



Product Specification

产 品 规 格 书

Product Name : Very Fast Acting Surface Mount Chip Fuse

AEM Part Number : F0603CP5000V032T

Customer :

Revision: 1

Date: 2010-12-29

AEM Components (Suzhou) Co., Ltd

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Prepared by	Checked by	Approved by	Accepted by customer
Lingling Li	Yan Ma	Yan Ma	
Signature			

CUSTOMER:

Very Fast Acting Surface Mount Chip Fuse

超快断片式熔断器

AEM Part Number: F0603CP5000V032T

1 Operating Temperature Range

-55°C ~ +125°C

2 Ratings

AEM Part Number	Current Rating (A)	Voltage Rating (VDC)	Nominal Cold DCR (Ω) ^a	Nominal I^2t (A ² s) ^b
F0603CP5000V032T	5.00	32	0.015	2.62

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

2. Melting I^2t at 0.001 second clear-time

3 Clear-Time Characteristics

% of current rating	Clear-time at 25 °C	
	100%	4 hours (min)
200%	0.01 seconds (min)	10 seconds (max)

4 Interrupting Rating:

5.0A 35A at rated voltage

5 Marking(Optional):

Without marking

6 Agency Approval:

Recognized Under the Components Program of Underwriters Laboratories.

File Number: E232989

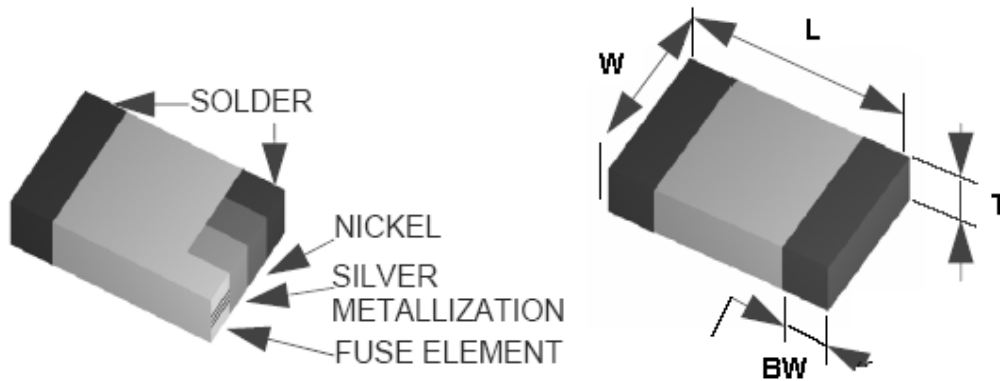
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7 Shape and Dimensions: Inch (mm)



Size	L	W	T	BW
0603 (1608)	0.063±0.006 (1.60±0.15)	0.031±0.006 (0.80±0.15)	0.031±0.006 (0.80±0.15)	0.014±0.006 (0.36±0.15)

8 Product Identification

F 0603 CP 5000 V032 I

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

(1) Series code: F - Chip Fuse

(2) Dimension code: L x W (inch)

The first two digits - L (length)

The last two digits - W (width)

(3) Characteristic code: CP - Very Fast Acting

(4) Current rating code: 5000 - 5000 mA

(5) Voltage rating code: V032 - 32 VDC

(6) Package code:

T - Tape & Reel

B - Bulk

CUSTOMER:

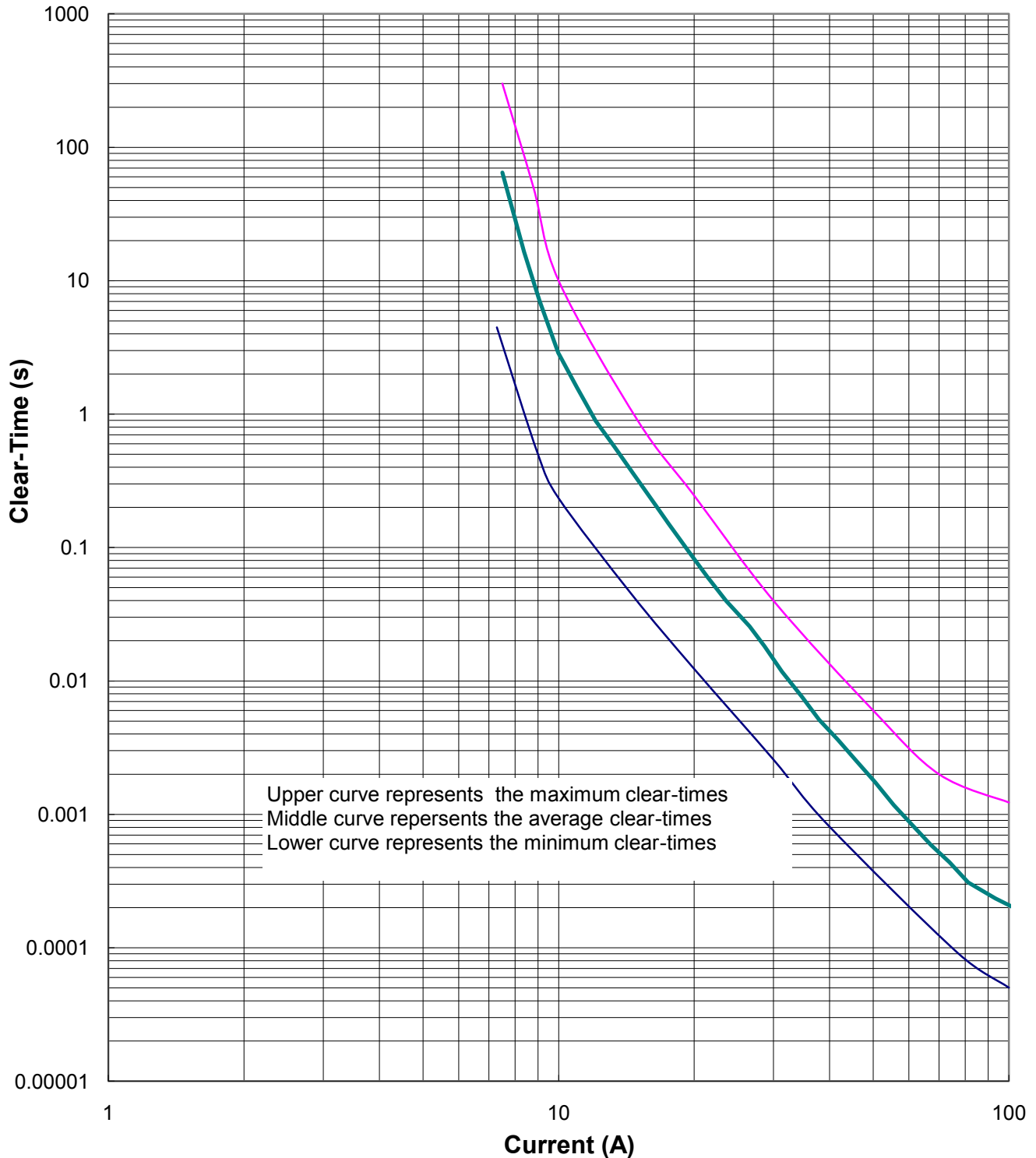
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9. Clear Time Curves:

F0603CP5000V032T



CUSTOMER:

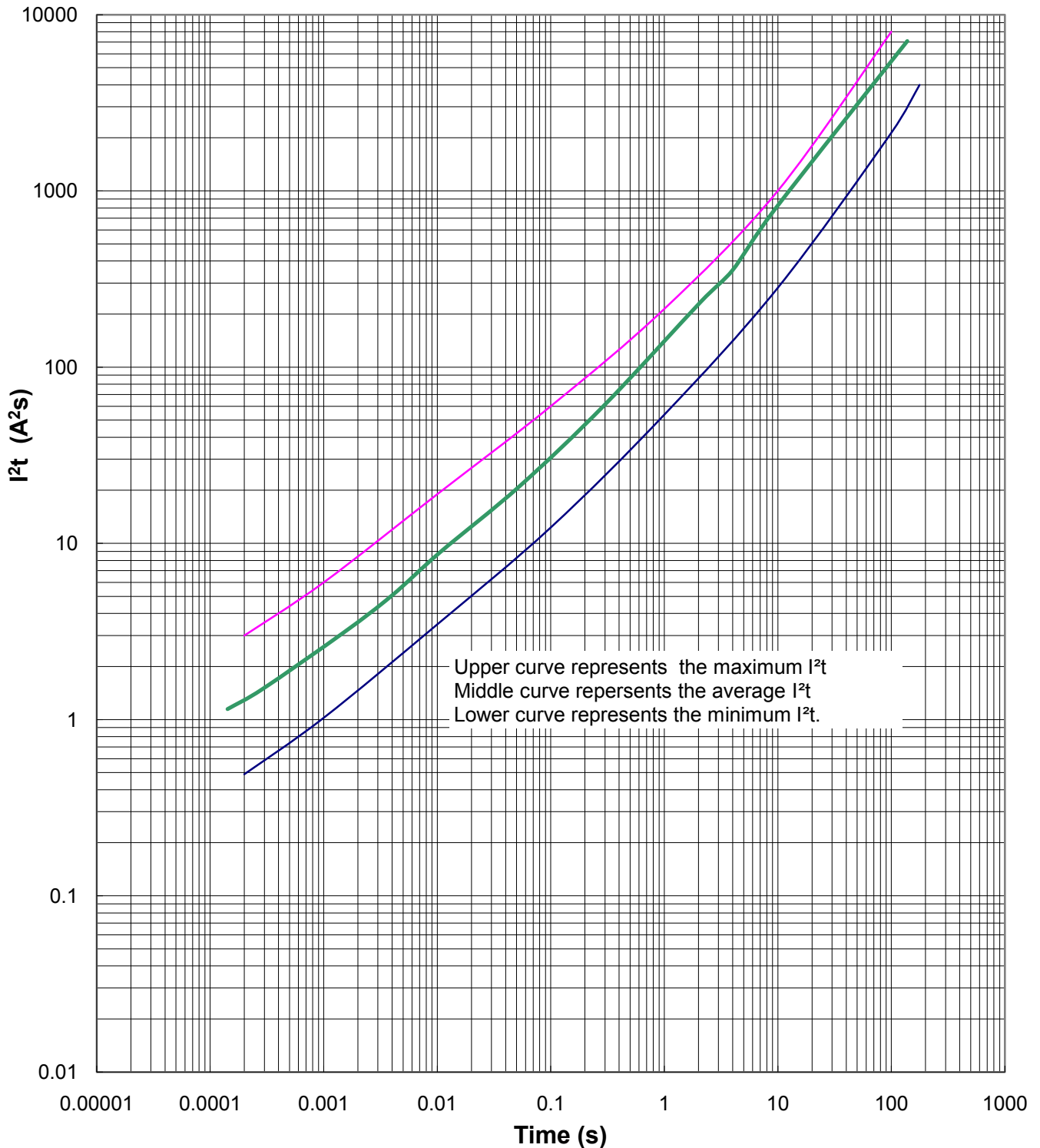
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超快断片式熔断器

AEM Part Number: F0603CP5000V032T

10. I²t vs .t Curves:

F0603CP5000V032T



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AEM Part Number: F0603CP5000V032T

11 Features

- 11 Very fast acting at 200% overload
- 11 Excellent inrush current withstanding capability at high overload
- 11 Glass ceramic monolithic structure
- 11 Sliver fusing element and silver termination with nickel and tin plating
- 12 Lead free and RoHS compliant materials
- 12 Symmetrical design with marking on both sides (optional)

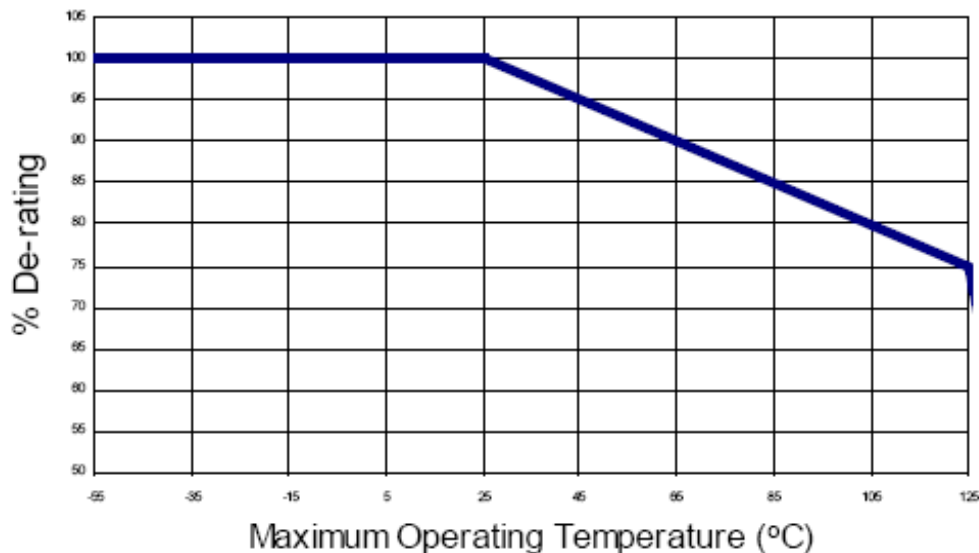
12 Typical Applications

- 12.1 Consumer Electronics, e.g. CD-/LD-Disc drives, portable sets (drives)
- 12.2 Communication Technology, e.g. ISDN-line card protection, PCM-cards, mobile phones tuner input, satellite receivers, cards in GSM-base stations
- 12.3 Data-Processing, e.g. disc drives, keyboard/mouse ports, LAN-/PC-cards, modems
- 12.4 Measurement and Control Technology, e.g. communication ports, measurement inputs/probes/sensors, analysis units, PLCs
- 12.5 Medical Technology, e.g. communication ports, measurement in & out probes
- 12.6 Power Supply Technology, e.g. low voltage section of power supplies/chargers

13 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.

Temperature Effect on Current Rating



CUSTOMER:

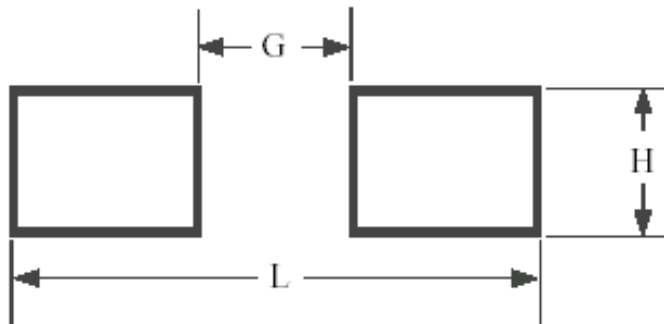
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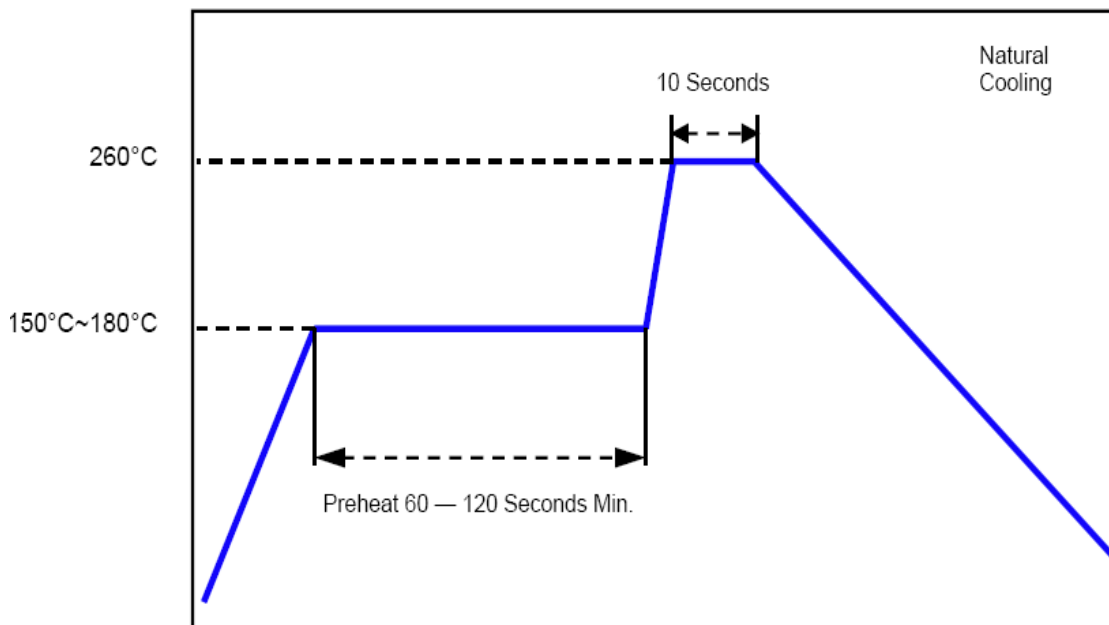
14 Recommended PC Board Land Pattern

Chip Size	L INCH (mm)	G INCH (mm)	H INCH (mm)
0603 (1608)	0.110 (2.80)	0.024 (0.60)	0.039 (1.00)



15 Recommended Temperature Profile for Reflow Soldering

Recommended Temperature Profile
for Lead-free Solder



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16 Special Measuring Equipment

16.1 Clear Time

Clear time is measured with clear time tester.

16.2 DC Resistance

DC resistance is measured with Keithley 580/Keithley 2010.

16.3 Interrupting Capability

Interrupting capability is measured with short circuit tester.

17 Reliability Tests

Reliability Test	Test Condition and Requirement
Bending	Board: 94x94x1.6 mm, 2 mm bend for 5 seconds, 20% DCR change max.
Solderability	255°C, 5 seconds, 95% coverage min.
Soldering Heat Resistance	260°C, 60 seconds, 10% DCR change max.
Life	25°C, 2000 hours, 75% rated current, no open circuit, voltage drop change $\leq \pm 20\%$.
Thermal Shock	-65°C to +125°C, 100 cycles, no mechanical damage, 10% DCR change max.
Mechanical Vibration	5 – 3000 Hz, 0.4 inch double amplitude or 30 G peak, 10% DCR change max.
Mechanical Shock	1500 G, 0.5 milliseconds, half-sine shocks 10% DCR change max.
Salt Spray	5% salt solution, 48 hour exposure
Moisture Resistance	10 cycles, 15% DCR change max., no excessive corrosion

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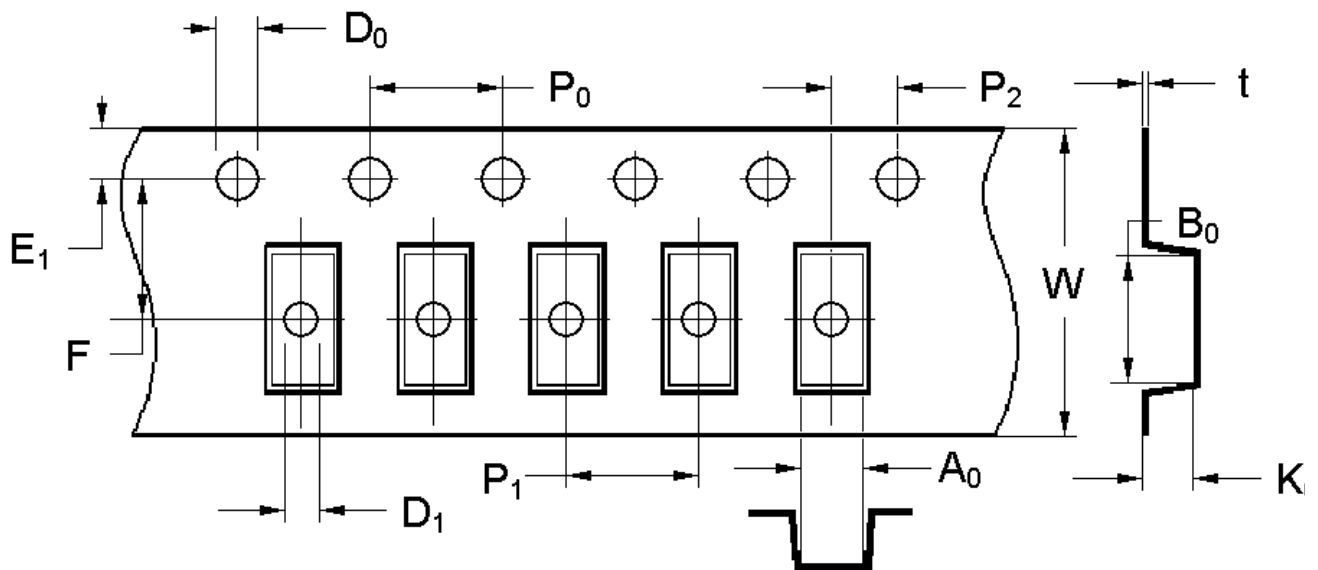
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18 Packaging

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	Ao	Bo	Ko	Type
0603 (1608)	0.039±0.004 (1.00 ± 0.10)	0.071±0.004 (1.80±0.10)	0.037±0.003 (0.95±0.08)	Paper

E1	F	W	P ₁	P ₀	P ₂	D ₀	D ₁	t
0.069±0.004 (1.75±0.10)	0.138±0.002 (3.50±0.05)	0.315±0.004 (8.00±0.10)	0.157±0.004 (4.00±0.10)	0.157±0.004 (4.00±0.10)	0.079±0.002 (2.00±0.05)	0.059±0.004 (1.50±0.10/-0.00)	N/A	0.009±0.001 (0.23±0.02)

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18.3 Quantity Per Reel

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

Other sizes and chip quantities can be provided upon customer's request.

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.