



**THE DATASHEET OF
048712.5MXEP**



487 Series, 5x20 mm, Fast-Acting Fuse



Description

The 487 Series is a 420VAC/420VDC rated 5x20mm fast-acting ceramic body fuse, designed to ensure the best coordination between a power supply unit (PSU) and an electrical circuit breaker panel during short-circuit and over-current faults. When installed in a PSU, the 487 series fuse opens faster than the circuit breaker and removes the problematic PSU while preventing the circuit breaker from shutting down other critical systems. With 420VAC characteristics, the 487 Series is well suited for high-energy applications like 3-phase power supplies, inverters, and ballasts. With 420VDC characteristics, it is optimal for high-voltage DC power grid in data centers, telecom applications, and intelligent commercial buildings.

Agency Approvals

| Agency | Agency File Number | Ampere Range |
|--------|--------------------|--------------|
| | E10480 | 8 - 20A |
| | J 50293210 | 8 - 20A |

Features

- Lower I²t and faster tripping
- High current ratings up to 20A in a 5x20mm footprint
- Rated voltage @ 420VAC, 420VDC
- Available in cartridge and axial leaded versions
- RoHS compliant and Lead-free
- Recognized to UL 248-1 and UL 248-14
- Approved to EN 60127-1 and EN 60127-7

Electrical Characteristics for Series

| % of Ampere Rating | Opening Time |
|--------------------|--------------------------------|
| 100% | 60 minutes, Minimum |
| 210% | 30 minutes, Maximum |
| 275% | 0.04 sec., Min.; 20 sec. Max. |
| 400% | 0.01 sec., Min.; 1.0 sec. Max. |
| 1000% | 0.03 sec., Max. |

Applications

- Telecom power supplies
- Data center server power supplies
- Higher energy and power efficient applications

Additional Information



Datasheet



Resources



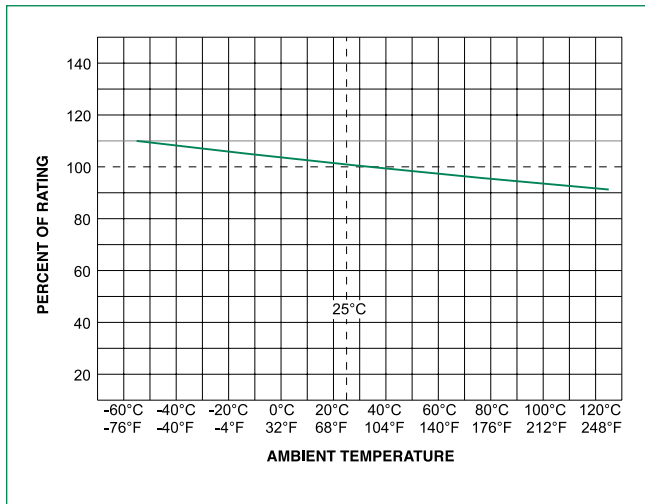
Samples

Electrical Characteristic Specifications by Item

| Amp Code | Amp Rating | Max Voltage Rating (V) | Interrupting Rating | Nominal Cold Resistance (Ohms) | Nominal Melting I ² t (A ² sec.) | Agency Approvals | |
|----------|------------|------------------------|----------------------------|--------------------------------|--|------------------|-----|
| | | | | | | UL US | CSA |
| 008. | 8 | 420VDC 420VAC | 300A@420VDC 200A@420VAC | 0.0134 | 65 | x | x |
| 010. | 10 | | | 0.0093 | 130 | x | x |
| 12.5 | 12.5 | | | 0.0078 | 170 | x | x |
| 015. | 15 | | | 0.0075 | 190 | x | x |
| 016. | 16 | | | 0.0064 | 260 | x | x |
| 020. | 20 | | | 0.0043 | 390 | x* | x |

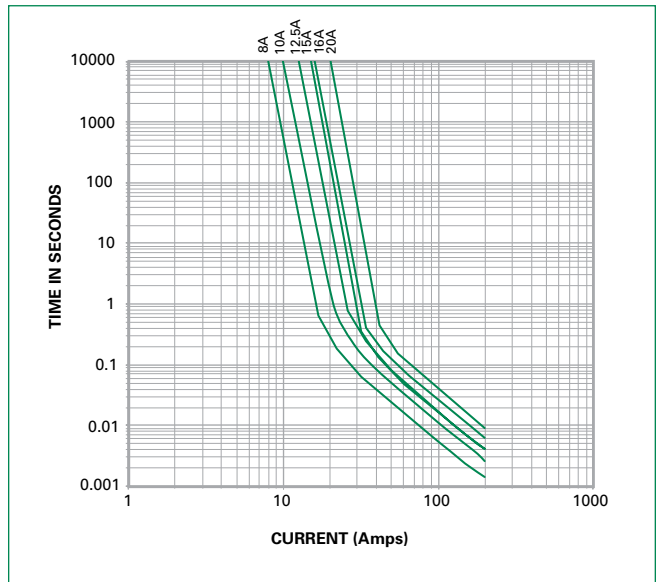
* Additional 750A@250VAC interrupting rating for 20A.

Temperature Derating Curve

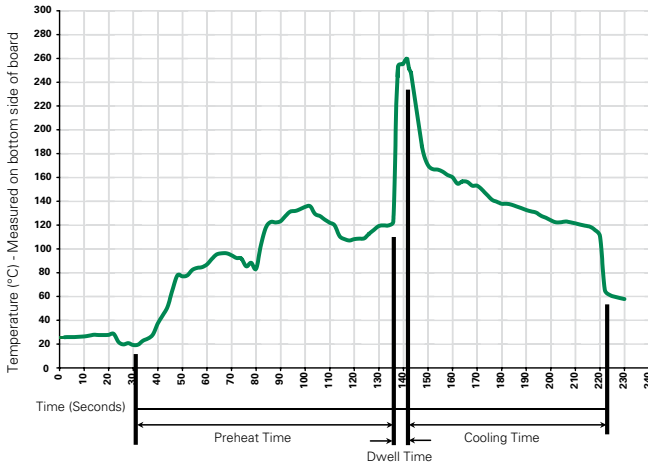


Note:
Derating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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: | 260° C Maximum |
| Solder Dwell Time: | 2-5 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.

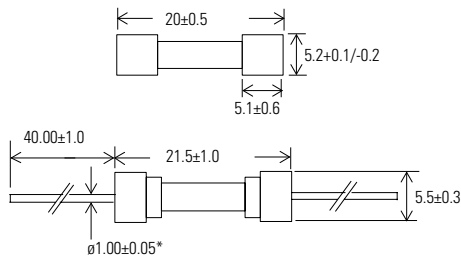
Product Characteristics

| | |
|--------------------------|--|
| 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 | Cap 1: Brand logo, current and voltage ratings Cap 2: Series and agency approval markings |

| | |
|------------------------------|---|
| Operating Temperature | -60°C to +125°C |
| Thermal Shock | MIL-STD-202, Method 107, Test Condition B |
| Vibration | MIL-STD-202, Method 201 |
| Moisture Resistance | MIL-STD-202, Method 103, Test Condition A |
| Salt Spray | MIL-STD-202, Method 101, Test Condition B |

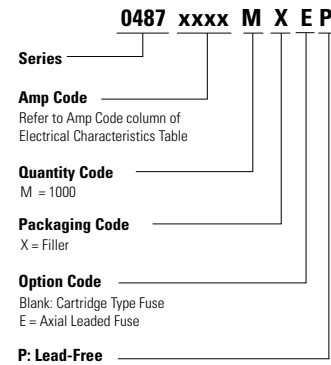
Dimensions

All dimensions in mm



Note:
*Rating of 20A has 1.20±0.05 diameter lead

Part Numbering System



Packaging

| Packaging Option | Packaging Specification | Quantity | Quantity & Packaging Code | Reel Size |
|------------------|-------------------------|----------|---------------------------|-----------|
| 487 Series | | | | |
| Bulk | N/A | 1000 | MX | N/A |
| Bulk | N/A | 1000 | MXE | N/A |

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