



## Product Specification

## 产 品 规 格 书

**Product Name :** Fast Acting Surface Mount Chip Fuse

**AEM Part Number :** F1206FA8000V024TM

**Customer :** 深圳宝龙达信息技术股份有限公司

**Revision:** 3

**Date:** 2012-09-27

### AEM Components (Suzhou) Co., Ltd

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Prepared by	Checked by	Approved by	Accepted by customer
Lingling Li	Jing Shi	Jing Shi	深圳宝龙达信息技术股份有限公司
Signature			

**CUSTOMER:** 深圳宝龙达信息技术股份有限公司

Fast Acting Surface Mount Chip Fuse

快断片式熔断器

**AEM Part Number:** F1206FA8000V024TM

## 1 Operating Temperature Range

-55°C ~ +125°C

## 2 Ratings

AEM Part Number	Current Rating (A)	Voltage Rating (VDC)	Nominal Cold DCR ( $\Omega$ ) <sup>1</sup>	DCR Min ( $\Omega$ )	DCR Max ( $\Omega$ )
F1206FA8000V024TM	8.0	24	0.008	0.006	0.010

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

## 3 Clear-Time Characteristics(Fast Acting):

% of current rating	Clear-time at 25 °C
100%	4 hours ( min )
250%	5 seconds ( max )
400%	0.05 seconds ( max )

## 4 Interrupting Ratings:

8.0A 45A at rated voltages

## 5 Marking(Optional):

Black Marking Character Code

8.0A:R

## 6 Agency Approval:

Recognized Under the Components Program of Underwriters Laboratories.

File Number: E232989

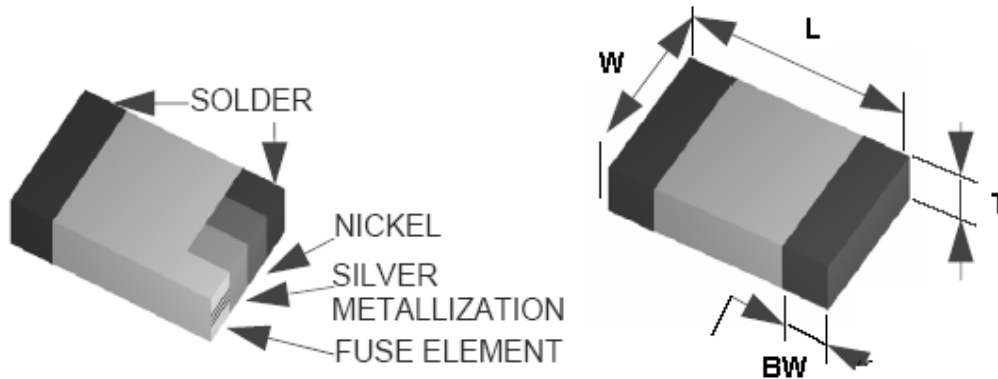
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## 7 Shape and Dimensions: Inch (mm)



Size	L	W	T	BW
1206 (3216)	0.126±0.008 (3.20±0.20)	0.063±0.008 (1.60±0.20)	0.043±0.008 (1.10±0.20)	0.020±0.010 (0.51±0.25)

## 8 Product Identification

F 1206 FA 8000 V024 T M

(1) (2) (3) (4) (5) (6) (7)

(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: FA - Fast Acting

(4) Current rating code: 8000 - 8000 mA

(5) Voltage rating code: V024 - 24 VDC

(6) Package code:

T - Tape & Reel

B - Bulk

(7) Marking code: M - with mark

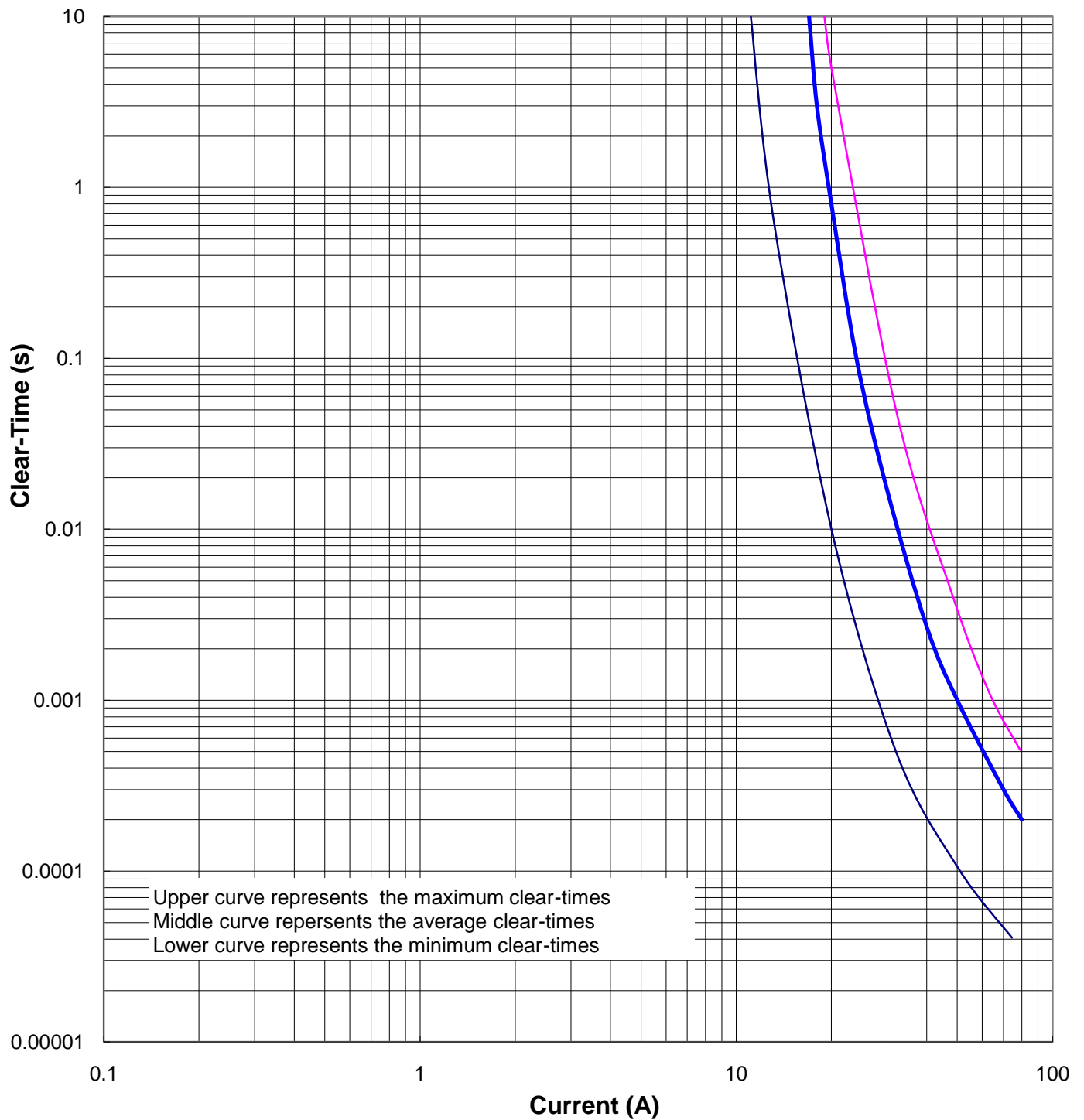
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**9 Clear Time Curves:**

## F1206FA8000V024TM



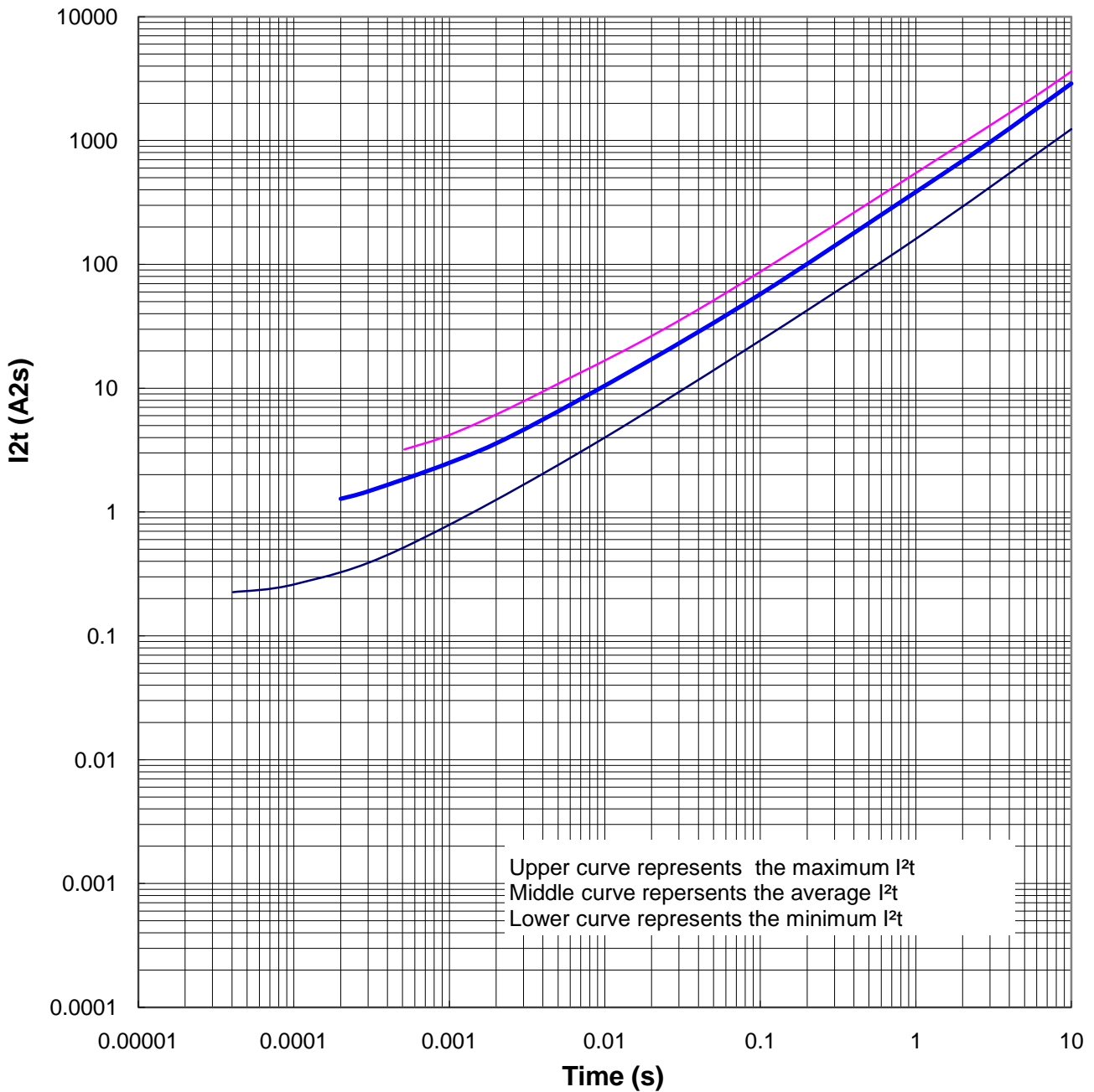
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**10 I<sup>2</sup>t vs .t Curves:**

## F1206FA8000V024TM



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## 11 Features

- 11.1 Multilayer monolithic structure with glass ceramic body and silver fusing element
- 11.2 Silver termination with nickel and solder plating (lead free), providing excellent solderability
- 11.3 Compatible with both wave and reflow soldering processes

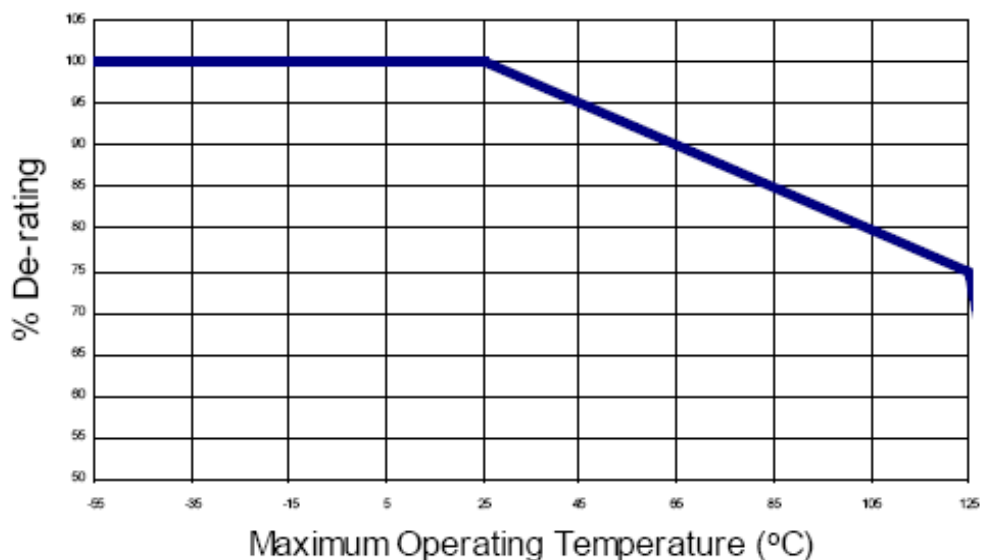
## 12 Typical Applications

- 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**



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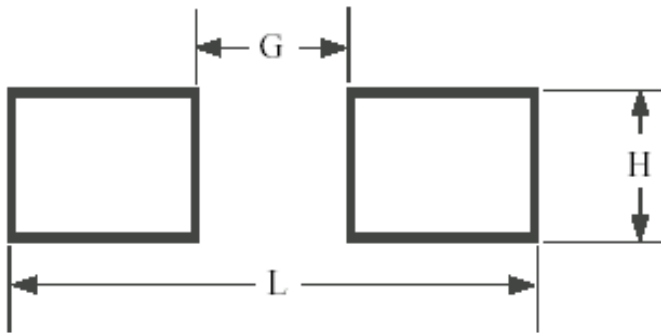
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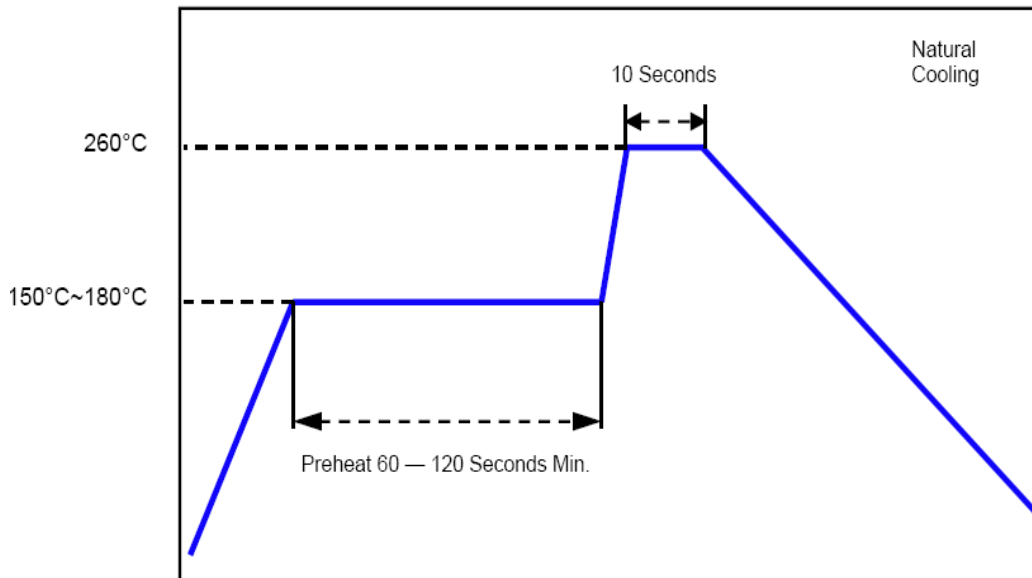
### 14 Recommended PC Board Land Pattern

Chip Size	L INCH (mm)	G INCH (mm)	H INCH (mm)
1206 (3216)	0.173 (4.40)	0.059 (1.50)	0.071 (1.80)



### 15 Recommended Temperature Profile for Reflow Soldering

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 / 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.

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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.
Terminal Strength	1206 – 1.5 kg 30 second hanging, no damage
Life	25°C, 2000 hours, 80% rated current, no open circuit, voltage drop change $\leq \pm 10\%$ .
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, 10% DCR change max., no excessive corrosion



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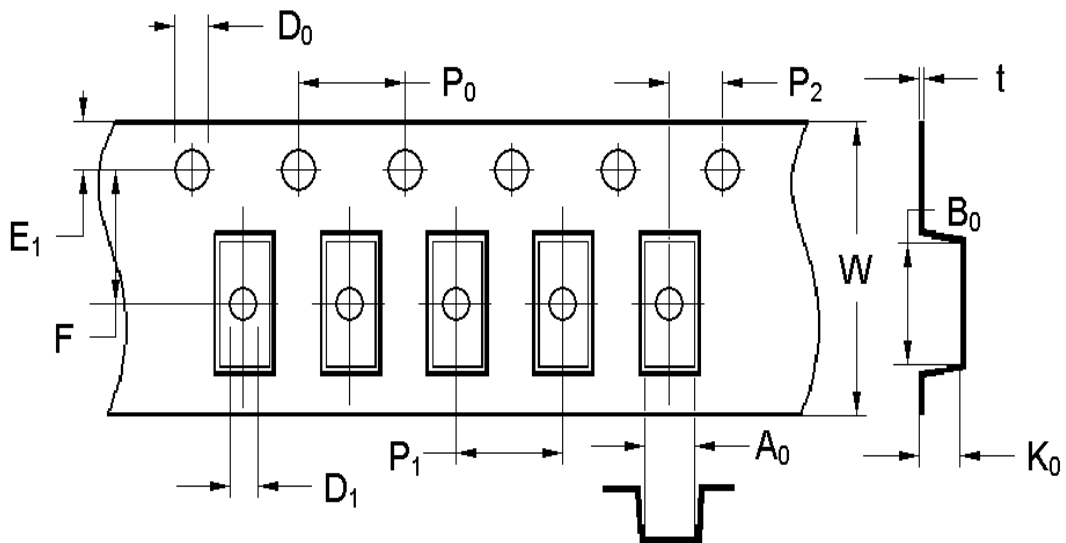
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## 18 Packaging

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
1206 (3216)	0.071±0.004 (1.80±0.10)	0.138±0.004 (3.50±0.10)	0.050±0.004 (1.27±0.10)	Plastic

E1	F	W	P1	P0	P2	D0	D1	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)	0.039max (1.00max)	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
1206 (3216)	3,000

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

## 19 Storage

- 19.1 The maximum ambient temperature shall not exceed 35°C. Storage temperature higher than 35°C could result in the deformation of packaging materials.
- 19.2 The maximum relative humidity recommended for storage is 75%. 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.