

505 Series, Lead-free 3AB, Fast-Acting Fuse



Description

A 500VAC/VDC rated ceramic fuse with remarkable interrupting rating in a compact 6.3 x 32mm package, which is well suited 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
- Superior Interrupting rating of 20,000 Amperes
- Compact form factor of 6.3mm x 32mm

Applications

- Uninterruptible Power Supplies (UPS)
- Three-Phase Power Supplies

Agency Approvals

| Agency | Agency File Number | Ampere Range |
|---|--------------------|--------------|
|  | E10480 | 10A - 30A |
|  | 1620079 | 10A - 12A |
|  | N/A | 10A - 30A |
|  | T5026910801 | 15A - 30A |

Electrical Characteristics for Series

| % of Ampere Rating | Ampere Rating | Opening Time |
|--------------------|---------------|---------------------|
| 150% | 10A - 30A | 30 minutes, Maximum |
| 200% | | 30 minutes, Maximum |
| 300% | | 10 sec., Maximum |

Additional Information



[Datasheet](#)



[Resources](#)







[Samples](#)



[Accessories](#)

For recommended fuse accessories for this product series, see '[Recommended Accessories](#)' section.

Electrical Characteristic Specifications by Item

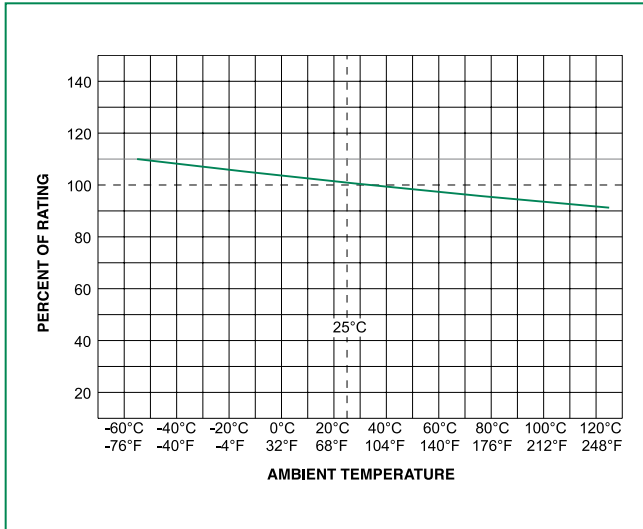
| Amp Code | Ampere Rating (A) | Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec) | Agency Approvals | | | |
|----------|-------------------|--------------------|-----------------------------|--------------------------------|---|---|---|---|---|
| | | | | | |  |  |  |  |
| 010. | 10 | 450 | 20kA@450VAC 1000A@250VDC | 0.0167 | 91 | x | x | x | |
| 010.* | 10 | 500 | 200A@500VAC 200A@500VDC | 0.0167 | 91 | x | | x | |
| 012. | 12 | 450 | 20kA@450VAC 1000A@250VDC | 0.0117 | 192 | x | x | x | |
| 015. | 15 | 500 | 50kA@500VAC | 0.0073 | 68 | x | | x | x |
| 016. | 16 | 500 | 20kA@500VDC | 0.0073 | 68 | x | | x | x |
| 020. | 20 | 500 | 30kA@500VAC 20kA@500VDC | 0.0056 | 140 | x | | x | x |
| 025. | 25 | 500 | | 0.0048 | 210 | x | | x | x |
| 030. | 30 | 500 | | 0.0038 | 280 | x | | x | x |

Notes:

1. 20kA@500VAC&20kA@500VDC interrupting rating available for TUV certification of 15-30A

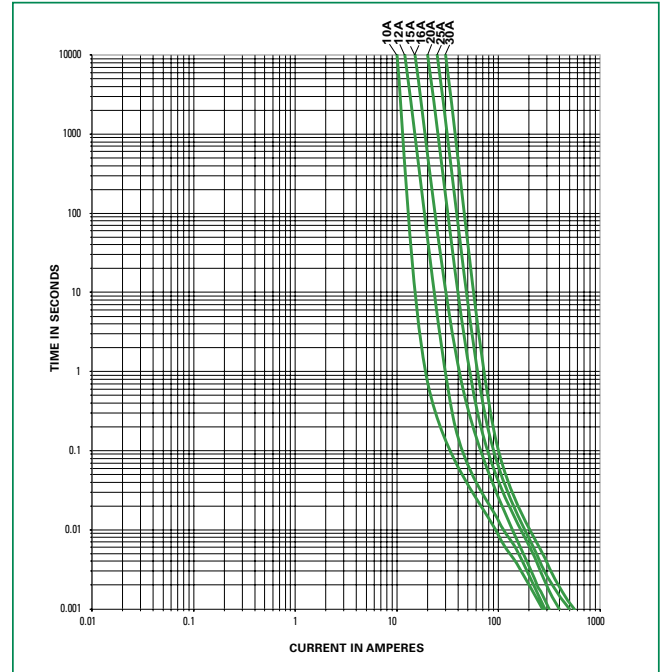
2. *200A@500Vac&200A@500Vdc interrupting rating available for 10A. Add suffix "500". Example: 0505010.MX500P, and 0505010.MXE500P"

Temperature Re-rating Curve

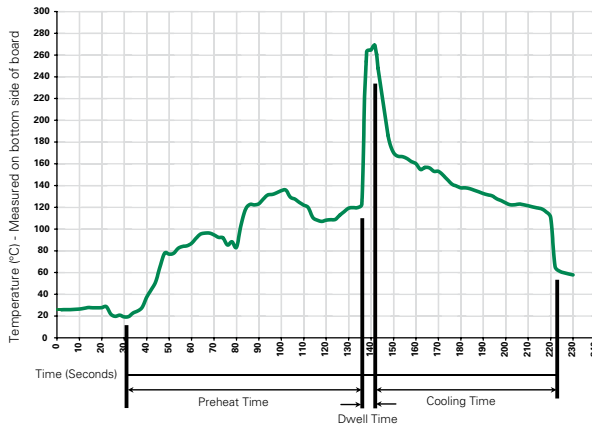


Note:
 Re-rating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

| Wave Parameter | Lead-Free Recommendation |
|---|--------------------------|
| Preheat: (Depends on Flux Activation Temperature) (Typical Industry Recommendation) | |
| Temperature Minimum: | 100° C |
| Temperature Maximum: | 150°C |
| Preheat Time: | 60-180 seconds |
| Solder Pot Temperature: | 270°C |
| Solder Dwell Time: | 10 seconds Maximum |

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.

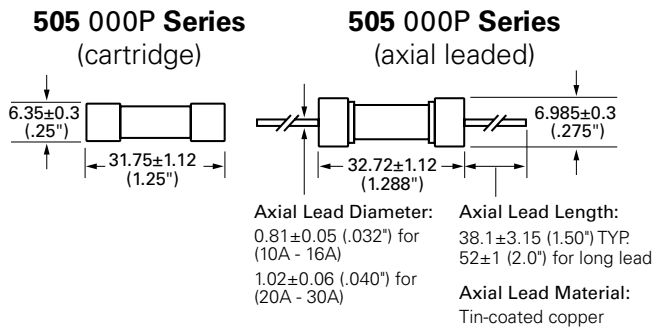
Product Characteristics

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

| | |
|-------------------------------|--|
| Operating Temperature: | -55°C to 125°C. |
| Thermal Shock: | MIL-STD-202, Method 107, Test Condition B (5 Cycles -65°C to +125°C). |
| 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

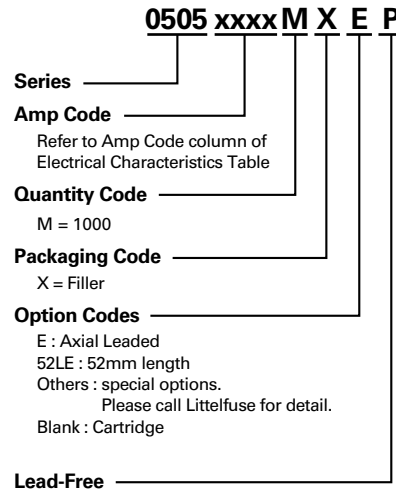
Measurements displayed in millimeters (inches)



Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Reel Size |
|-------------------|-------------------------|----------|---------------------------|-----------|
| 505 Series | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 1000 | MXE | N/A |
| Bulk | N/A | 1000 | MX52LE | N/A |

Part Numbering System



Recommended Accessories

| Accessory Type | Series | Description | Max Application Voltage | Max Application Amperage |
|----------------|------------------------|---|-------------------------|--------------------------|
| Holder | 150322 | In-Line Fuseholder | 500 | 15 |
| Block | 354 | Low Profile OMNI-BLOK® Fuse Block | 600 | 30 |
| | 359 | High Current Screw Terminal Fuse Block | | 30 |
| Clip | 122 | High Current Traditional PC Board Fuse Clip | 1000 | 30 |
| | 101 | Rivet/Eyelet Type Fuse Clip | 1000 | 15 |

Notes:
1. Do not use in applications above rating.
2. Please refer to fuseholder data sheet for specific re-rating information.
3. Please contact factory for applications greater than the max voltage and amperage shown.

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