



Product Specification

产 品 规 格 书

Product Name : Fast Acting Surface Mount Fuses

AEM Part Number : AF2-2.00V125TM

Revision: 5

Date: 2011-6-28

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|-------------|------------|-------------|----------------------|
| | | | |
| Signature | | | |
| | | | |
| | | | |

Fast Acting Surface Mount Fuses

AEM Part Number: AF2-2.00V125TM

1 Operating Temperature Range

-55°C ~ +125°C (with de-rating)

2 Ratings

| AEM Part Number | Current Rating (A) | Voltage Rating | | Nominal Cold DCR (Ω) ^a | Nominal I ² t (A ² s) ^b |
|-----------------|--------------------|----------------|-----|-----------------------------------|--|
| | | AC | DC | | |
| AF2-2.00V125TM | 2.00 | 250 | 125 | 0.042 | 2.75 |

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

b. Melting I²t at 0.001 second pre-arcing time

3 Clearing Time Characteristics

| % of current rating | Clear-time at 25 °C | |
|---------------------|-----------------------|--------------------|
| 100% | 4 hours (min.) | |
| 200% | 0.01 seconds (min.) | 5 seconds (max.) |

4 Interrupting Ratings:

2.00A UL: 50 A @ 125 VDC, 50 A @ 125 VAC, 300 A @ 32 VDC

100 A @250 VAC (Pending)

PSE (Pending): 50 A @ 125 VAC

TUV (Pending): 100 A @250 VAC, 50 A @ 125 VDC

5 Marking(Optional):

White marking character codes

2.00 A: I

6 Agency Approvals:

6.1 Recognized Under the Components Program of Underwriters Laboratories.

File Number: E232989

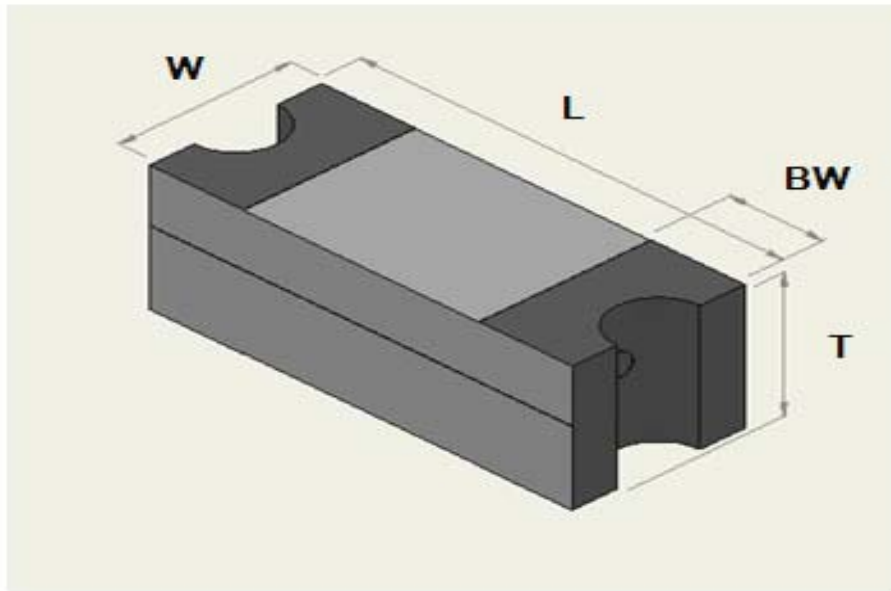
6.2 PSE (Pending)

6.3 TUV (Pending)

Fast Acting Surface Mount Fuses

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7 Shape and Dimensions: Inch (mm)



| Size | L | W | T | BW |
|----------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| 2410 (6125) | 0.240 ± 0.006 (6.10 ± 0.15) | 0.098 ± 0.006 (2.49 ± 0.15) | 0.085 ± 0.008 (2.16 ± 0.20) | 0.053 ± 0.015 (1.35 ± 0.38) |

8 Product Identification

AF2 2.00 V125 T M

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

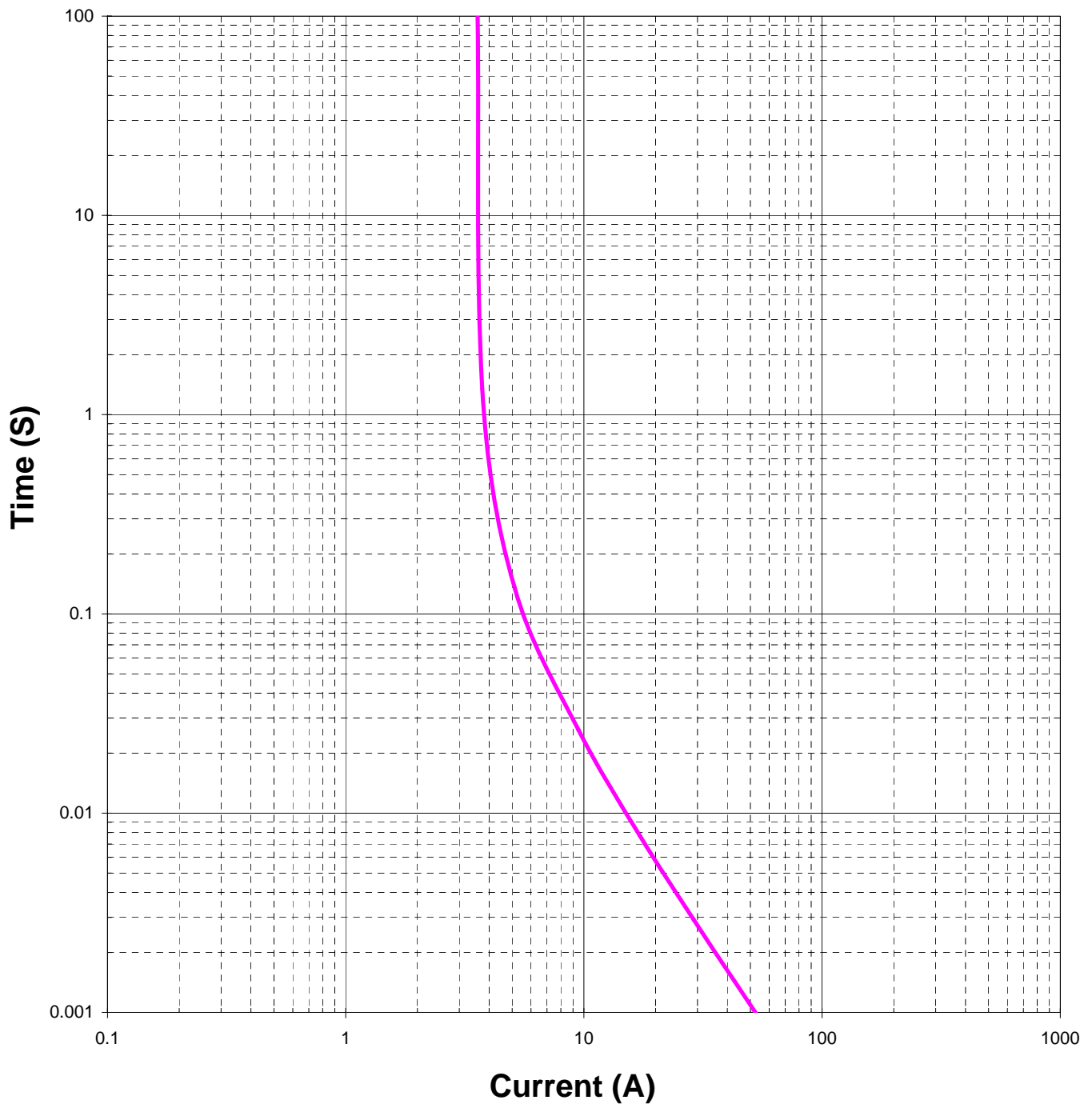
- (1) Series code: AF2 - Fast Acting
- (2) Current rating code: 2.00 - 2.00 A
- (3) Voltage rating code: V125 - 125 VDC
- (4) Package code:
 - T - Tape & Reel
 - B - Bulk
- (5) Marking code: M - with mark

Fast Acting Surface Mount Fuses

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9. Time vs. Current Curve:

AF2-2.00V125TM

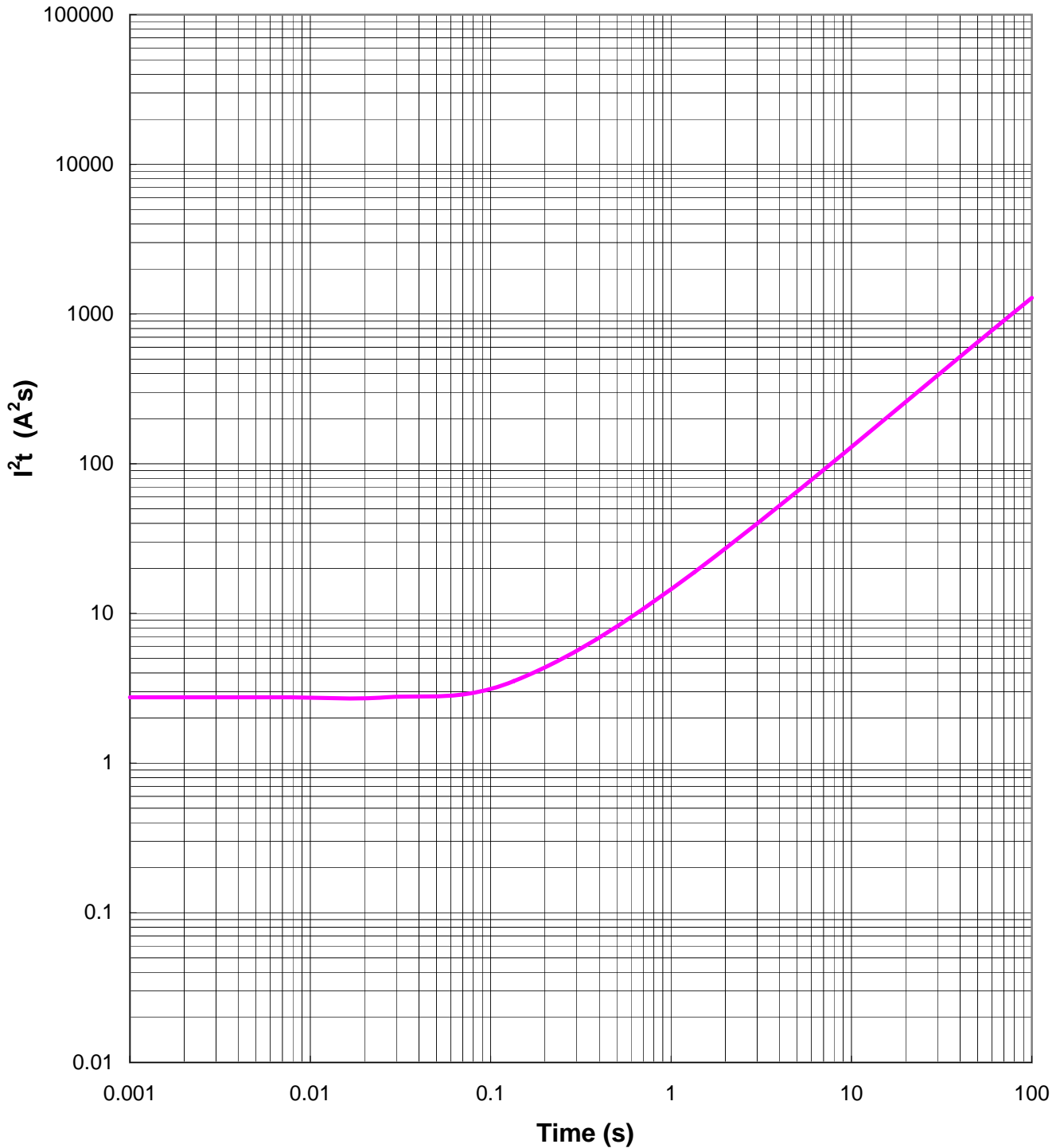


Fast Acting Surface Mount Fuses

AEM Part Number: AF2-2.00V125TM

10. I^2t vs .t Curve:

AF2-2.00V125TM



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11 Features

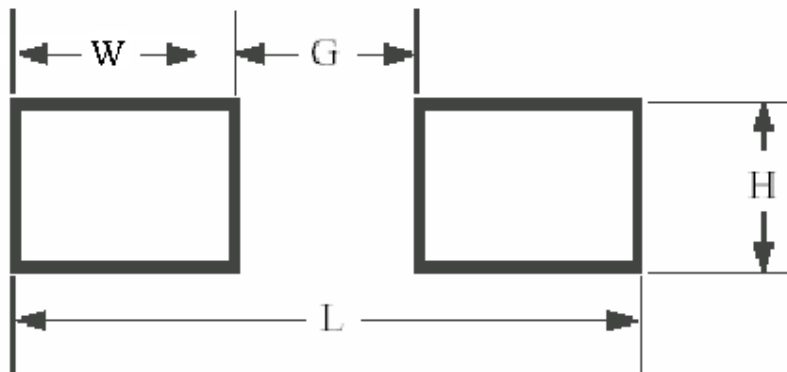
- 11.1 Fast acting at 200% overload
- 11.2 Excellent inrush current withstanding capability
- 11.3 Fiberglass enforced epoxy fuse body
- 11.4 Copper or copper alloy composite fuse link
- 11.5 Copper termination with nickel and tin plating
- 11.6 Halogen free, RoHS compliant and 100% lead-free

12 Typical Applications

- 12.1 Consumer electronics, e.g. LCD TVs, PDP, DVD, PCM etc.
- 12.2 Communication technology, e.g. telecom system, Networking, modem, router, changer, base station etc.
- 12.3 Office automation electronics
- 12.4 IT products, e.g. LCD monitors, notebooks, PC servers etc.
- 12.5 White goods, lighting
- 12.6 Industrial equipments
- 12.7 Medical equipments
- 12.8 Power supplies, e.g. DC/DC converters, backlight drivers etc.

13 Recommended PC Board Land Pattern

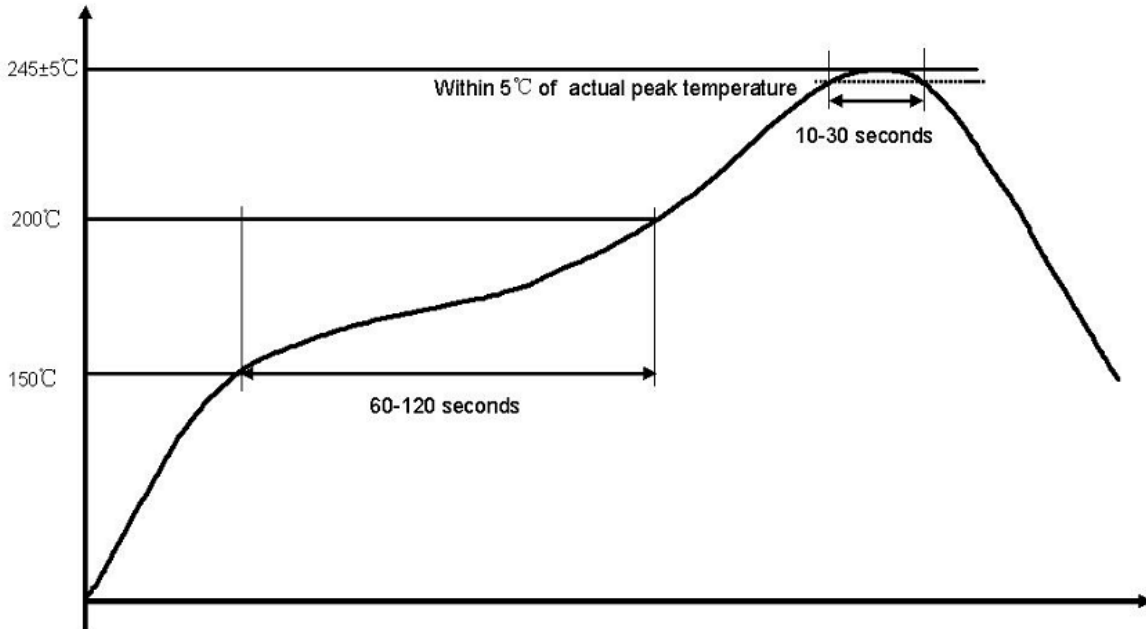
| Chip Size | L INCH (mm) | G INCH (mm) | H INCH (mm) | W INCH (mm) |
|-------------|----------------|----------------|----------------|----------------|
| 2410 (6125) | 0.270(6.86) | 0.116 (2.95) | 0.124 (3.15) | 0.077 (1.96) |



Fast Acting Surface Mount Fuses

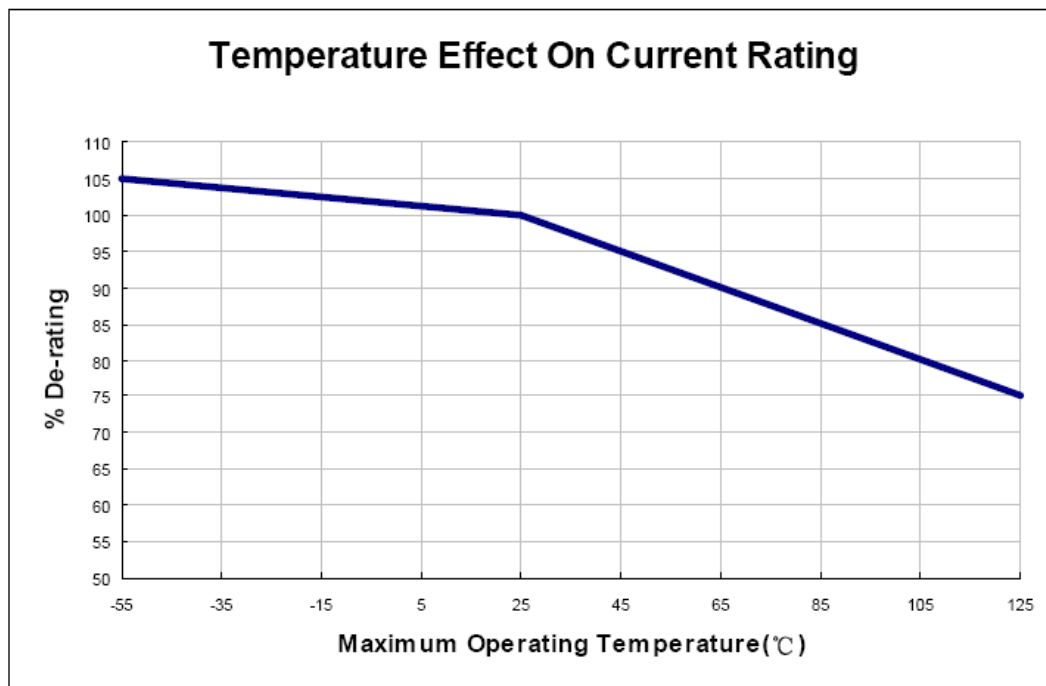
AEM Part Number: AF2-2.00V125TM

14 Recommended Temperature Profile for Reflow Soldering



15 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.



Fast Acting Surface Mount Fuses

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16 Special Measuring Equipment

16.1 Clearing Time

Clearing time is measured with clearing time tester.

16.2 DC Resistance

DC resistance is measured with Keithley 580/Keithley 2010.

16.3 Interrupting rating

Interrupting rating is measured with short circuit tester.

17 Reliability Tests

| Reliability Test | Test Condition and Requirement |
|---------------------------|--|
| Reflow & Bend | 3 reflows at 245°C followed by a 2 mm bend, 10% DCR change max., no mechanical damage |
| Solderability | 245°C, 5 seconds, new solder coverage $\geq 95\%$ |
| Soldering Heat Resistance | 260°C, 10 seconds, 10% DCR change max., new solder coverage $\geq 75\%$ |
| Life | 25°C, 2000 hours, 80% rated current (75% for <1A), voltage drop change $\leq \pm 20\%$ |
| Thermal Shock | -65°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, 15% DCR change max., no excessive corrosion |

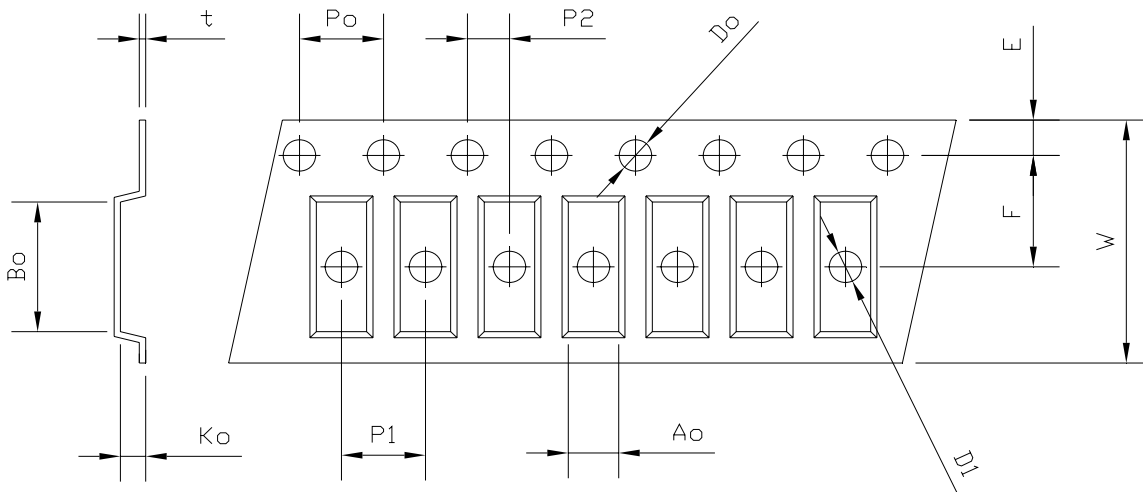
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18 Packaging

18.1 Surface mount chip fuses 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 is 7 inches.

18.2 Tape Dimensions: Inch (mm)



| Size | A0 | B0 | K0 | Type |
|------|-----------------|-----------------|-----------------|---------|
| 2410 | 2.85 ± 0.10 | 6.40 ± 0.10 | 2.35 ± 0.10 | Plastic |

| E | F | W | P1 | P0 | P2 | D0 | D1 | t |
|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 1.75 ± 0.10 | 5.50 ± 0.10 | 2.00 ± 0.10 | 4.00 ± 0.10 | 4.00 ± 0.10 | 2.00 ± 0.10 | 1.55 ± 0.10 | 1.55 ± 0.10 | 0.25 ± 0.05 |

Fast Acting Surface Mount Fuses**AEM Part Number:** AF2-2.00V125TM**18.3 Quantity Per Reel**

| Chip Size | Parts on 7 inch (178 mm) Reel |
|-------------|----------------------------------|
| 2410 (6125) | 2,000 |

19 Storage

19.1 The maximum ambient temperature shall not exceed 40°C.

Storage temperature higher than 40°C could result in the deformation of packaging materials.

19.2 The maximum relative humidity recommended for storage is 70%.

High humidity with high temperature could accelerate the oxidation of the solder plating on the termination and reduce the solderability of the components.

19.3 Sealed plastic bags with desiccant shall be used to reduce

the oxidation of the termination and shall only be opened prior to use.

19.4 The products shall not be stored in areas where harmful gases

containing sulfur or chlorine are present.