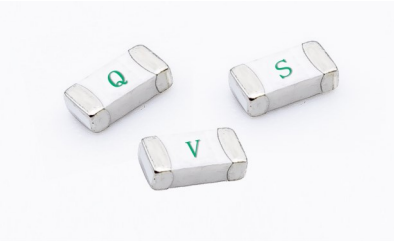
SolidMatrix® Surface Mount Fuses

F1206HD Series (High Voltage, 1206 Size)



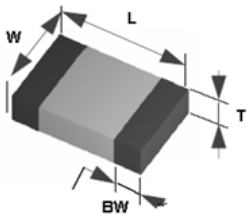
Features:

- Glass ceramic monolithic structure
- Silver fusing element and silver termination with nickel and tin-lead plating
- Lead free and RoHS compliant materials
- Symmetrical design with marking on one side
- Operating temperature range: -55°C to 150 °C (with de-rating)

Clearing Time Characteristics:

% of current rating	Clearing time at 25°C	
	Min.	Max.
100%	4 hours	-
350%	-	5 seconds

Shape and Dimensions:



Unit	Inch	mm
L	0.126 ± 0.008	3.20 ± 0.20
W	0.063 ± 0.008	1.60 ± 0.20
T	0.051± 0.008	1.20 ± 0.20
BW	0.02 ± 0.010	0.51 ± 0.25

Applications:

- Power tools
- DC-DC convert
- Display
- Server
- Battery pack
- Set top box

Ordering Information:

Part Number	Current Rating (A)	Max. Voltage Rating (V DC)	Interrupting Rating	Nominal Cold DCR (Ω)[1]	Nominal I^2t (A^2s)	Marking[3]
F1206HD10A0TM	10	63	150A@63VDC	0.0055	18	Q
F1206HD12A0TM	12			0.0045	22	X
F1206HD15A0TM	15			0.0032	28	Y
F1206HD20A0TM	20			0.0023	40	Z
F1206HD25A0TM	25	48	150A@48VDC	0.0016	80	S
F1206HD30A0TM	30			0.0013	160	V

1. Measured at ≤10% rated current and 25 °C ambient.
2. Melting I^2t at 1000% of current rating.
3. Green marking character code.

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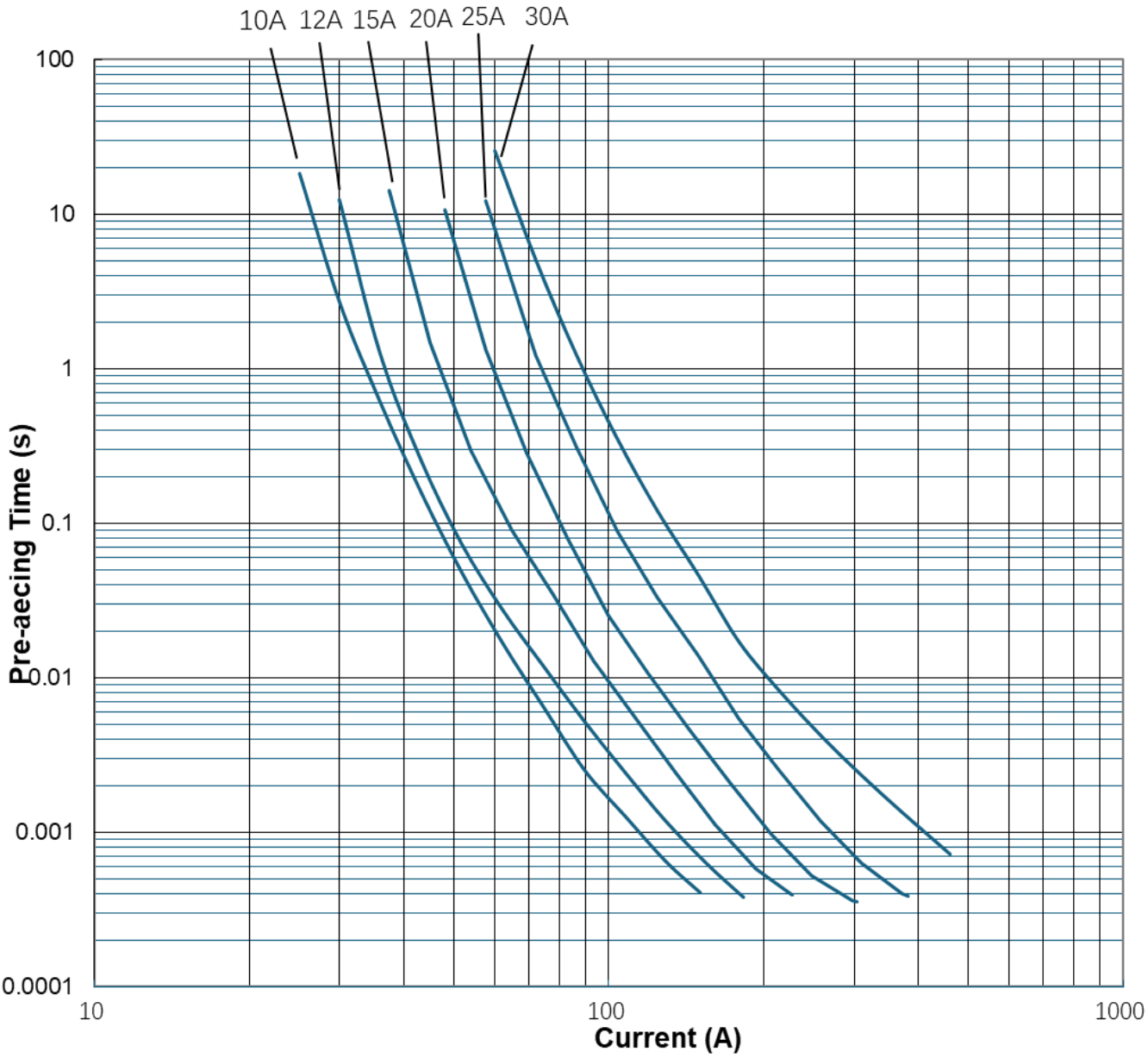
Average Pre-arcing Time Curves:



AEM Innovation to Power Your Vision

RoHS COMPLIANT HALOGEN FREE c UL us

AEM COMPONENTS

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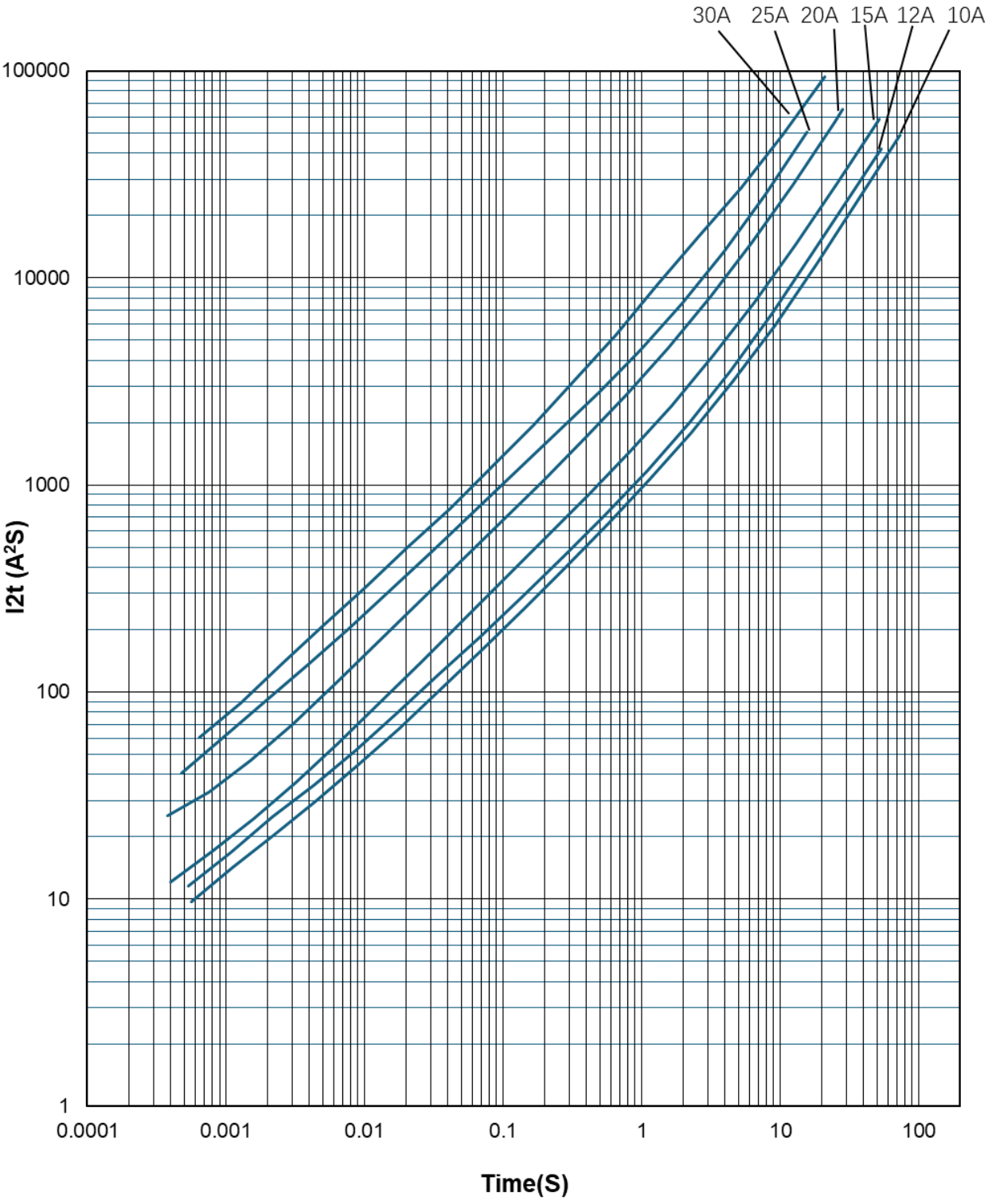
Average I^2t vs. t Curves:



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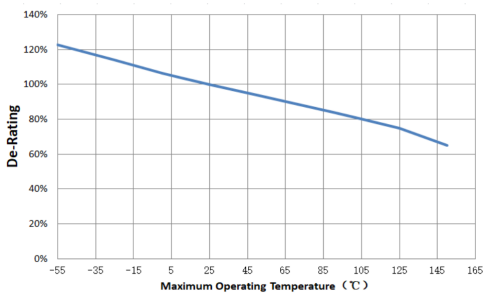
Temperature De-rating:

The ambient temperature affects the current carrying capacity of fuses. When a fuse is operating at a temperature higher than 25°C , the fuse shall be "de-rated" according to the de-rating curve.



Product Identification:

F 1206 HD 30A0 T M

(1) (2) (3) (4) (5) (6)

(1) Product code: F— Chip Fuse

(2) Dimension code: Standard EIA Chip Fuse, L x W (inch) The first two digits - L (length) The last two digits - W (width)

(3) Characteristic code: HD – High Voltage

(4) Current rating code: 30A0-30.0A

(5) Package code: T - Tape & Reel B - Bulk

(6) Marking Code: M-With Marking

Operating Temperature Range:

- -55°C ~+150°C (with de-rating)

Agency Approval:

- Recognized Under the Components Program of Underwriters Laboratories.
- Certification #: UL-E232989

Reliability Tests:

No.	Item	Condition	Criteria
1	Bend	2 mm bend	DCR change within ±10%(≤±20% for>1A), no mechanical damage
2	Solderability	93+/-3°C Steam ageing for 8 hours+/-15min, then one dip at 245±5°C for 5±0.5 sec	New solder coverage ≥95%
3	Soldering Heat Resistance	260°C, 60 seconds	DCR change within ±10%, new solder coverage 75% minimum, no mechanical damage
4	Terminal Strength	Gradually apply 1.8 kg force to the bottom of the part for 60 seconds	DCR change within ±10%, no mechanical damage
5	Life	80% rated current (75% for <1A), 2000 hours, ambient temperature +20°C to +30°C	Voltage drop change within ±10%
6	Thermal Shock	-65°C to +150°C, 100 cycles	DCR change within ±10%, no mechanical damage
7	Mechanical Vibration	5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak	DCR change within ±10%, no mechanical damage
8	Mechanical Shock	1500 G, 0.5 milliseconds, half-sine shocks	DCR change within ±10%, no mechanical damage
9	Salt Spray	5% salt solution, 48 hours exposure	DCR change within ±10%, no excessive corrosion
10	Moisture Resistance	10 cycles	DCR change within ±10%, no excessive corrosion

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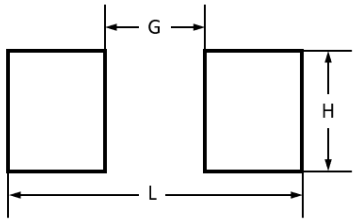
Recommended Land Pattern:

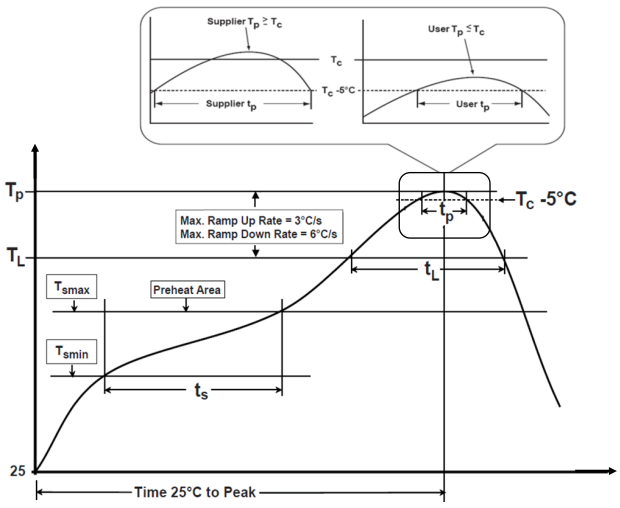
Chip Size	1206	Unit
L	0.173 (4.40)	Inch (mm)
G	0.059 (1.50)	Inch (mm)
H	0.071 (1.80)	Inch (mm)



Recommended Temperature Profile:

Profile Feature	Pb-Free Assembly
Preheat/Soak Temperature Min (T_{smin}) Temperature Max (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	 150°C 200°C 60~120 seconds
Ramp-uprate (T_L to T_p)	3°C/second max.
Liquidous temperature (T_L) Time (t_L) maintained above T_L	217°C 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 *
Ramp-down rate (T_p to T_L)	6°C/second max.
Time 25°C to peak temperature	8 minutes max.
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum	

* Recommended Temperature Profile for Reflow Soldering



Recommended conditions for hand soldering:

1. Appropriate temperature (max.) of soldering iron tip/soldering time (max.): 280°C /10 s or 350°C / 3 s
2. Using hot air rework station with tip that can melt the solder on both terminations at the same time is strongly recommended. Do not directly contact the chip termination with the tip of soldering iron.

Storage:

1. The maximum ambient temperature shall not exceed 35°C . Storage temperatures higher than 35°C could result in the deformation of packaging materials.
2. The maximum relative humidity recommended for storage is 75%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components.
3. The products shall not be stored in areas where harmful gases containing sulfur or chlorine are present.
4. MSL=1

Packaging:

Chip Size	Parts on 7 inch (178 mm) Reel
1206 (3216)	3,000

Disclaimer

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AEM Components (Suzhou) Co., Ltd

461 Zhongnan Street,
China-Singapore Suzhou Industrial Park
Jiangsu, P. R. China, 215026

Tel: 86-512-6258-0028
Fax: 86-512-6258-0018
Email: marketing@aemchina.com

AEM Components (USA), Inc.

6670 Cobra Way, San Diego, CA 92121, USA

Tel: 1-858-750-6100
Fax: 1-858-481-1123
Email: sales@aemcomponents.com