JKSEMI
SAFE·EXPERTISE·INNOVATION

Fast Acting SMD Fuses

12 113 Series

RoHS COMPLIANT Pb Pb-Free HALOGEN HF FREE

Description

12 113 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.

SMD-1206

Electrical Characteristics			
Rated Current	1.0In	2.5In	3.5In
250mA ~ 5A	4 hour min	5 sec Max	
6A ~ 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

Part No.	Rated Voltage		Rated Current	Breaking Capacity (A)[1]	Typical Cold. Resistance (mOhms) [2]	Typical Voltage Drop (mV)	Typical Pre-Arcing I^2t	Alpha Marking
	AC	DC	(A)	AC/DC			(A^2Sec) [3]	
12 113.0.25	125V	125V	250mA	50A	3608	1407	0.00012	0.25
12 113.0.375			375mA	50A	1882	718	0.0003	E
12 113.0.5			500mA	50A	1028	650	0.0005	0.5
12 113.0.75			750mA	50A	850	1000	0.009	0.75
12 113.1			1A	50A	240	300	0.0075	H
12 113.1.25			1.25	50A	175	290	0.009	
12 113.1.5			1.5A	50A	125	250	0.013	1.5
12 113.2	——		2A	50A	80	200	0.04	N
12 113.2.5			2.5A	50A	38	140	0.045	2.5
12 113.3			3A	50A	32	130	0.065	P
12 113.3.5		72V	3.5A	50A	25	120	0.08	3.5
12 113.4			4A	50A	20	110	0.11	S
12 113.5			5A	50A	13	100	0.185	T
12 113.6	——	72V 63V	6A	50A	15.5	140	8	F
12 113.7			7A	50A	11.5	130	10	7
12 113.8	——	48V 32V	8A	150A	7.6	123	12	V
12 113.10			10A	150A	5.5	110	18	U
12 113.12			12A	150A	5	85	11.5	12
12 113.15			15A	150A	3.4	78	16.5	15
12 113.20			20A	150A	2.2	80	40	Q

Specifications

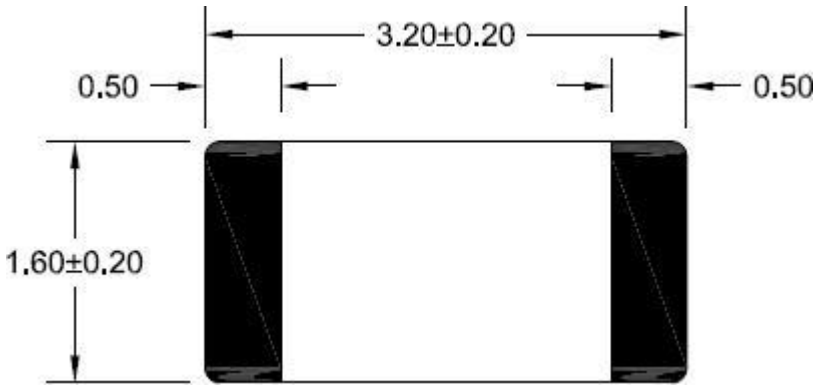
1、DC Interrupting Rating (Measured at rated voltage, time constant of less than 50 microseconds, battery source)
2、DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25℃
3、Typical Pre-arcing I^2t are measured at 10In Current

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

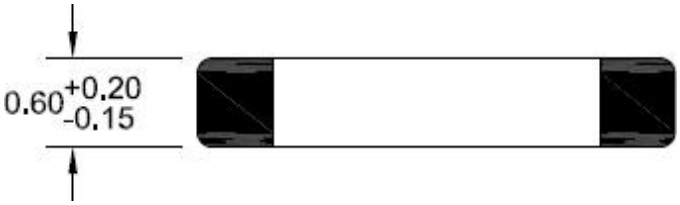
Dimension

Drawing not to scale (Unit: mm) SMD1206

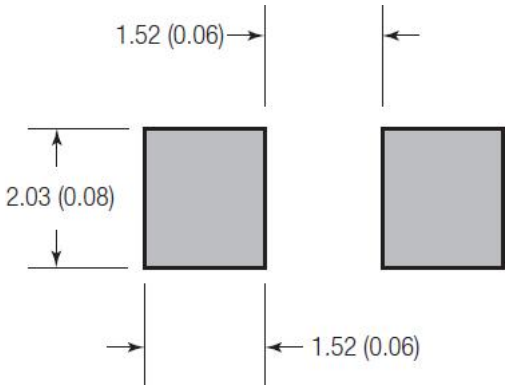
Top view

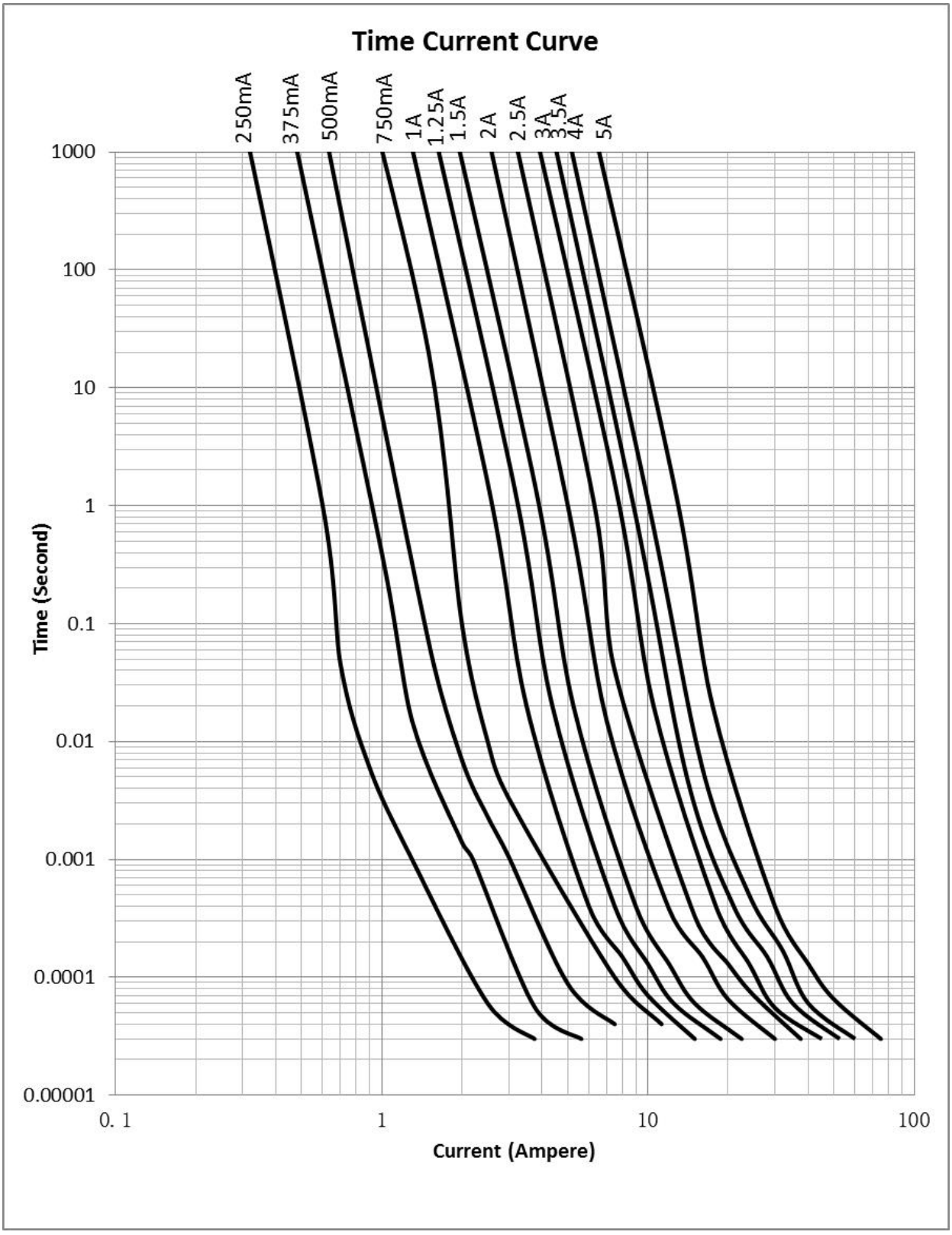


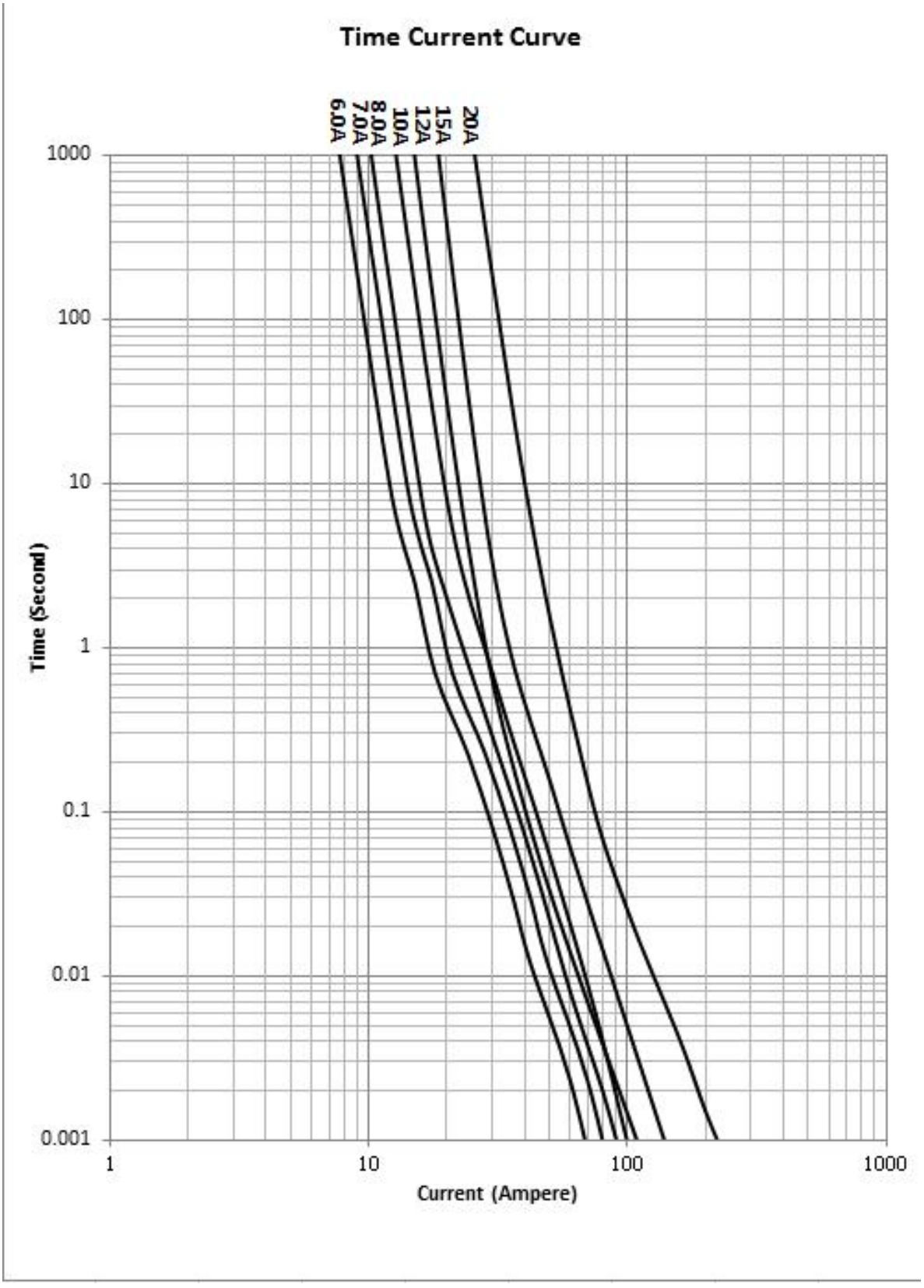
Side view:



Recommended land pattern
Unit: mm(inch)



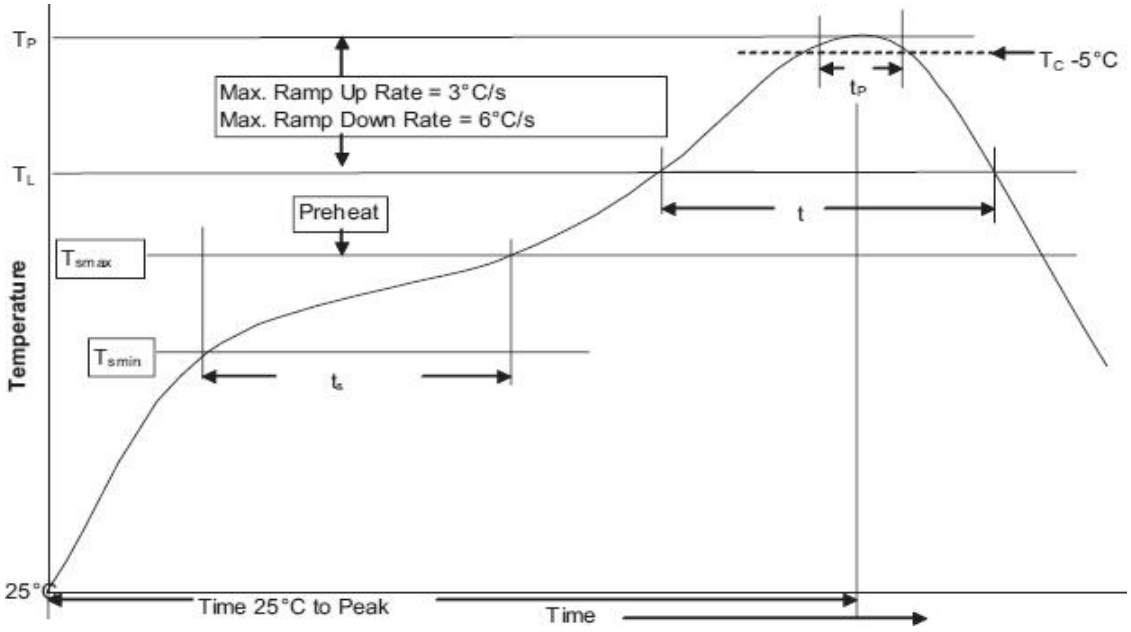

Time Current Curve
250mA
375mA
500mA
750mA
1A
1.25A
1.5A
2A
2.5A
3A
3.5A
4A
5A
1000
100
10
1
0.1
0.01
0.001
0.0001
0.00001
Time (Second)
0. 1
1
10
100
Current (Ampere)


Time Current Curve
6.0A
7.0A
8.0A
10A
12A
15A
20A
1000
100
10
1
0.1
0.01
0.001
Time (Second)
1
10
100
1000
Current (Ampere)

Soldering method

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

Solder reflow profile



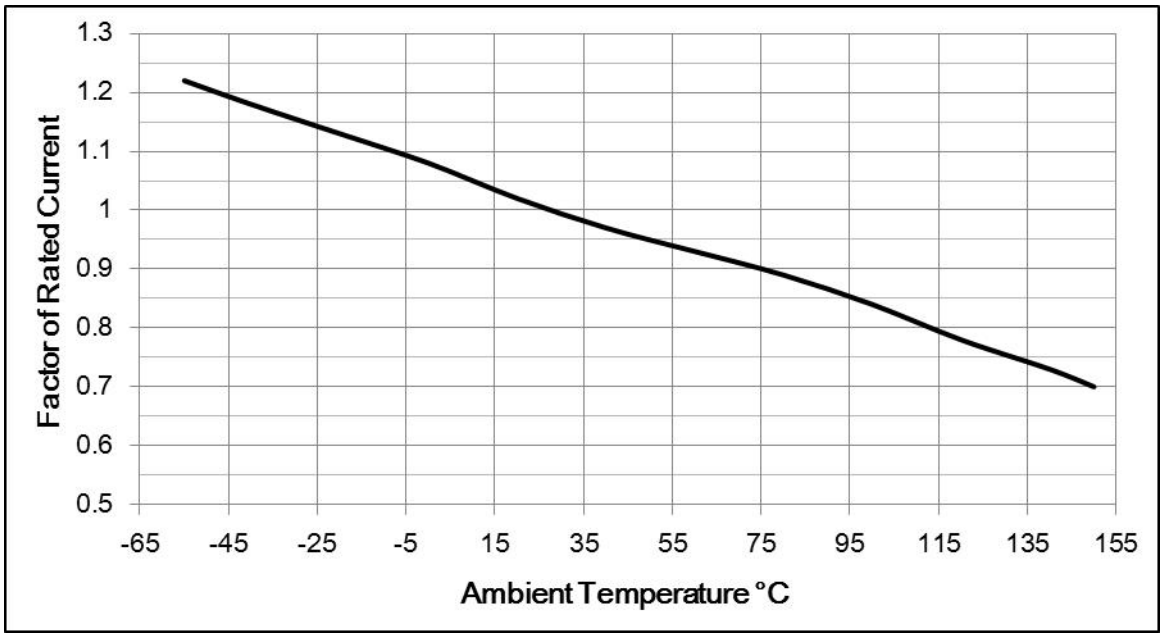
Profile Feature		Lead(Pb) free solder
Preheat and soak	• Temperature min.(T_{smin})	150℃
	• Temperature max. (T_{smax})	200℃
	• Time (T_{smin} to T_{smax}) (t_S)	60 - 120 Seconds
Average ramp up rate T_{smax} to T_p		3℃ / Second Max.

Liquidous temperature (T_L) Time at liquidous (t_L)	217℃ 60 - 150 Seconds
Peak package body temperature (T_P)	260℃
Time (t_P) within 5℃ of the specified classification temperature (T_C)	30 Seconds
Average ramp-down rate (T_P to T_{smax})	6℃ / Second Max.
Time (25℃ to Peak Temperature)	8 Minutes Max.

Temperature Derating Curve

Normal ambient temperature: 23+/-3℃

Operating temperature: -55 ~ 150℃, 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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