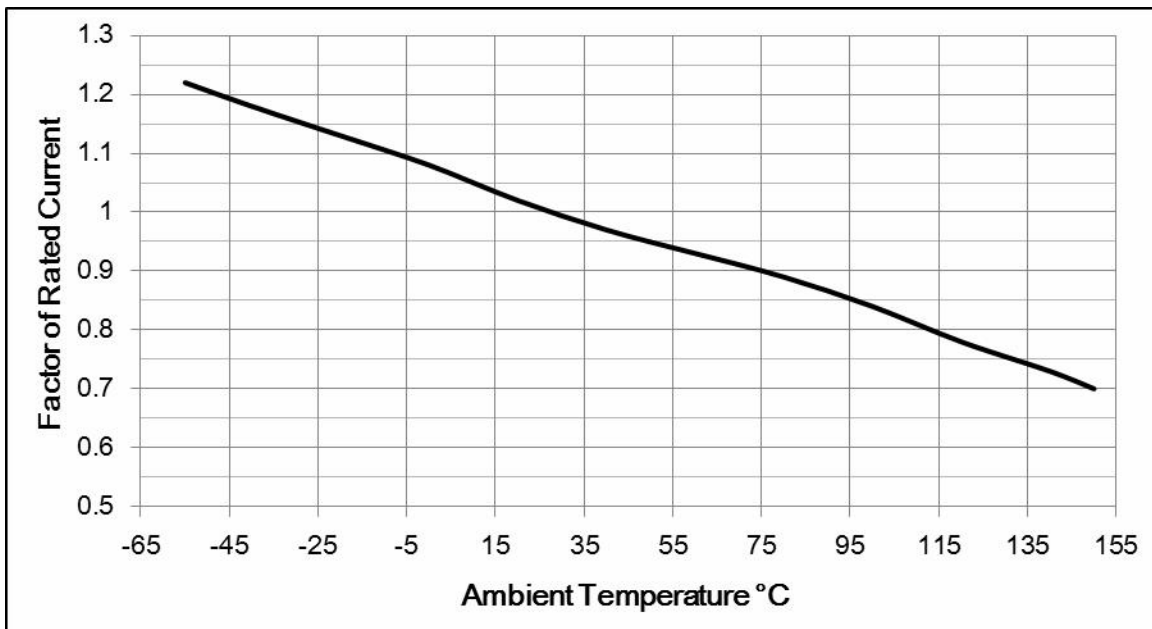
Profile Feature		Lead(Pb) free solder
Preheat and soak	• Temperature min.( $T_{smin}$ )	150°C
	• Temperature max. ( $T_{smax}$ )	200°C
	• Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ )	60 - 120 Seconds

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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