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.

Applications

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

Agency Approvals

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

Notes:
* Conforms to UL 248-1 and UL 248-14
** Conformos to EN/IEC 60127-1 and EN/IEC 60127-7

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

Electrical Characteristic Specifications by Item

Amp Code	Ampere Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I²t (A² sec)	Agency Approvals			
						c UL us			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 20kA@500VDC	0.0073	68	x	-	x	x
016.	16	500		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.MX500P, and 0505010.MXE500P"

Revised: GD. 10/16/23

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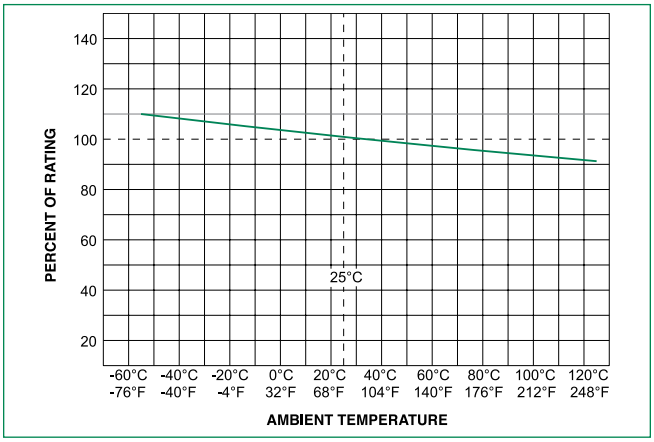
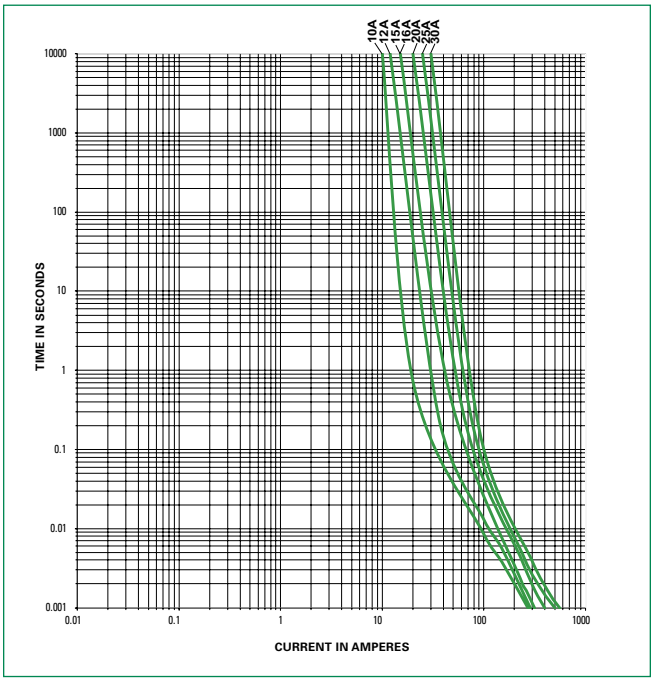
Temperature Re-rating Curve

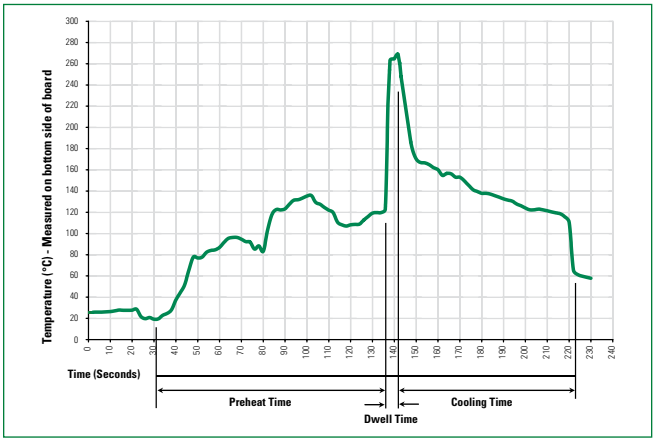


Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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.

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Product Characteristics

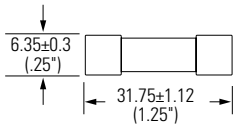
Materials	Body : Ceramic Cap : Nickel–plated brass Leads : Tin-plated Copper
Terminal Strength	MIL-STD-202, Method 211, Test Condition A
Solderability	MIL-STD-202, Method 208
Product Marking	Cap1 : Brand logo, current and voltage ratings Cap2 : Series and agency approval marks

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

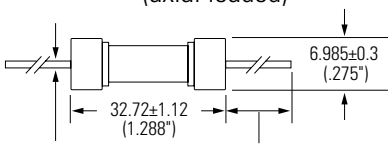
Dimensions

Measurements displayed in millimeters (inches)

505 000P **Series**
(cartridge)



505 000P **Series**
(axial leaded)

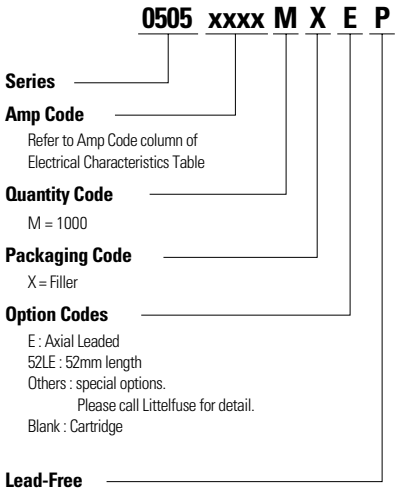


Axial Lead Diameter:
0.81±0.05 (.032") for (10A - 16A)
1.02±0.06 (.040") for (20A - 30A)

Axial Lead Length:
38.1±3.15 (1.50") TYP.
52±1 (2.0") for long lead

Axial Lead Material:
Tin-coated copper

Part Numbering System



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

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.