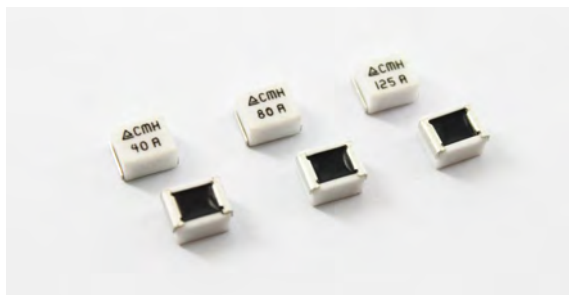


## High Power Surface Mount Fuse

### CM2822H Series



#### Features:

- High safety with ceramic body and special arc-extinguishing filler
- High interrupting current ratings for high power protection
- Single small case size for current rating from 20A to 125A
- High reliability for long time operation
- Automotive grade with AEC-Q200 qualification
- Halogen free, RoHS compliant and 100% lead-free

#### Clearing Time Characteristics:

% of Current Rating	Clearing Time at 25°C	
	Min.	Max.
100%	4 hours	
250%		60 seconds

#### Applications:

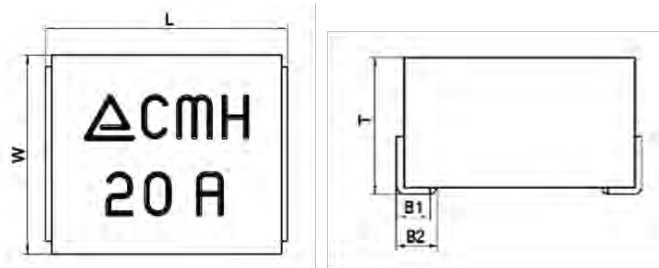
- Server Systems
- Routers and switches
- Telecom DC/DC Power
- Drones
- Power tools
- Battery and BMS

#### Agency Approval:

Recognized Under the Components Program of Underwriters Laboratories. File Number: E507943.

#### Shape and Dimensions:

Unit	Inch	mm
L	0.287 ± 0.012	7.3 ± 0.3
W	0.228 ± 0.008	5.8 ± 0.2
T	0.165 ± 0.008	4.2 ± 0.2
B1	0.051 ± 0.012	1.3 ± 0.3
B2	0.063 ± 0.012	1.6 ± 0.3



#### Ordering Information:

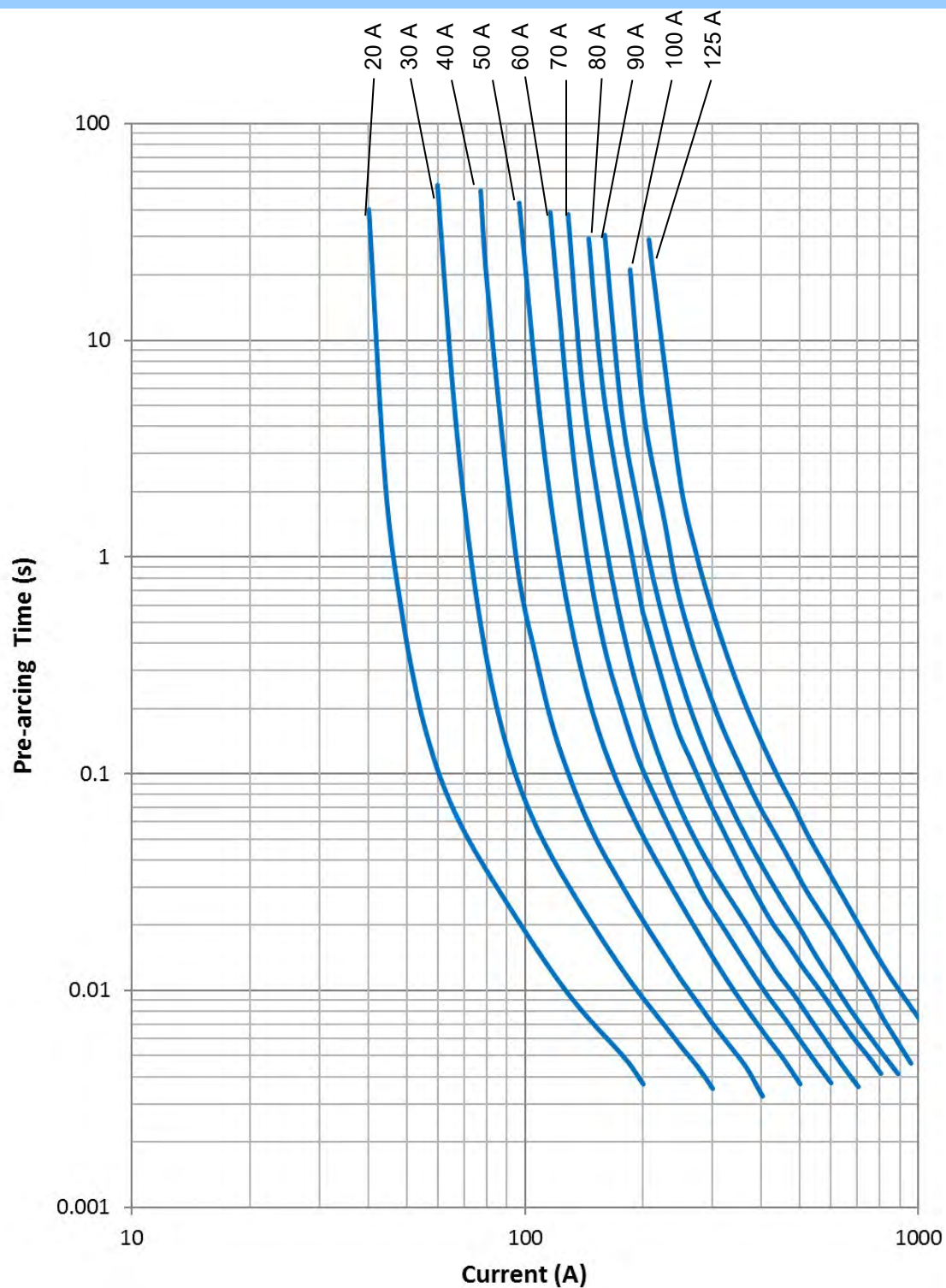
Part Number	Current Rating (A)	Voltage Rating (Vdc)	Interrupting Rating	Nominal DCR (mΩ) <sup>1</sup>	Nominal I <sup>2</sup> t (A <sup>2</sup> s) <sup>2</sup>	Marking <sup>4</sup>
CM2822H20A0T	20	125	300A @125Vdc 1,000A @ 75Vdc <sup>3</sup> 1,500A @ 48Vdc <sup>3</sup>	2.1	120	△CMH 20 A
CM2822H30A0T	30			1.35	270	△CMH 30 A
CM2822H40A0T	40			1.05	400	△CMH 40 A
CM2822H50A0T	50			0.85	600	△CMH 50 A
CM2822H60A0T	60	75	1,000A @ 75Vdc <sup>3</sup> 1,500A @ 48Vdc <sup>3</sup>	0.74	900	△CMH 60 A
CM2822H70A0T	70			0.61	1,400	△CMH 70 A
CM2822H80A0T	80			0.53	2,000	△CMH 80 A
CM2822H90A0T	90			0.48	2,400	△CMH 90 A
CM2822H100AT	100			0.44	3,600	△CMH 100 A
CM2822H125AT	125			0.38	6,000	△CMH 125 A

1. Measured at ≤10% rated current and 25 °C ambient
2. Melting I<sup>2</sup>t at 10X I<sub>n</sub>
3. Time constant of interrupting test less than 0.1ms
4. Black marketing character code or laser marking code

## High Power Surface Mount Fuse

### CM2822H Series

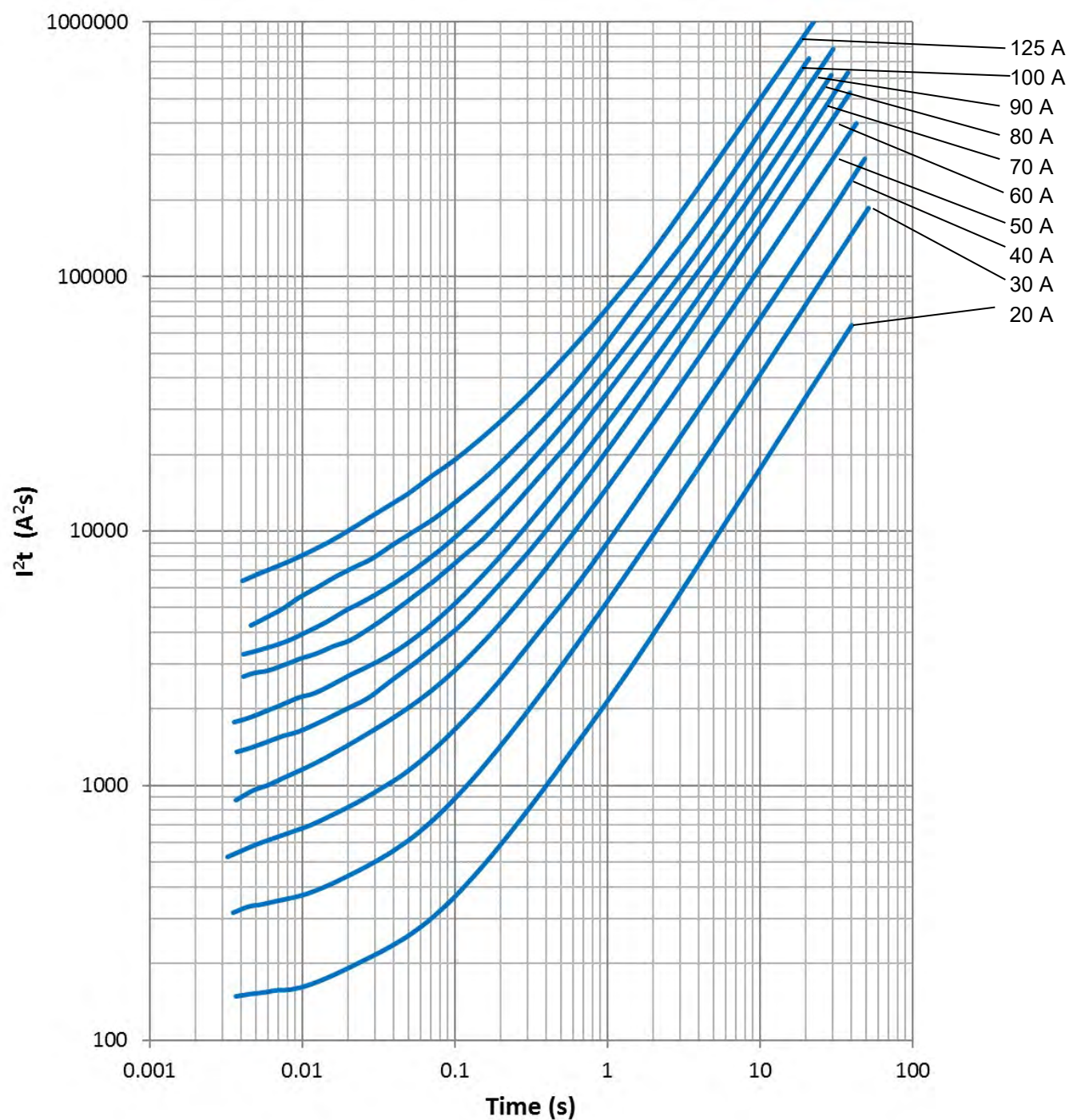
#### Clearing Time vs. Current Curves:



# High Power Surface Mount Fuse

CM2822H Series

## Average $I^2t$ vs. $t$ Curves:




## High Power Surface Mount Fuse

### CM2822H Series

#### Product Identification:

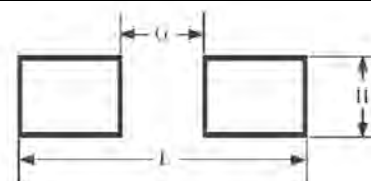
**CM 2822 H 20A0 T**

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

- (1) **Product Code:** CM-Commercial Molding Fuse
- (2) **Size code: L x W (inch):** the first two digits - L (length), the last two digits - W (width)
- (3) **Series code:** H
- (4) **Current rating code:** e.g. 20A0: 20.0A
- (5) **Package code:** T - Tape & Reel, B - Bulk
- Marking:** Top Line:  AEM Logo; **CMH:** CM2822H Series  
Bottom Line: Current Rating Code

#### Recommended Land Pattern:

Chip Size	2822 (7358)
L Inch (mm)	0.386 (9.8)
G Inch (mm)	0.173 (4.4)
H Inch (mm)	0.228 (5.8)



#### Reliability Tests:

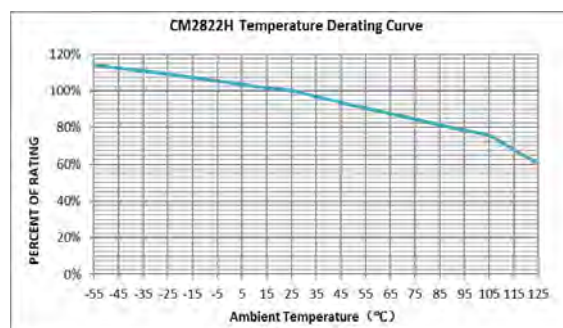
No.	Reliability Test	Test Condition and Requirement	Referenced International Standard
1	Bend	2 mm bend, DCR change within $\pm 20\%$ , no mechanical damage	IEC60068-2-21
2	Solderability	245°C for 5 seconds, new solder coverage $\geq 95\%$	MIL-STD-202 Method 208
3	Soldering Heat Resistance	260°C, 10 seconds, DCR change within $\pm 20\%$ , new solder coverage 75% minimum, no mechanical damage	MIL-STD-202 Method 210
4	Terminal Strength	Gradually apply 1.8 kg force to the bottom of the part for 60 seconds, DCR change within $\pm 20\%$ , no mechanical damage	AEC Q200-006
5	Life	80% rated current, 2000 hours, ambient temperature from +20°C to 30°C, voltage drop change within $\pm 20\%$	MIL-STD-202 Method 108
6	Thermal Shock	-65°C to +125°C, 100 cycles, DCR change within $\pm 20\%$ , no mechanical damage	MIL-STD-202 Method 107
7	Mechanical Vibration	5-3000Hz, 0.4 inch double amplitude or 30G peak, DCR change within $\pm 20\%$ , no mechanical damage	MIL-STD-202 Method 204
8	Mechanical Shock	1500 G, 0.5 milliseconds, half-sine shocks, DCR change within $\pm 20\%$ , no mechanical damage	MIL-STD-202 Method 213
9	Salt Spray	5% salt solution, 48 hour exposure, DCR change within $\pm 20\%$ , no excessive corrosion	MIL-STD-202 Method 101
10	Moisture Resistance	10 cycles, DCR change within $\pm 20\%$ , no excessive corrosion.	MIL-STD-202 Method 106

#### Fuse Selection and Temperature De-rating Guideline:

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.

#### Packaging:

Chip Size	Parts on 13 inch (330 mm) Reel
2822	1,000 pcs



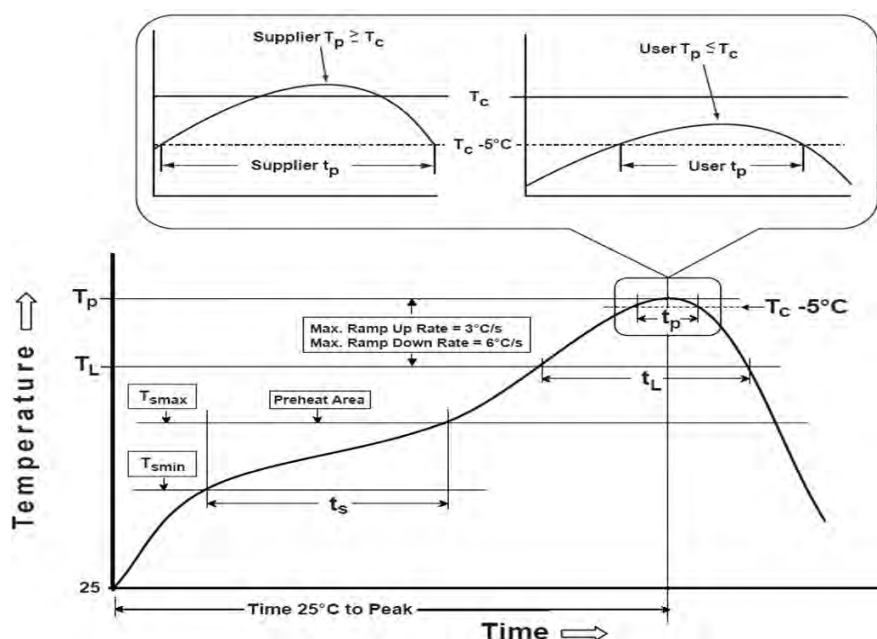


## High Power Surface Mount Fuse

### CM2822H Series

### Recommended Temperature Profile for Reflow Soldering:

Profile Feature	Pb-Free Assembly
<b>Preheat/Soak</b>	
Temperature Min ( $T_{smin}$ )	150°C
Temperature Max ( $T_{smax}$ )	200°C
Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	60~120 seconds
Ramp-up rate ( $T_L$ to $T_p$ )	3°C/second max.
Liquidous temperature ( $T_L$ )	217°C
Time( $t_L$ ) maintained above $T_L$	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 *
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 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

## Disclaimer

*Specifications are subject to change without notice. AEM products are designed for specific applications and should not be used for any purpose (including, without limitation, automotive, aerospace, medical, life-saving applications, or any other application which requires especially high reliability for the prevention of such defect as may directly cause damage to the third party's life, body or property) not expressly set forth in applicable AEM product documentation. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Warranties granted by AEM shall be deemed void for products used for any purpose not expressly set forth in applicable AEM product documentation. AEM shall not be liable for any claims or damages arising out of products used in applications not expressly intended by AEM as set forth in applicable AEM product documentation. The sale and use of AEM products is subject to AEM terms and conditions of sale. Please refer to AEM's website for updated catalog and terms and conditions of sale.*