

1206 Fast Acting Line Voltage SMD Fuses

12 113 Series



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.



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
- Excellent environmental integrity
- One time positive disconnect
- Lead Free and Halogen free material

Specifications

Part No.	Rated		Rated Current (A)	Breaking Capacity (A) ¹	Typical Cold Resistance (mOhms) ²	Typical Voltage Drop (mV)	Typical Pre-Arcing I ² t (A ² Sec) ³	Alpha Marking
	Voltage							
	AC	DC						
12 113.0.25	125V	125V	250mA	50A	3608	1407	0.00012	.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	0.0012	.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	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	6A	50A	15.5	140	8	F
12 113.7		63V	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

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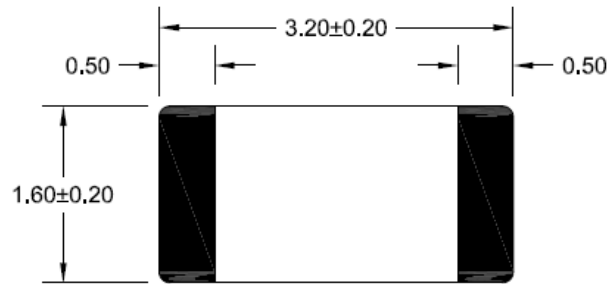
1. AC Interrupting Rating (measured at designated voltage, 100% power factor); DC Interrupting Rating (measured at designated voltage, time constant of less than 50 microseconds, battery source)
2. DC Cold Resistance are measured at <10% of rated current in ambient temperature of 25°C
3. Typical Pre-arcing I²t are measured at 10In Current

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

Dimension

Drawing not to scale (Unit: mm)

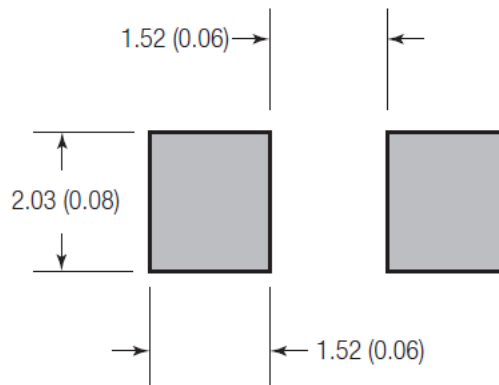
Top view



Side view



Recommended land pattern

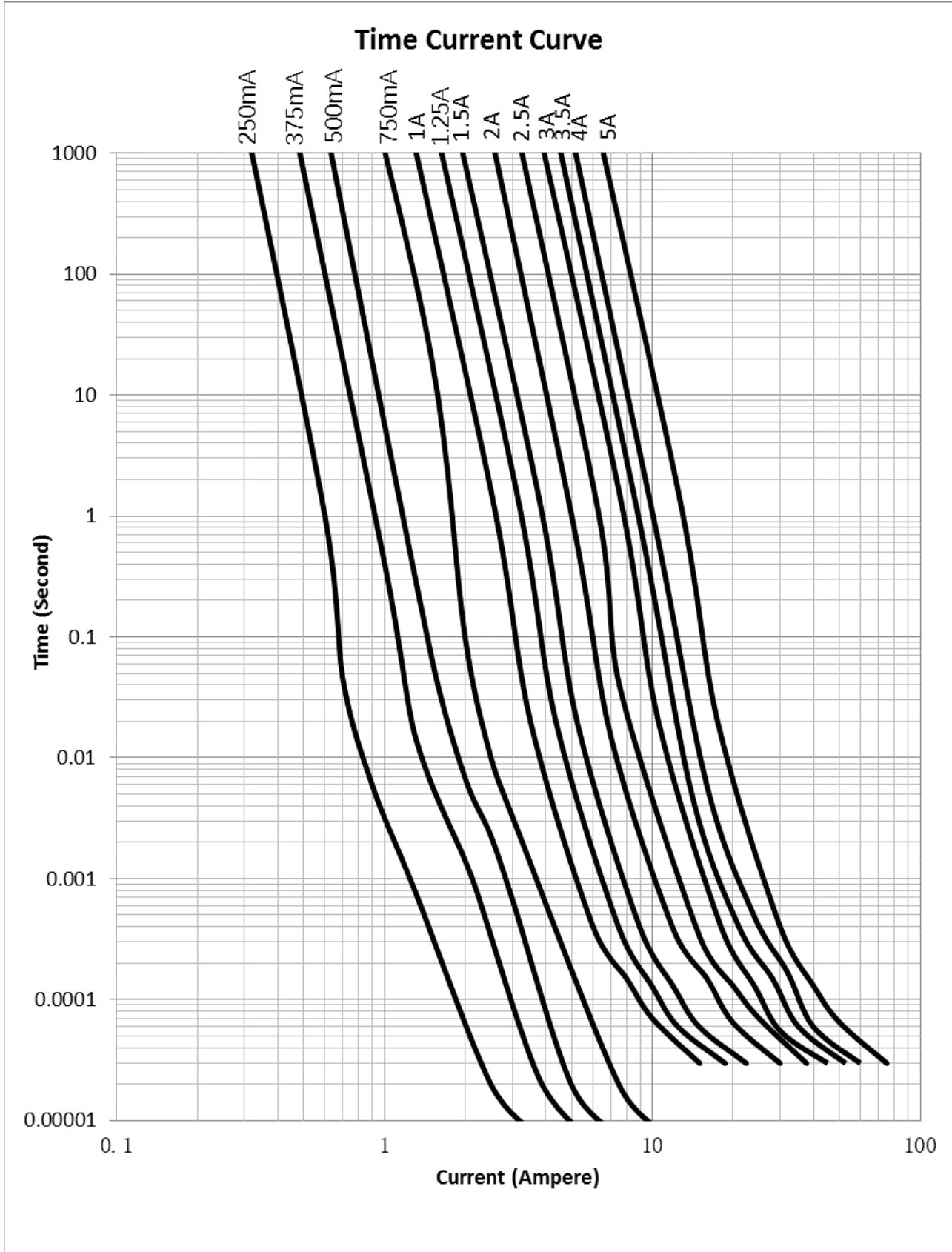


Unit: mm(inch)

Recommended stencil thickness is 0.15mm (6A-20A)

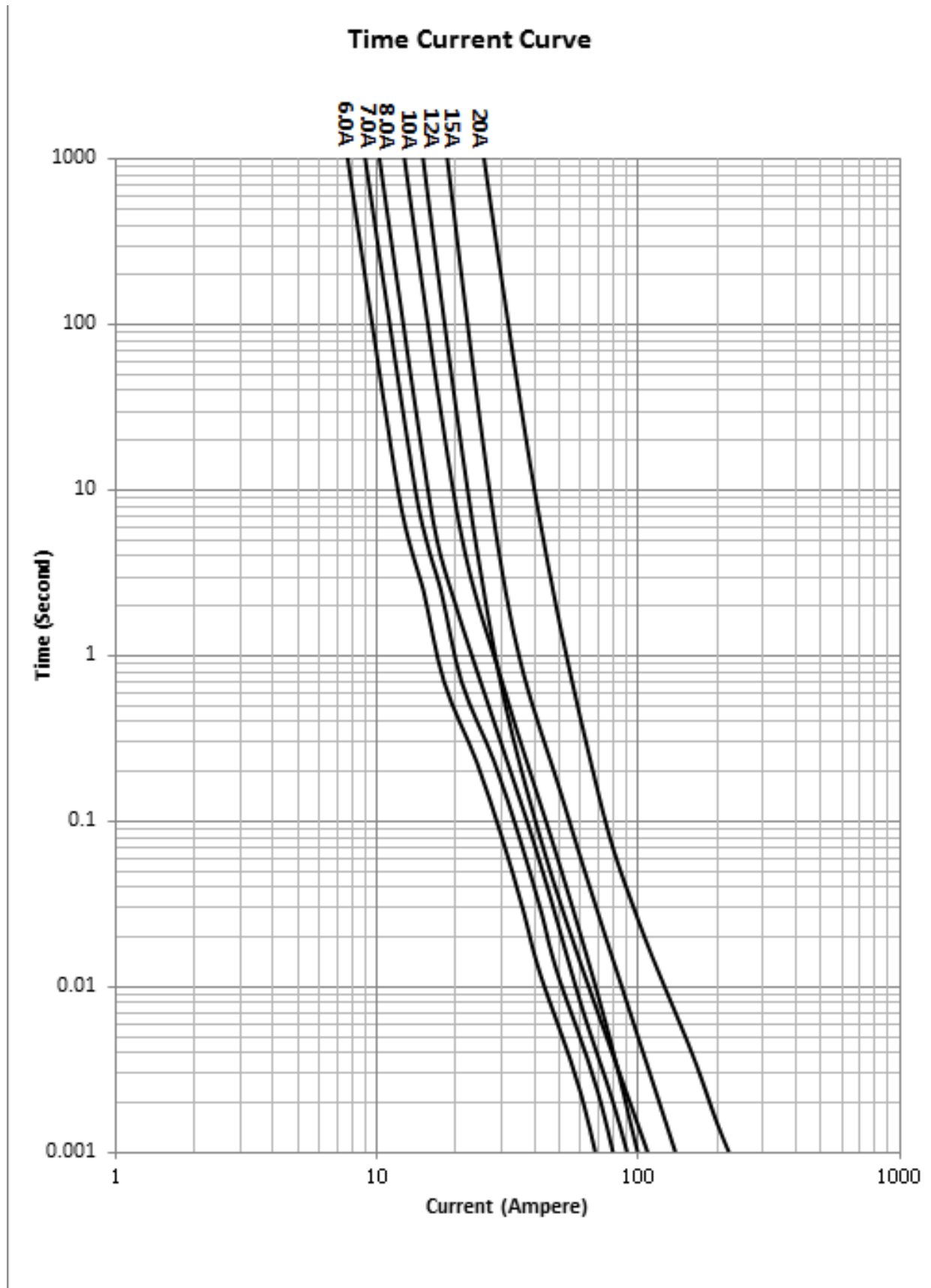
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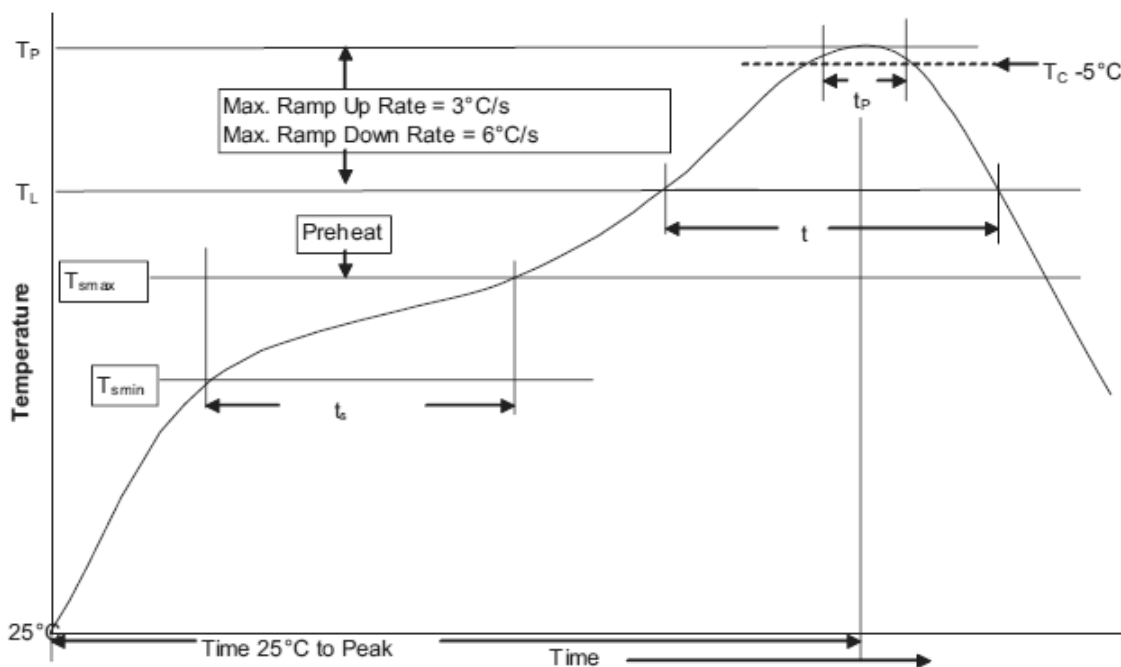
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Soldering method

- 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.

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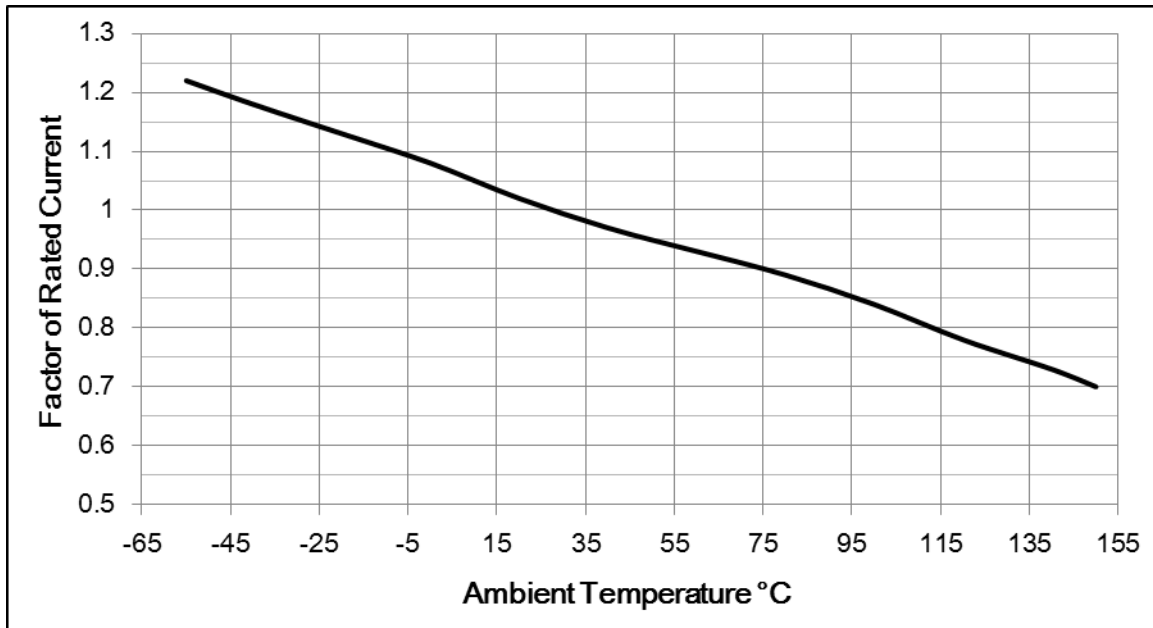
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Temperature Derating Curve

Normal ambient temperature: 23+/-3°C

Operating temperature: -55 ~ 150°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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