



AEM Components (USA), Inc.; 6670 Cobra Way, San Diego, CA 92121, USA

Preliminary Data Sheet

8/10/2018

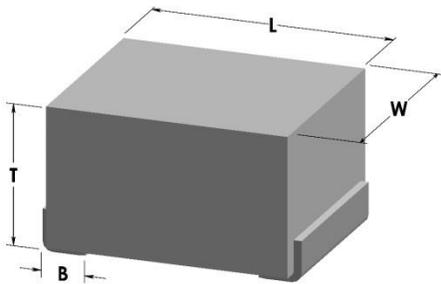
CM2822H Series Surface Mount Fuses

1. Features:

- Ceramic body with silicone base filler
- Tin plated copper fuse link and terminal
- Surface mount type and small size
- Operating temperature: -55°C to +125°C
- Halogen free, RoHS compliant and 100% lead-free



2. 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
B	0.063 ± 0.012	1.6 ± 0.3

3. Clearing Time Characteristics:

% of current rating	Clear time at 25°C
100%	1 hour min.
250%	1 minute max.

4. Electrical Specification:

Part Number	Current Rating (A)	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold DCR (mΩ) ¹	Nominal Voltage Drop (mV)	Nominal I ² t (A ² s) ²
CM2822H20A0T	20	125	300A@125VDC 1000A@75VDC 1500A@60VDC	1.66	38	180
CM2822H30A0T	30	125		1.06	42	380
CM2822H40A0T	40	125		0.78	36	560
CM2822H50A0T	50	125		0.61	35	750
CM2822H60A0T	60	125	250A@125VDC 1000A@75VDC 1500A@60VDC	0.56	38	900
CM2822H70A0T	70	125		0.50	55	1800
CM2822H80A0T	80	125		0.47	53	2000
CM2822H90A0T	90	125		0.45	55	2600
CM2822H100AT	100	125		0.41	53	5800

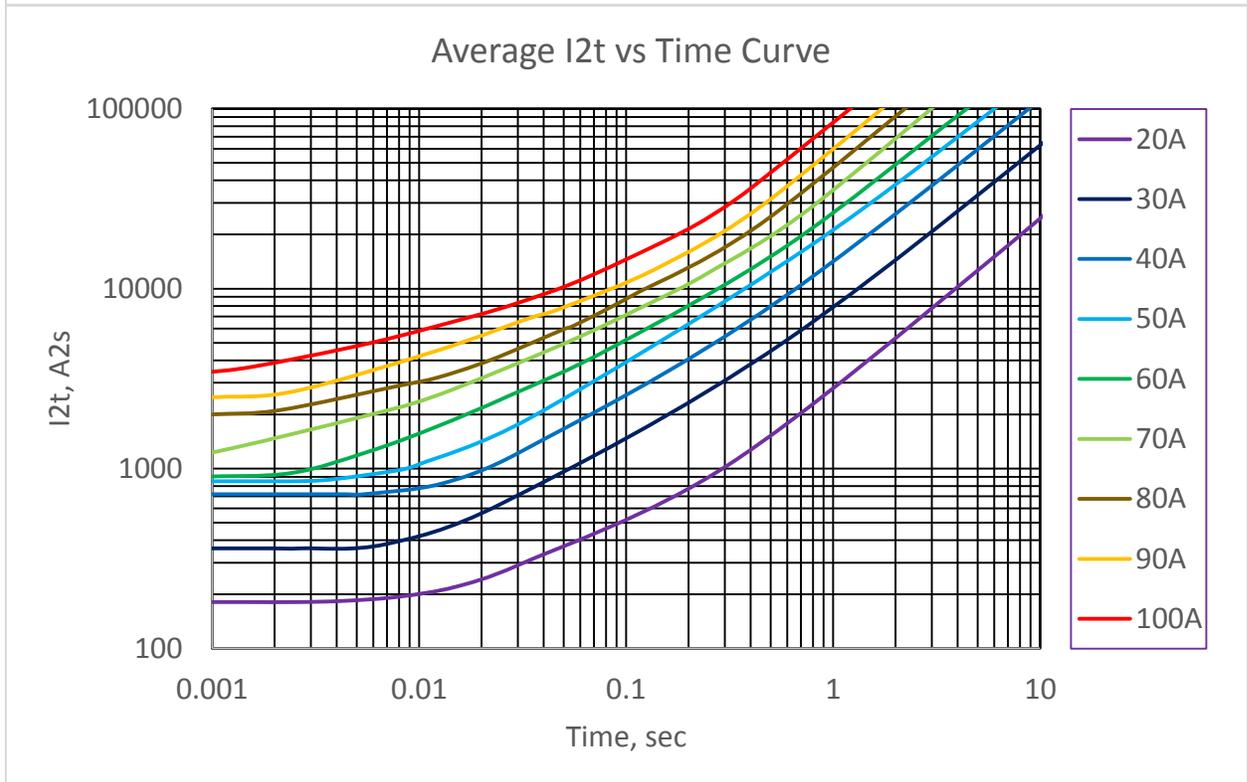
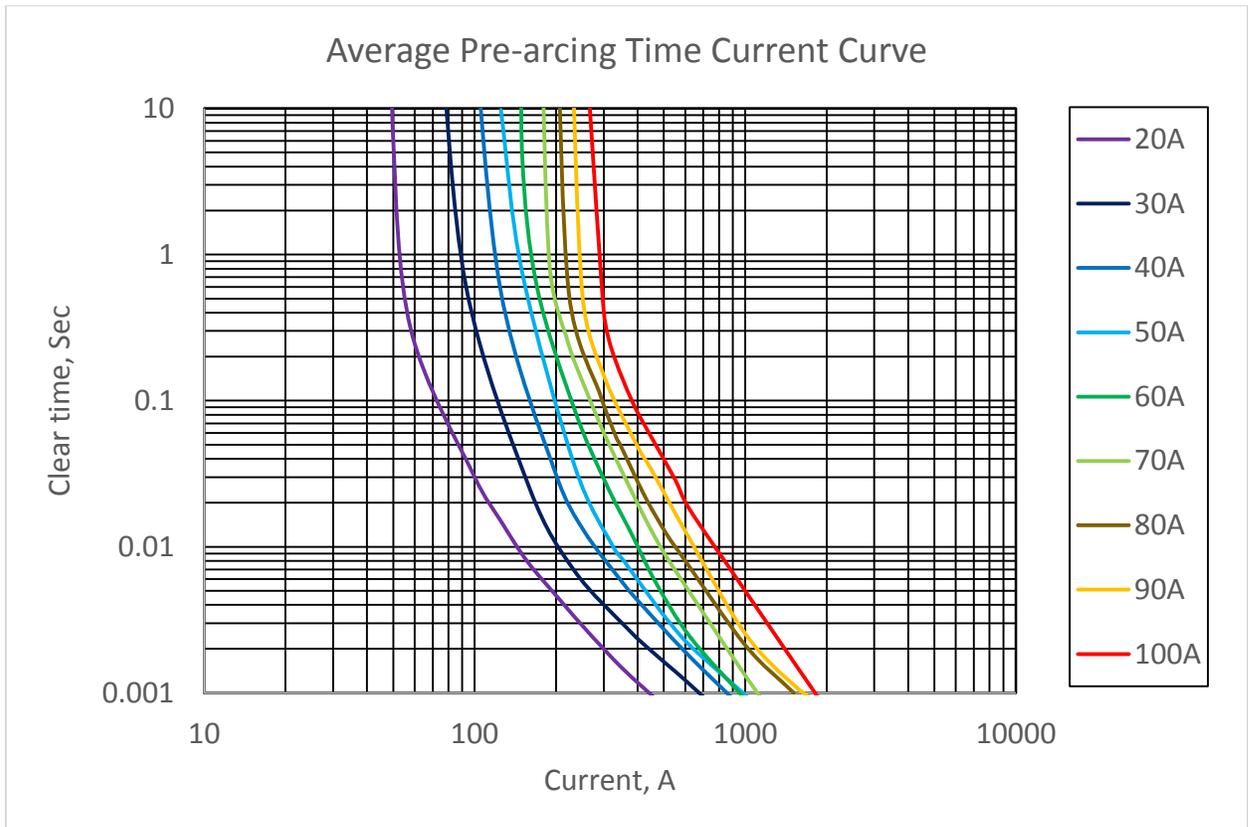
1. Measured at ≤10% rated current and 25°C ambient

2. Melting I²t at 10X In

Specifications are subject to change without notice. The users are recommended to evaluate the products for their own applications.



AEM Components (USA), Inc.; 6670 Cobra Way, San Diego, CA 92121, USA



Specifications are subject to change without notice. The users are recommended to evaluate the products for their own applications.



AEM Components (USA), Inc.; 6670 Cobra Way, San Diego, CA 92121, USA

5. Agency Approval:

UL recognition in pending

6. Patents:

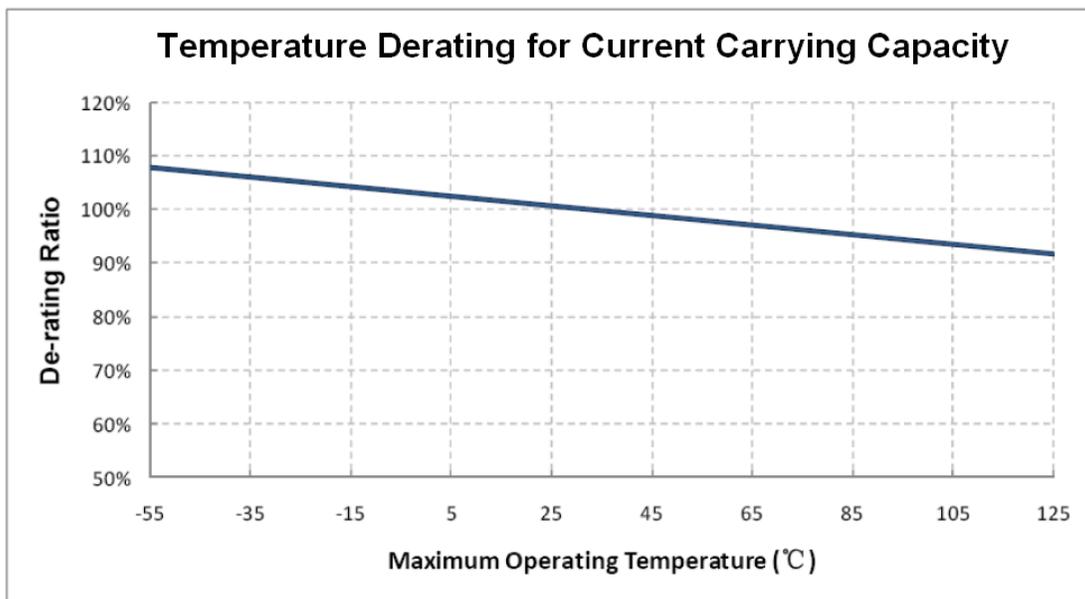
In pending

7. Thermal Specification

Current Rating (A)	Typical Temperature Rise (°C)*	
	75% I _n	100% I _n
20	5	10
30	8	15
40	11	22
50	14	27
60	16	32
70	24	40
80	28	50
90	32	68
100	37	80

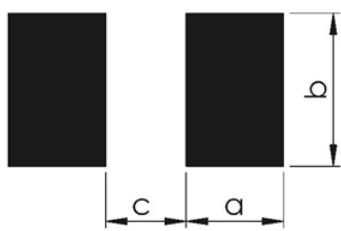
* Typical values based on tests conducted with fuses mounted on test boards with 500µm thickness and 10mm (20A-50A) or 20mm (60A-100A) copper pads.

8. Temperature De-rating Guideline:



Specifications are subject to change without notice. The users are recommended to evaluate the products for their own applications.

9. Recommended Pad Dimensions:

	Dimension (mm)	
a	2.7	
b	5.8	
c	4.4	

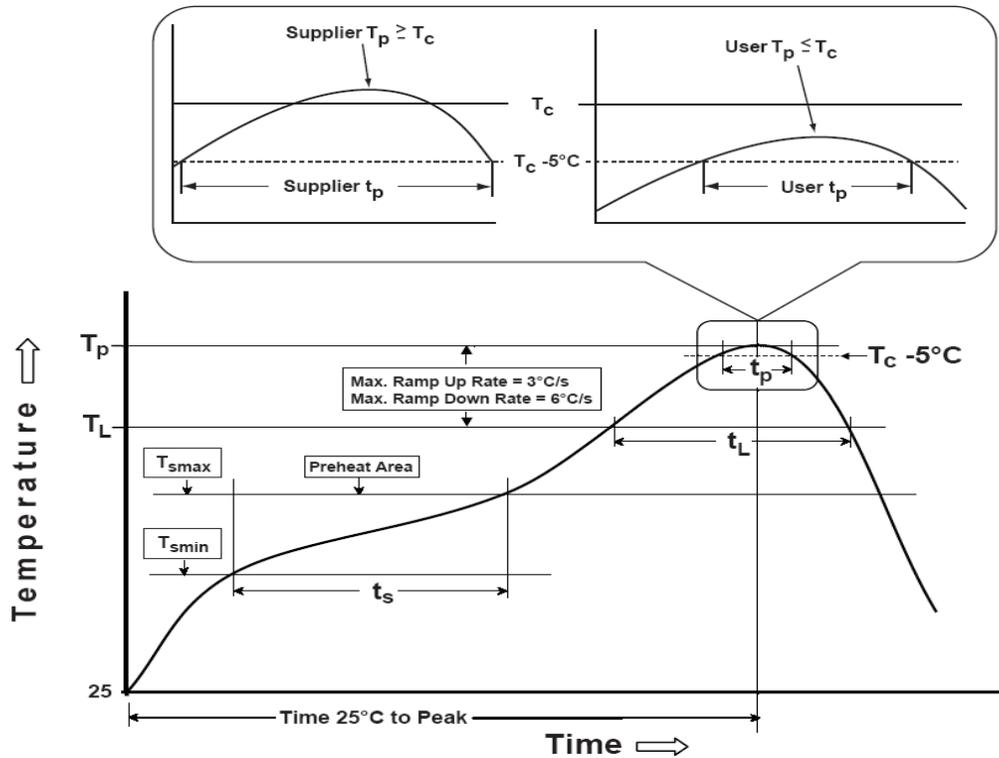
10. Standard Test Boards:

Current Ratings (A)	Copper Thickness (µm)	Trace Widths (mm)	Gap Between Pads (mm)	FR4 Thickness (mm)
20A – 50A	500	10	4.4	1.6
60A – 100A	500	20	4.4	1.6

11. Recommended Temperature Profile for Reflow Soldering:

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-up rate (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), see Figure 5-1.	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.	

Specifications are subject to change without notice. The users are recommended to evaluate the products for their own applications.



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.

12. Reliability Tests:

Reliability Test	Test Condition and Requirement
Reflow & Bend	3 reflows at 245°C followed by a 2 mm bend, 20% DCR change max., no mechanical damage.
Solderability	245°C, 5 seconds, new solder coverage ≥90%
Soldering Heat Resistance	260°C, 10 seconds, 20% DCR change max, new solder coverage 75% minimum



AEM Components (USA), Inc.; 6670 Cobra Way, San Diego, CA 92121, USA

Life	25°C, 2000 hours, 80% rated current, voltage drop change $\leq \pm 10\%$
Thermal Shock	-55°C to +125°C, 100 cycles, 10% DCR change max., no mechanical damage
Mechanical Vibration	5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak, 10% DCR change max., no mechanical damage
Mechanical Shock	1500 G, 0.5 milliseconds, half-sine shocks, 10% DCR change max., no mechanical damage
Salt Spray	5% salt solution, 48 hour exposure, 10% DCR change max., no excessive corrosion
Moisture Resistance	10 cycles, 10% DCR change max., no excessive corrosion