

487 Series

5×20 mm, Fast-Acting Fuse



Web Resources



Download ECAD models, order samples, and find technical resources at www.littelfuse.com

Agency Approvals

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

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.

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.

Features & Benefits

- 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



Applications

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

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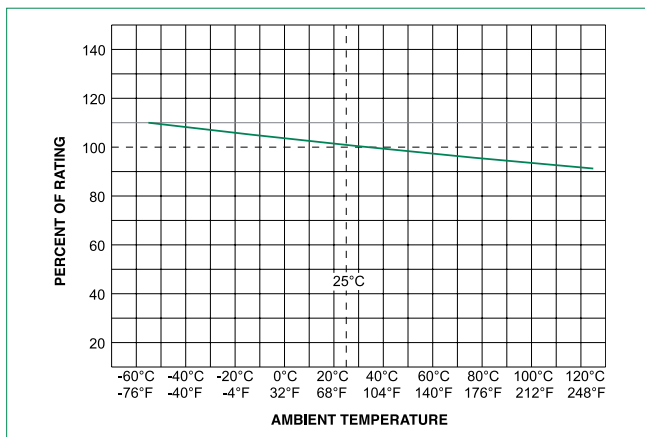
Electrical Characteristic Specifications by Item

Amp Code	Amp Rating	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec.)	Agency Approvals	
							
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

Notes:

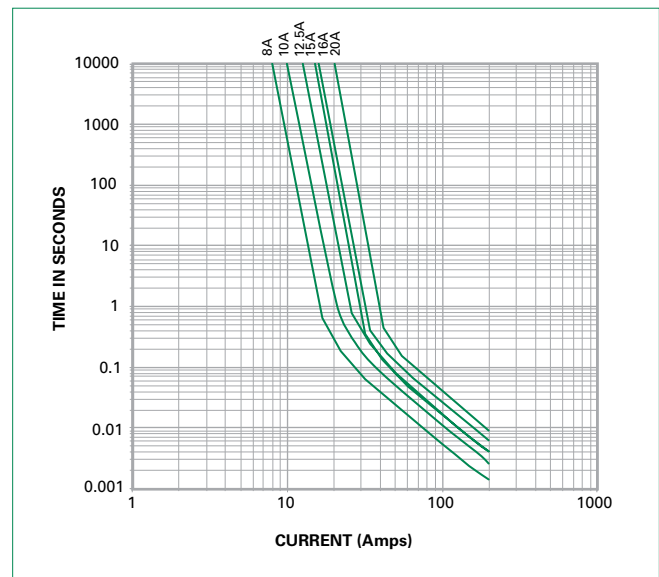
*Additional 750A@250VAC interrupting rating for 20A.
16A 1.5kA@250VAC/VDC for "E" option

Temperature Derating Curve

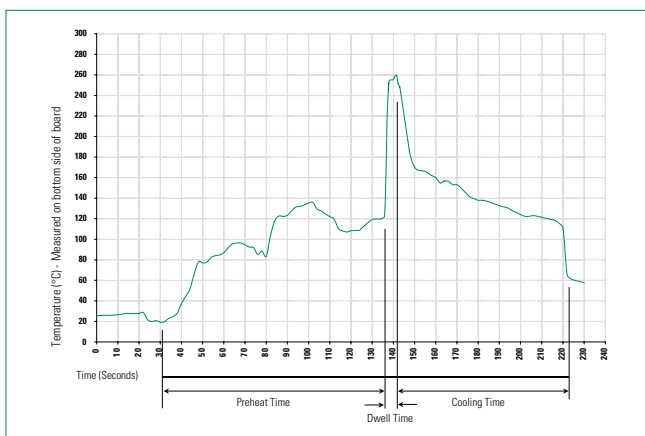

Note:

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.

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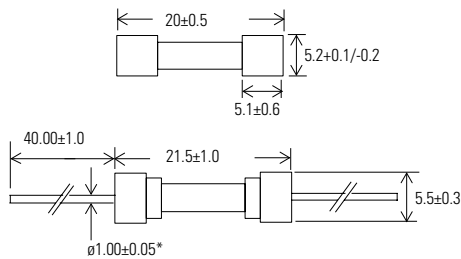
Product Characteristics

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

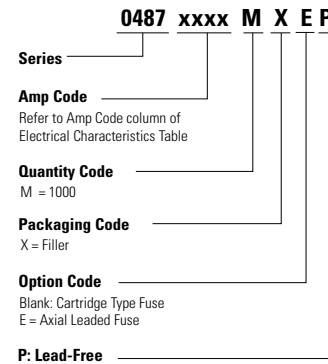
All dimensions in mm



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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