

505 Series

Lead-free 3AB, Fast-Acting Fuse



Description

The 505 Series is a 500VAC/VDC rated ceramic fuse with a 20,000A interrupting rating in a compact 6.3 x 32mm package. Suitable for circuit protection in high energy applications.

Features & Benefits

- Available in cartridge and axial lead form and with various lead forming dimensions.
- RoHS compliant and Lead-free
- Interrupting rating of 20,000 Amperes
- Compact form factor of 6.3mm x 32mm
- Recognized to UL/CSA/NMX 248-1 and UL/CSA/NMX 248-14
- Conforms to EN 60127-1 and EN 60127-7

Additional Information



Resources



Accessories



Samples

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

Electrical Characteristics for Series

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

Applications

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

Agency Approvals

Agency	Agency File/Certificate Number	Ampere Range
cULus	E10480	10A - 30A
S	SE-S-2300703	10A - 12A
A	T5026910801 *	15A - 30A
A	J50521465 **	15A - 16A
CE	N/A	10A - 30A

Notes:

* Conforms to UL 248-1 and UL 248-14

** Conforms to EN/IEC 60127-1 and EN/IEC 60127-7

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			
						cULus	S	A	CE
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:

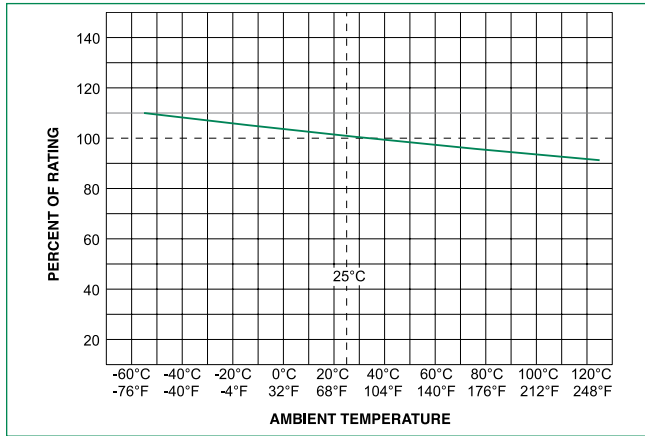
1. 20kA @ 500VAC and 20kA @ 500VDC interrupting rating available for TUV certification of 30A

2. *200A @ 500VAC and 200A @ 500VDC interrupting rating available for 10A. Add suffix "500". Example: 0505010.MXE500P, and 0505010.MXE500P"

505 Series

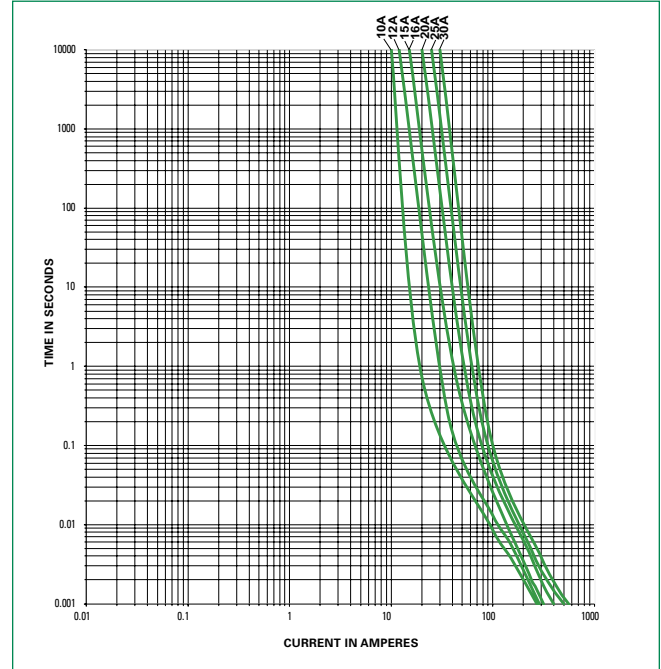
Lead-free 3AB, Fast-Acting Fuse

Temperature Re-rating Curve

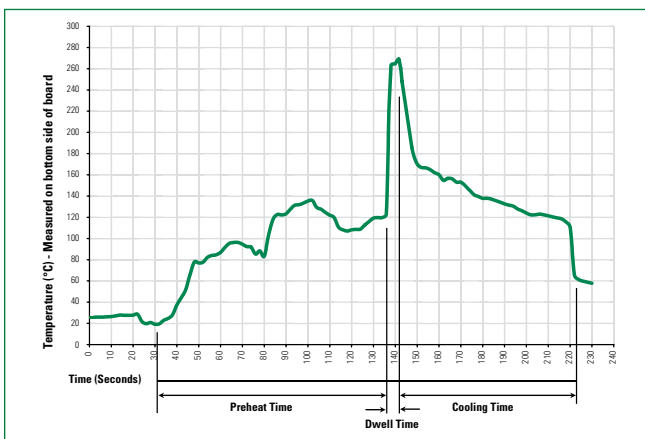


Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

Average Time Current Curves



Soldering Parameters - Wave Soldering



Recommended Process Parameters:

Wave Parameter	Lead-Free Recommendation
Preheat: (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.

505 Series

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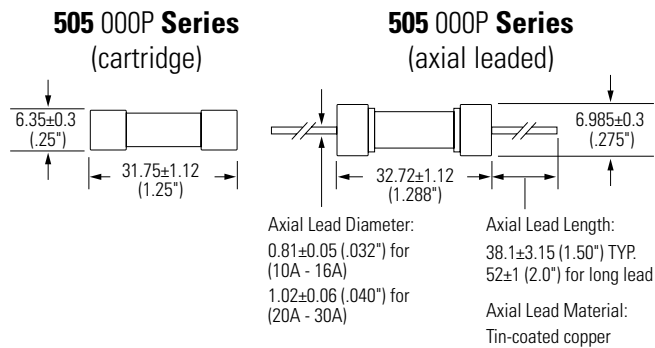
Product Characteristics

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	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
Tube	N/A	1500	DXT	N/A

Part Numbering System

	0505	xxxx	M	X	E	P
Series						
Amp Code						
Quantity Code						
Packaging Code						
Option Codes						
Lead-Free						

Refer to Amp Code column of Electrical Characteristics Table

M = 1000

X = Filler

E : Axial Leaded
52LE : 52mm length
Others : special options.
Please call Littelfuse for detail.

Blank : Cartridge

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:

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

Disclaimer Notice - Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability of and test each product selected for their own applications. Littelfuse products are not designed for, and may not be used in, all applications. Read complete Disclaimer Notice at: www.littelfuse.com/disclaimer-electronics