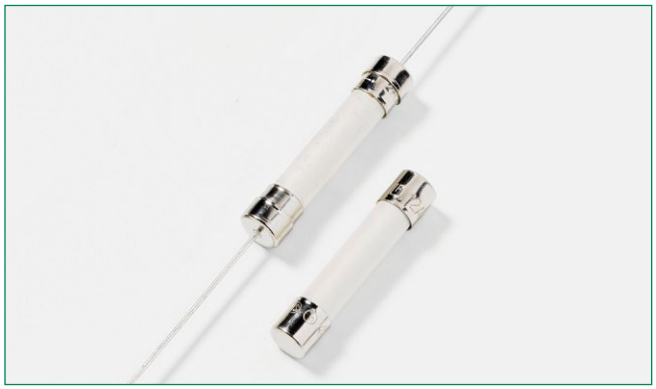
# 504 Series, 6.3x32mm Fuse



## Description

The 504 Series is a 420VDC 420VDC and 500VAC rated ceramic fuse with a 400A and 200A and 200A interrupting rating, respectively, in a compact 6.3 x 32mm package, The 504 Series is well suited for circuit, for circuit protection in high energy applications.

## Features

- In accordance with Underwriters Laboratories Standard UL 248-14
- Available in cartridge and axial lead form and with various lead forming dimensions.
- RoHS compliant and Lead-free
- Compact form factor of 6.3mm x 32mm

## Applications

- High Voltage DC power application

## Agency Approvals

| Agency | Agency File Number | Ampere Range |
|---|---|---|
| c UL us | E10480 | 20A - 30A |
| CE | N/A | 20A - 30A |

## Electrical Characteristic Specifications by Item

| Amp Code | Ampere Rating (A) | Max. Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (mOhms) | Nominal Melting I²t (A² sec) | Agency Approvals | |
|---|---|---|---|---|---|---|---|
| | | | | | | c UL us | CE |
| 020. | 20 | 420VDC 500VAC | 400A@420VDC 1500A@250VAC 200A@500VAC | 5.8 | 760 | x | x |
| 025. | 25 | | | 3.95 | 1500 | x | x |
| 030. | 30 | | | 3.1 | 2600 | x | x |

## Electrical Characteristics for Series

| % of Ampere Rating | Ampere Rating | Opening Time |
|---|---|---|
| 100% | 20A - 30A | 4 Hours, Minimum |
| 135% | | 1 Hour, Maximum |
| 200% | | 120 Seconds, Maximum |

## Additional Information

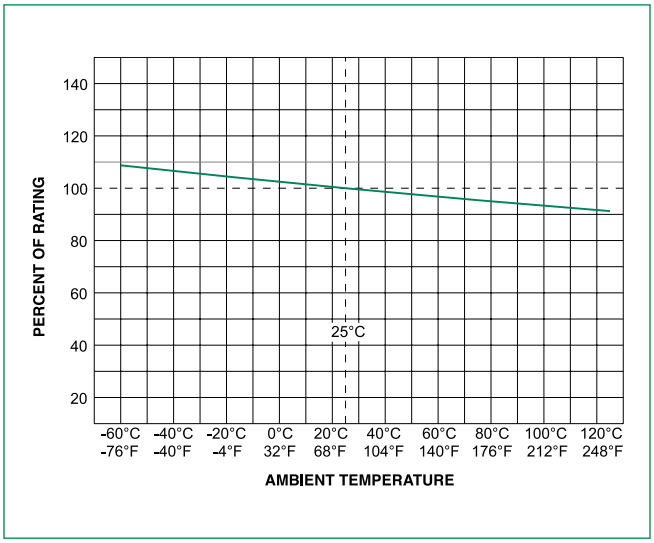
Datasheet | Resources | Samples

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Revised: 05/20/19

# Axial Lead & Cartridge Fuses

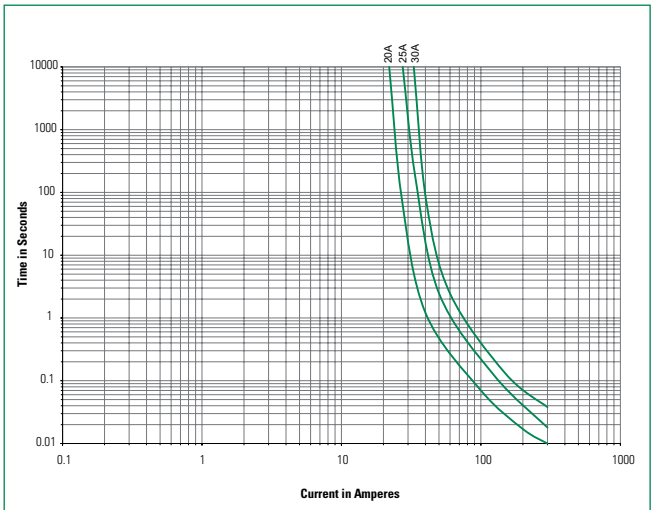
## 3AB > 504 Series Fuse

### Temperature Re-rating Curve

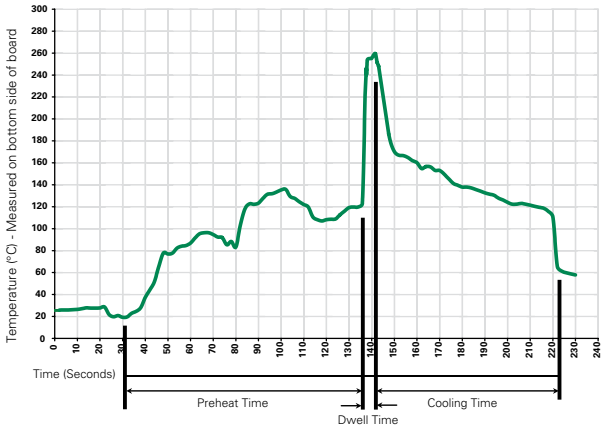



Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

### Average Time Current Curves




### Soldering Parameters - Wave Soldering




**Recommended Process Parameters:**

| Wave Parameter | Lead-Free Recommendation |
|---|---|
| Preheat:<br>(Depends on Flux Activation Temperature) | (Typical Industry Recommendation) |
| Temperature Minimum: | 100°C |
| Temperature Maximum: | 150°C |
| Preheat Time: | 60-180 seconds |
| Solder Pot Temperature: | 260°C Maximum |
| Solder Dwell Time: | 2 to 5 seconds |

**Recommended Hand-Solder Parameters:**

Solder Iron Temperature: 350°C +/- 5°C
Heating Time: 5 seconds max.

**Note: These devices are not recommended for IR or Convection Reflow process.**

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# Axial Lead & Cartridge Fuses

## 3AB > 504 Series Fuse

## Product Characteristics

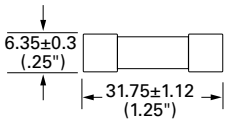
| | |
|---|---|
| **Materials** | Body : Ceramic<br>Cap : Nickel–plated brass<br>Leads : Tin-plated Copper |
| **Terminal Strength** | MIL-STD-202, Method 211,<br>Test Condition A |
| **Solderability** | MIL-STD-202 Method 208 |
| **Product Marking** | Cap1 : Brand logo, current and voltage ratings<br>Cap2 : Series and agency approval marks |

| | |
|---|---|
| **Operating Temperature:** | –60°C to 125°C. |
| **Thermal Shock:** | MIL-STD-202, Method 107, Test Condition B |
| **Vibration** | MIL-STD-202, Method 201 |
| **Humidity** | MIL-STD-202, Method 103, Test Condition A: High relative humidity (95%) and elevated temp (40°C) for 240 hours |
| **Salt Spray** | MIL-STD-202, Method 101, Test Condition B |

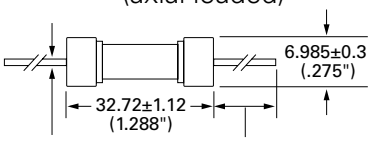
## Dimensions

Measurements displayed in millimeters (inches)

**504** 000P **Series**
(cartridge)




**504** 000EP **Series**
(axial leaded)




Axial Lead Diameter:
1.20±0.05 (.047")

Axial Lead Length:
39.1±1 (1.54") TYP.
52±1 (2.0") for long lead

## Part Numbering System

**0504 XXX.M X E P**

**Series**

**Amp Code**
Refer to Amp Code column of Electrical Characteristics Table

**Quantity Code**
M = 1000

**Packaging Code**
X = Filler

**Option Codes**
Blank: Cartridge Type Fuse
E : Axial Leaded Fuse
52LE: 52mm length

**Lead-Free**

## Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Reel Size |
|---|---|---|---|---|
| **504 Series** | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 1000 | MXE | N/A |
| Bulk | N/A | 1000 | MX52LE | N/A |

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