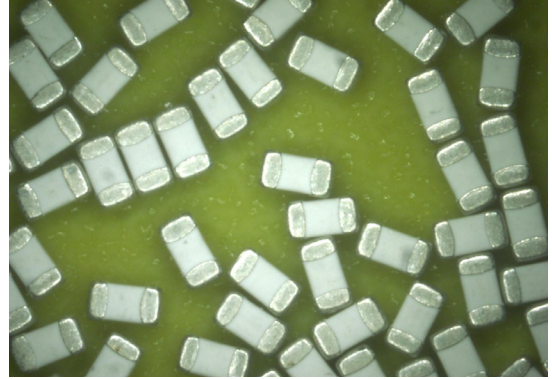


# SolidMatrix® CB 0603 Series SMD Fuse



## Features:

- Multilayer monolithic structure with glass ceramic body and silver fusing element
- Silver termination with nickel and pure-tin solder plating, providing excellent solderability
- Standard EIA0603/EIAJ1608 size
- Compatible with both wave and reflow soldering processes
- Operating temperature range: -55°C to +125°C (with de-rating)
- RoHS compliant



## Clear-Time Characteristics (Fast Acting):

% of current rating	Clear-time at 25 °C
100%	4 hours min.
250%	15 seconds max.
800%	0.02 - 5ms

**Agency Approval:** Recognized Under the Components Program of Underwriters Laboratories. File Number: E232989.

**Patents:** U.S. Patent numbers 6,034,589; 6,228,230; 6,602,766; 7,268,661 B2; and other pending patents

## Interrupting Ratings:

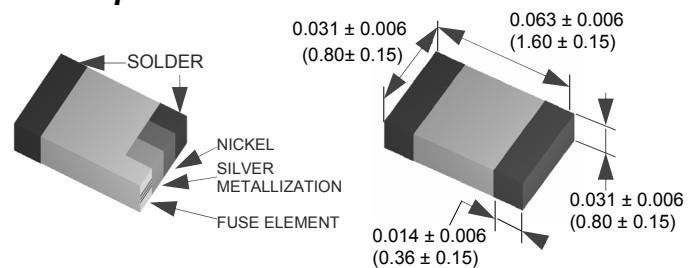
0.5~5.0A 40A at rated voltage  
6A 50A at rated voltage

## Ordering Information:

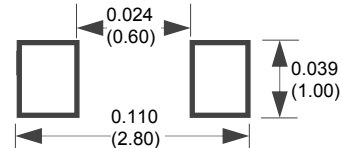
AEM Part Number	Current Rating (A)	Voltage Rating (VDC)	Nominal Cold DCR ( $\Omega$ ) <sup>1</sup>
CB0603-0500T	0.5	32	0.478
CB0603-0750T	0.75	32	0.258
CB0603-1000T	1.0	32	0.141
CB0603-1500T	1.5	32	0.064
CB0603-2000T	2.0	32	0.045
CB0603-2500T	2.5	32	0.031
CB0603-3000T	3.0	32	0.024
CB0603-3500T	3.5	32	0.023
CB0603-4000T	4.0	32	0.018
CB0603-5000T	5.0	32	0.013
CB0603-6000T	6.0	24	0.010

1. Measured at  $\leq 10\%$  rated current and 25°C ambient .

## Shape and Dimensions:



## Recommended Land Pattern:

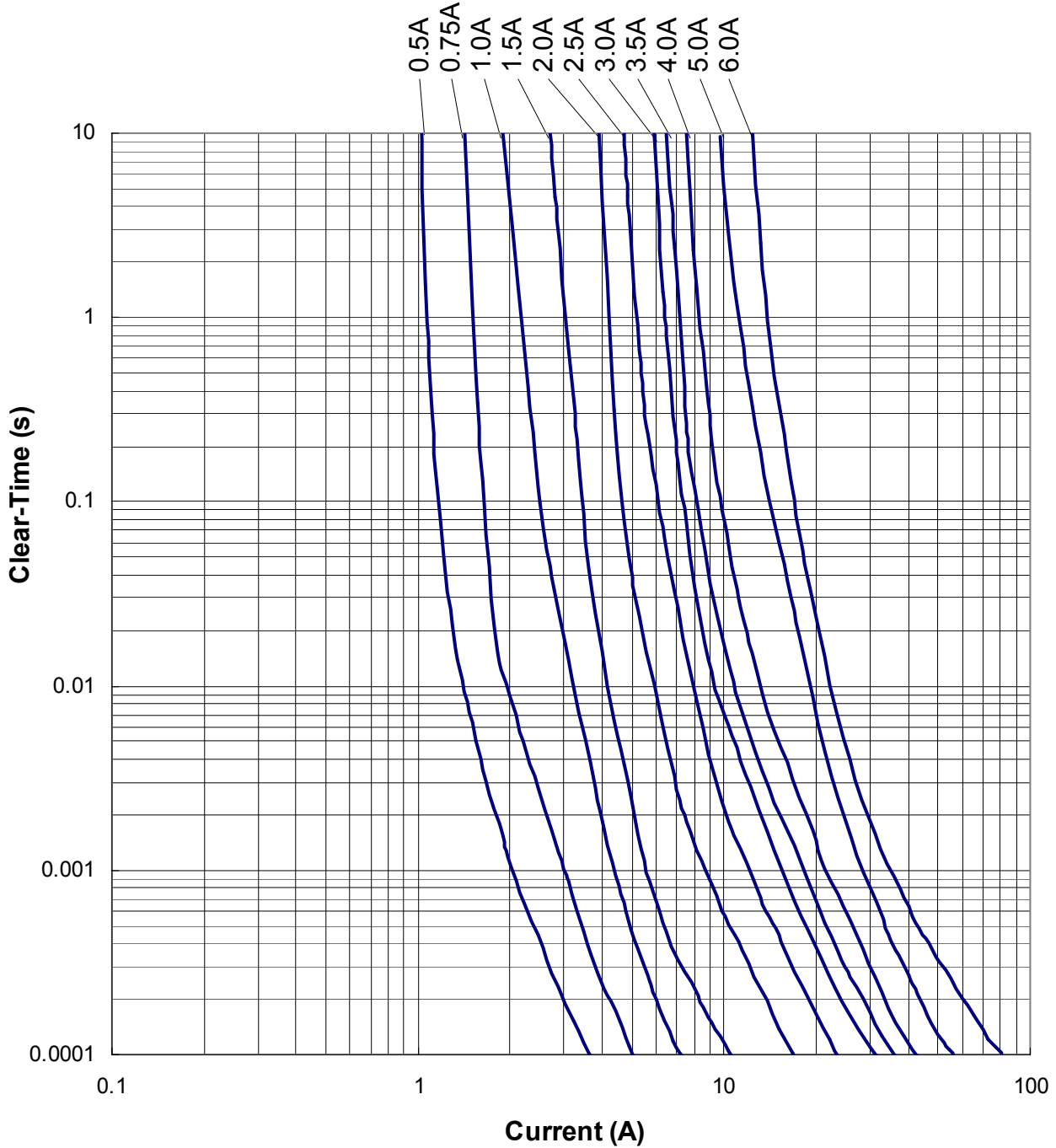


Inch(mm)

# SolidMatrix<sup>®</sup> CB 0603 Series SMD Fuse



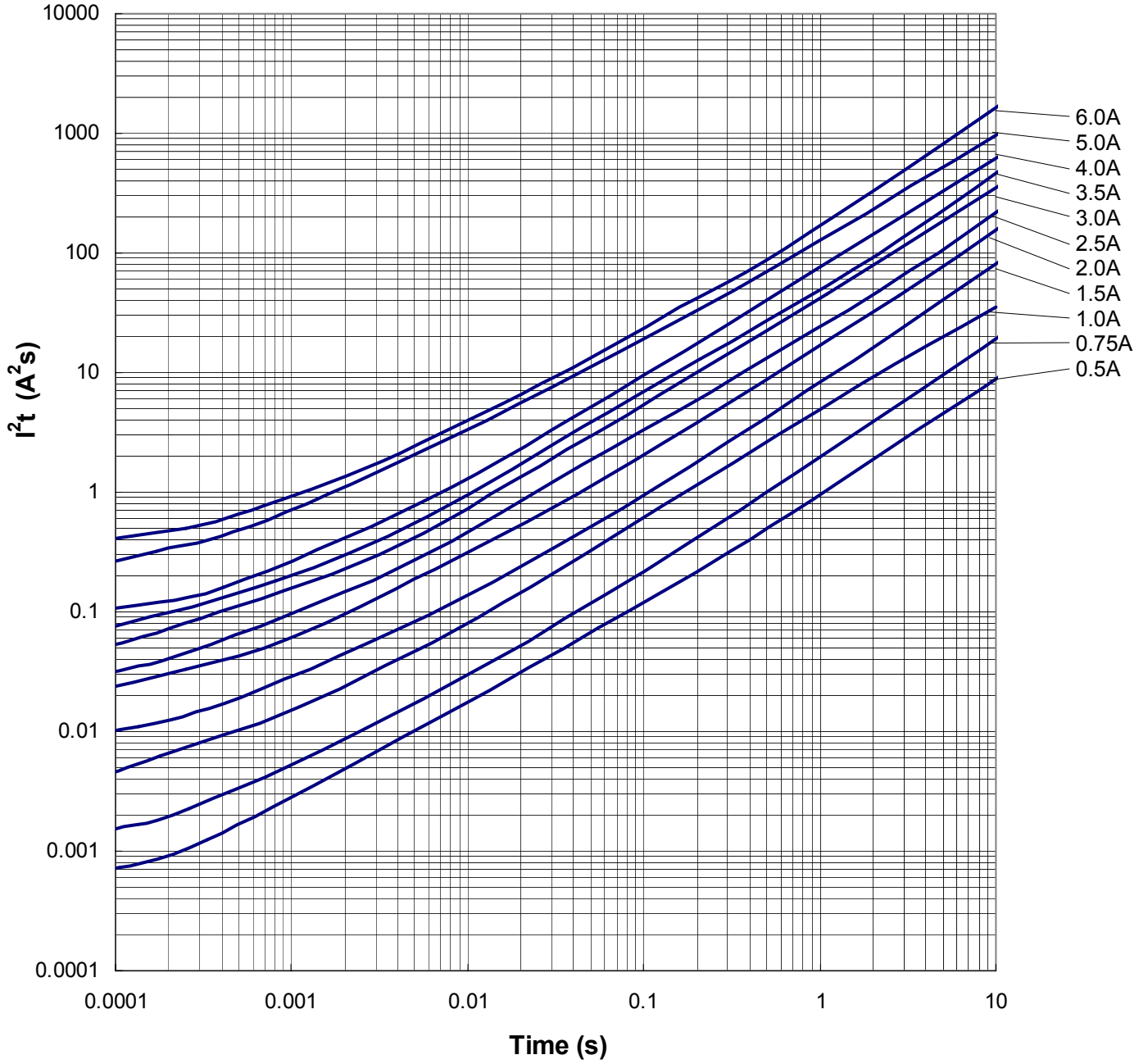
## Average Clear-Time Curves



# SolidMatrix® CB 0603 Series SMD Fuse



Average  $I^2t$  vs. t



# SolidMatrix® CB 0603 Series SMD Fuse

## Product Identification:

**CB 0603 - 1000 T**

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

- (1) **Series code:** CB
- (2) **Size code:** Standard EIA Chip Size
- (3) **Current rating code:** 1000 — 1000 mA
- (4) **Package code:** T — Tape & Reel, B — Bulk

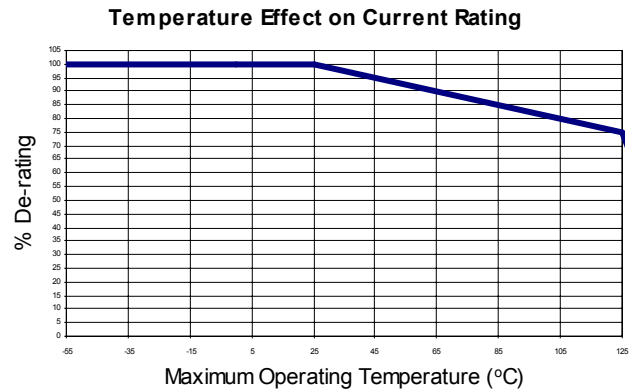
## Fuse Selection and Temperature De-rating Guideline:

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”.

To select a fuse from the catalog, the following rule may be followed:

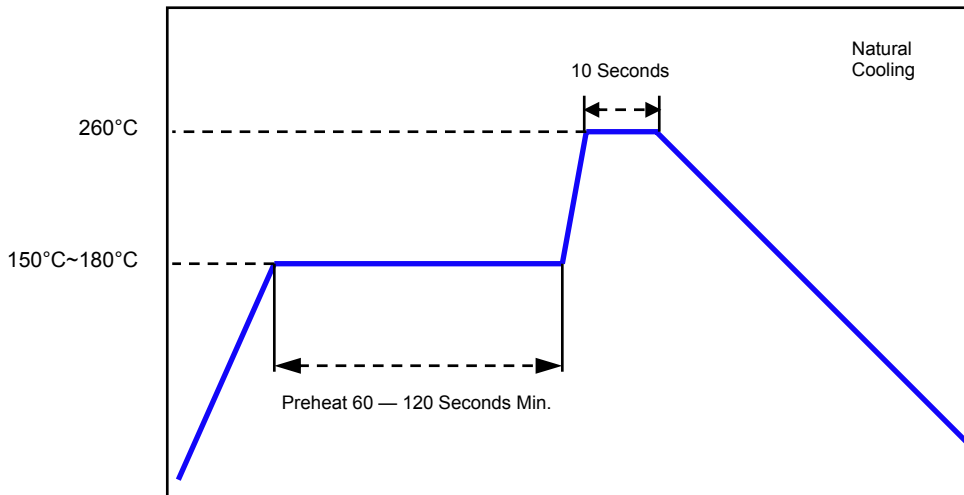
Catalog Fuse Current Rating = Nominal Operating Current / 0.75 / % De-rating at the maximum operating temperature.

Example: At maximum operating temperature of 65°C, % De-rating is 90%. The nominal operating current is 1A. The current rating for fuse selected from the catalog shall be:  
 $1 / 0.75 / 90\% = 1.5A$ .



## Soldering Temperature Profiles

### Recommended Temperature Profile for Lead-free Solder



Recommended conditions for hand soldering:

1. Appropriate temperature (max.) of soldering iron tip/soldering time (max.): 280°C / 10s or 350°C / 3s
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.

# SolidMatrix® CB 0603 Series SMD Fuse



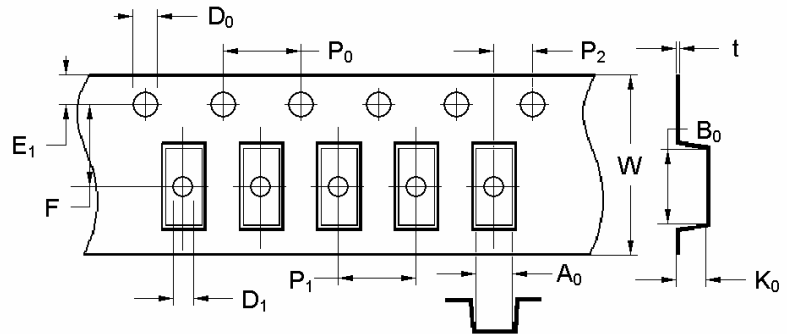
## Packaging and Storage

### Packaging

AEM's multilayer components are provided on tape-and-reel for use in pick-and-place machines or in bulk for special applications. Both tape-and-reel and bulk products are sealed in plastic bags with desiccant. The reel size can be 7 inches or 13 inches, depending on customers' preference.

### Dimensions of Tape in Inches (mm)

Size	Ao	Bo	Ko	Type
0603 (1608)	0.039 ± 0.004 (0.98 ± 0.10)	0.071 ± 0.004 (1.80 ± 0.10)	0.037 ± 0.003 (0.95 ± 0.08)	Paper



### Packaging Data

Chip Size	Parts on 7 inch (178 mm) Reel
0603(1608)	4,000

### Storage

The maximum ambient temperature shall not exceed 40°C. Storage temperatures higher than 40°C could result in the deformation of packaging materials. The maximum relative humidity recommended for storage is 70%. High humidity with high temperature can accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components. Sealed plastic bags with desiccant shall be used to reduce the oxidation of the termination and should only be opened prior to use. The products should not be stored in areas where harmful gases containing sulfur or chlorine are present.

Specifications and descriptions in this literature are as accurate as known at the time of printing, but are subject to change without notice. For the most updated information, please consult the factory.

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