

# AirMatrix™ 1206 Fast Acting Surface Mount Fuses

## Features:

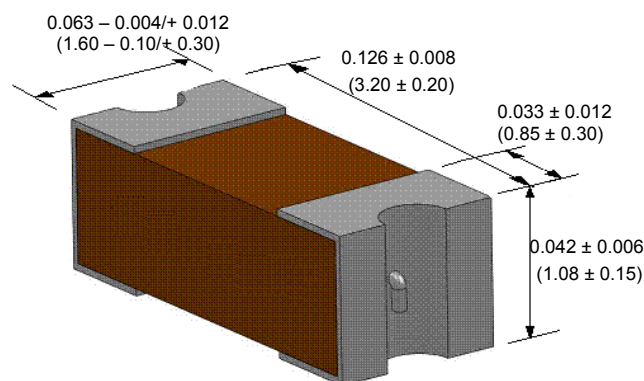
- Fast acting at 250% overload current level
- Excellent inrush current withstanding capability
- Extremely thin body for space saving
- Much safer with wire-in-air design
- Operating temperature range: -55°C to +125 °C (with de-rating)
- Fiberglass enforced epoxy fuse body
- Copper termination with nickel and tin plating
- Halogen free, RoHS compliant
- 100% lead-free



## Agency Approval:

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

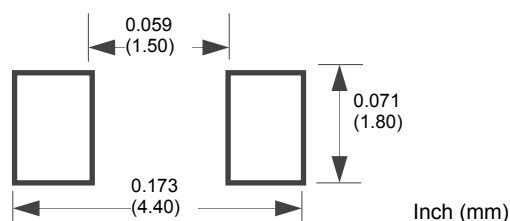
## Shape and Dimensions:



## Time/Current Characteristics:

| % of Current Rating | Clearing Time at 25°C |           |
|---------------------|-----------------------|-----------|
|                     | Min.                  | Max.      |
| 100%                | 4 hour                |           |
| 250%                |                       | 5 seconds |

## Recommended Land Pattern:



## Typical Application:

- Notebook, Ultrabook
- Backlight Driver
- DC/DC Converter
- Low voltage lighting power
- Automotive electronics

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## Ordering Information:

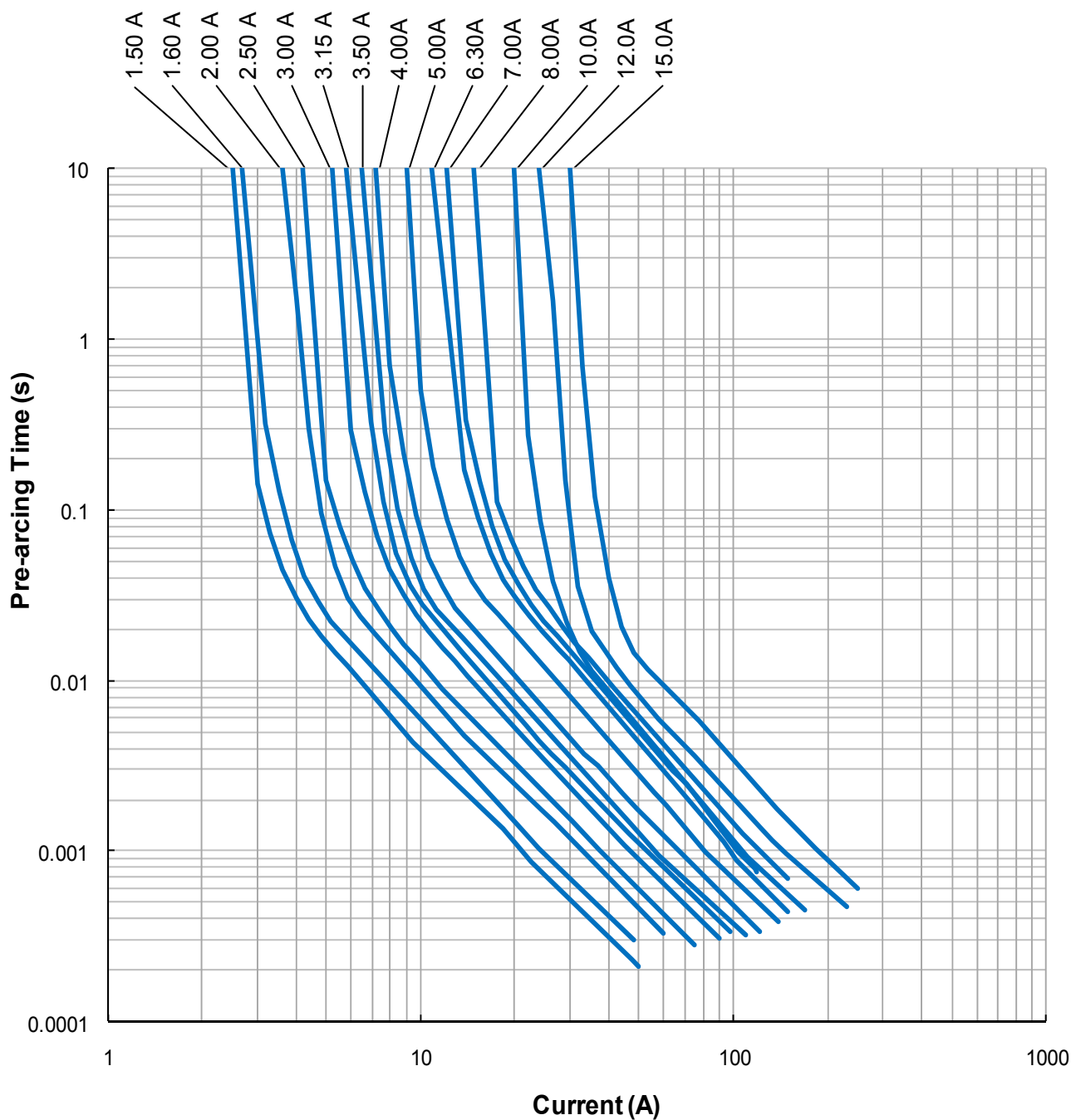
| Part Number   | Current Rating (A) | Marking ( White ) | Voltage Rating (VDC) | Interrupting Rating | Nominal DCR (Ω) | Nominal I <sup>2</sup> t (A <sup>2</sup> s) |
|---------------|--------------------|-------------------|----------------------|---------------------|-----------------|---------------------------------------------|
| AF1206F1.50TM | 1.50               | G                 | 65                   | 50A@65VDC           | 0.050           | 0.37                                        |
| AF1206F1.60TM | 1.60               | T                 |                      |                     | 0.043           | 0.52                                        |
| AF1206F2.00TM | 2.00               | I                 |                      |                     | 0.032           | 0.88                                        |
| AF1206F2.50TM | 2.50               | J                 |                      |                     | 0.028           | 1.1                                         |
| AF1206F3.00TM | 3.00               | K                 |                      |                     | 0.022           | 1.9                                         |
| AF1206F3.15TM | 3.15               | V                 |                      |                     | 0.020           | 2.2                                         |
| AF1206F3.50TM | 3.50               | L                 |                      |                     | 0.018           | 2.6                                         |
| AF1206F4.00TM | 4.00               | M                 |                      |                     | 0.016           | 3.3                                         |
| AF1206F5.00TM | 5.00               | N                 | 32                   | 50A@32VDC           | 0.013           | 5.4                                         |
| AF1206F6.30TM | 6.30               | O                 |                      |                     | 0.010           | 8.9                                         |
| AF1206F7.00TM | 7.00               | P                 |                      |                     | 0.0092          | 10.4                                        |
| AF1206F8.00TM | 8.00               | R                 |                      |                     | 0.0084          | 13.5                                        |
| AF1206F10.0TM | 10.0               | Q                 |                      |                     | 0.0050          | 11.2                                        |
| AF1206F12.0TM | 12.0               | X                 |                      |                     | 0.0041          | 15.0                                        |
| AF1206F15.0TM | 15.0               | Y                 |                      |                     | 0.0035          | 24.5                                        |

### Notes:

- Resistance is measured at ≤10% of rated current and 25℃ ambient.
- Melting I<sup>2</sup>t is calculated at 0.001 second pre-arcing time.

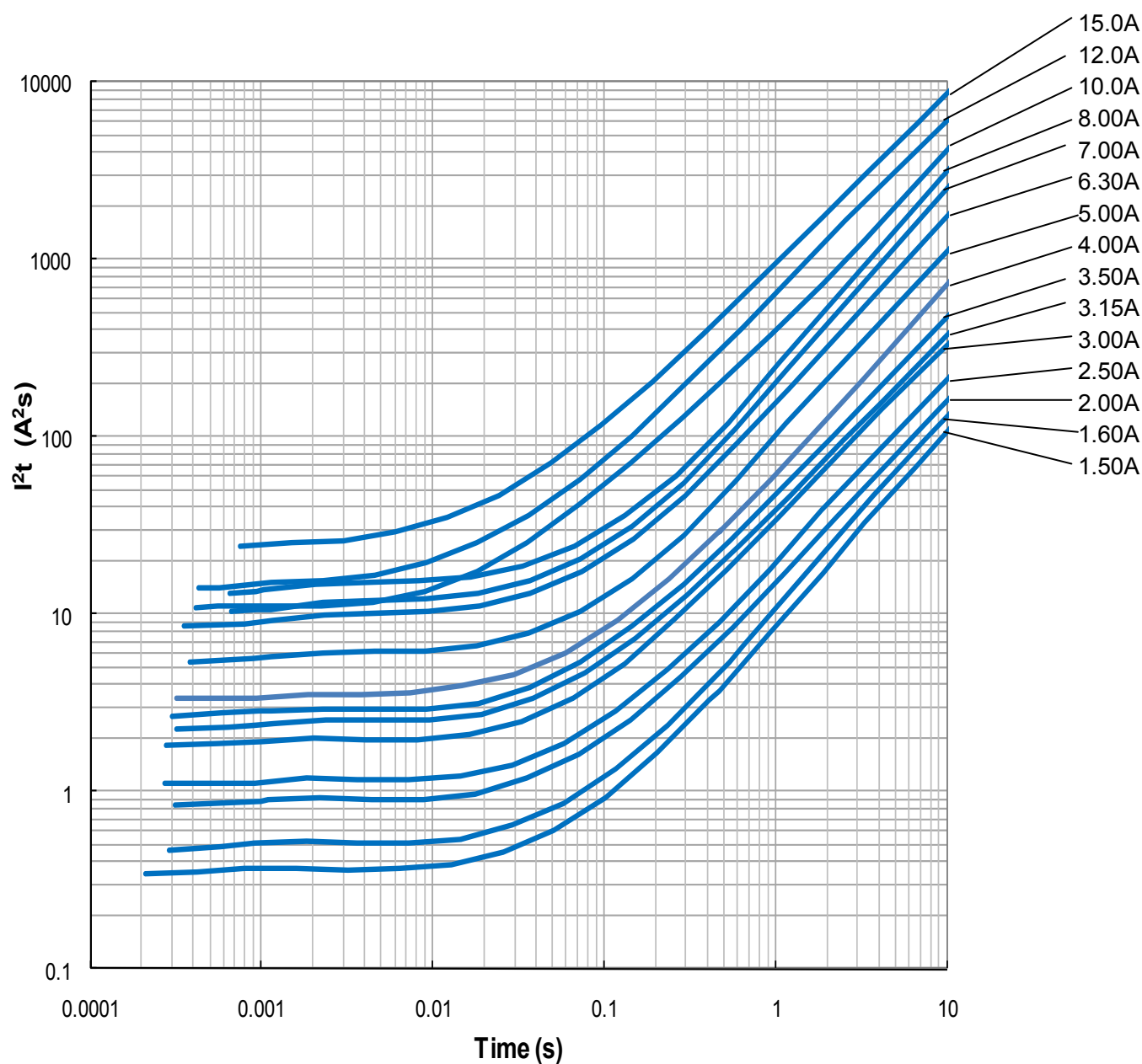
# AirMatrix™ 1206 Fast Acting Surface Mount Fuses

## Average Clearing Time Curves



# AirMatrix™ 1206 Fast Acting Surface Mount Fuses

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



# AirMatrix™ 1206 Fast Acting Surface Mount Fuses

## Product Identification:

AF 1206 F 2.00 T M

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

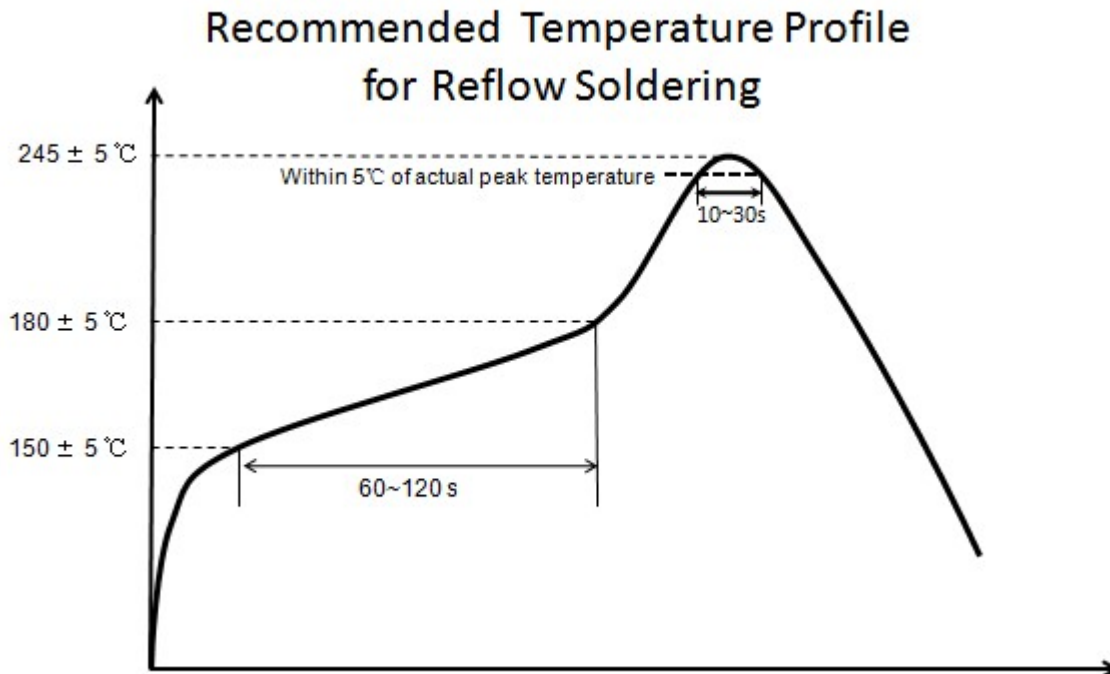
- (1) Series code: AF
- (2) Size code: 1206
- (3) Time/Current characteristic: F
- (4) Current rating: 2.00 — 2.00A
- (5) Package code:
  - T - Tape & Reel
  - B - Bulk
- (6) Marking code: M - with mark

## Environmental Tests:

| Reliability Test          | Test Condition and Requirement                                                                 | Test Reference               |
|---------------------------|------------------------------------------------------------------------------------------------|------------------------------|
| Reflow & Bend             | 3 reflows at 245°C followed by a 2 mm bend, 20% DCR change max., no mechanical damage          | Refer to AEM QIQ034 , QIQ048 |
| Solderability             | 245°C, 5 seconds, new solder coverage 90% minimum                                              | MIL-STD-202 Method 208       |
| Soldering Heat Resistance | 260°C, 10 seconds, 20% DCR change max. new solder coverage 75% minimum                         | MIL-STD-202 Method 210       |
| Life                      | 25°C, 2000 hours, 80% rated current, voltage drop change $\leq \pm 20\%$                       | Refer to AEM QIQ106          |
| Thermal Shock             | -65°C to +125°C, 100 cycles, 10% DCR change max., no mechanical damage                         | MIL-STD-202 Method 107       |
| Mechanical Vibration      | 5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak, 10% DCR change max., no mechanical damage | MIL-STD-202 Method 204       |
| Mechanical Shock          | 1500 G, 0.5 milliseconds, half-sine shocks, 10% DCR change max., no mechanical damage          | MIL-STD-202 Method 213       |
| Salt Spray                | 5% salt solution, 48 hour exposure, 10% DCR change max., no excessive corrosion                | MIL-STD-202 Method 101       |
| Moisture Resistance       | 10 cycles, 15% DCR change max., no excessive corrosion                                         | MIL-STD-202 Method 106       |

# AirMatrix™ 1206 Fast Acting Surface Mount Fuses

## Soldering Temperature profiles



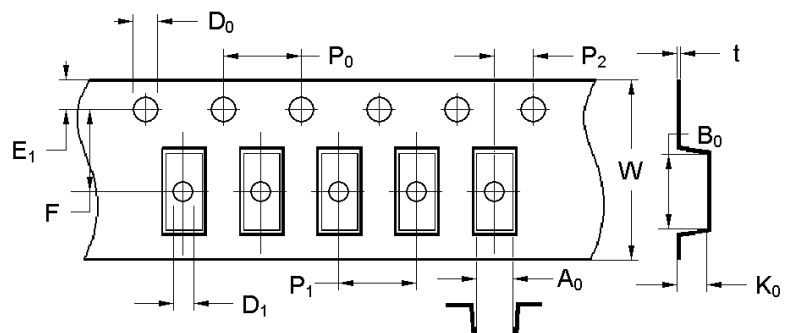
## Packaging and Storage

### Packaging

AEM's multilayer components are provided on tape-and-reel for use in pick-and-place machines or in bulk for special applications.

### Dimensions of Tape in Inches (mm)

| Size           | Ao                                     | Bo                                     | Ko                                    | Type    |
|----------------|----------------------------------------|----------------------------------------|---------------------------------------|---------|
| 1206<br>(3216) | $0.081 \pm 0.004$<br>(2.05 $\pm$ 0.10) | $0.138 \pm 0.004$<br>(3.50 $\pm$ 0.10) | $0.051 \pm .004$<br>(1.30 $\pm$ 0.10) | Plastic |



| Size           | $E_1$                                  | $F$                                    | $W$                                    | $P_1$                                  | $P_0$                                  | $P_2$                                  | $D_0$                                              | $D_1$                                  | $t$                                    |
|----------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------|----------------------------------------------------|----------------------------------------|----------------------------------------|
| 1206<br>(3216) | $0.069 \pm 0.004$<br>(1.75 $\pm$ 0.10) | $0.138 \pm 0.002$<br>(3.50 $\pm$ 0.05) | $0.315 \pm 0.004$<br>(8.00 $\pm$ 0.10) | $0.157 \pm 0.004$<br>(4.00 $\pm$ 0.10) | $0.157 \pm 0.004$<br>(4.00 $\pm$ 0.10) | $0.079 \pm 0.002$<br>(2.00 $\pm$ 0.05) | $0.059 \pm 0.004/-0.00$<br>(1.50 $\pm$ 0.10/-0.00) | $0.039 \pm 0.002$<br>(1.00 $\pm$ 0.05) | $0.009 \pm 0.002$<br>(0.22 $\pm$ 0.05) |



Rev. Jan. 14



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### Packaging Data

| Chip Size<br>Inch (mm) | Parts on<br>7 inch (178 mm) Reel |
|------------------------|----------------------------------|
| 1206 (3216)            | 3,000                            |

### Storage

The maximum ambient temperature shall not exceed 35°C . Storage temperatures higher than 35°C could result in the deformation of packaging materials.

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.

Sealed vacuum foil bags with desiccant 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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# AMEYA360

## Components Supply Platform

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