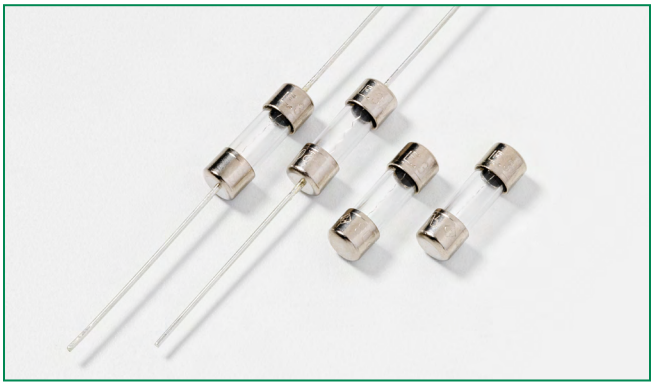
224/225 Series Lead-Free 2AG, Fast-Acting



Description

The 2AG Fast-Acting Fuses are available in cartridge form or with axial leads. 2AG Fuses provide the same performance characteristics as their 3AG counterpart, while occupying one-third the space. Sleeved fuses are available.

Features

- In accordance with underwriter's Laboratories Standard UL 248-14
- Available in cartridge and axial lead form and with various forming dimensions
- RoHS compliant and Lead-free

Applications

Used as supplementary protection in appliance or utilization equipment to provide individual protection for components or internal circuits.

Agency Approvals

Agency	Agency File Number	Ampere Range
UL	E10480	0.375A - 3.5A
TÜV	E10480	4A - 10A
CSA	29862	0.375A - 10A
PSE	NBK200405-E10480A/B/C/D NBK110512-E10480A/B NBK210405-E10480E/F	1A - 3.5A 4A - 5A 6A - 10A
CE	N/A	0.375A - 10A

Electrical Characteristics for Series

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
135%	1 hour, Maximum
200%	1 sec., Maximum

Electrical Characteristic Specifications by Item

Amp Code	Ampere Rating (A)	Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I^2t (A^2 sec)	Agency Approvals				
						UL	TÜV	CSA	PSE	CE
.375	0.375	250	35A@250Vac 10KA@125Vac 10KA@125Vdc	0.3950	0.171	x		x		x
.500	0.5	250		0.2650	0.365	x		x		x
.750	0.75	250		0.1520	1.050	x		x		x
001.	1	250		0.1027	2.220	x		x	x	x
01.5	1.5	250	100A@250Vac 10KA@125Vac 10KA@125Vdc	0.0712	0.800	x		x	x	x
002.	2	250		0.0497	2.180	x		x	x	x
02.5	2.5	250		0.0372	3.820	x		x	x	x
003.	3	250		0.0317	4.620	x		x	x	x
03.5	3.5	250		0.0265	6.700	x		x	x	x
004.	4	125	100A@250Vac 500A@125Vac	0.0240	9.400		x	x	x	x
005.	5	125		0.0186	17.0		x	x	x	x
005.	5	250		0.0186	17.0		x	x		x
006.	6	125	500A@125Vac	0.0154	22.1		x	x	x	x
007.	7	125		0.0130	40.0		x	x	x	x
008.	8	125		0.0107	56.0		x	x	x	x
010.	10	125		0.0075	116.0		x	x	x	x

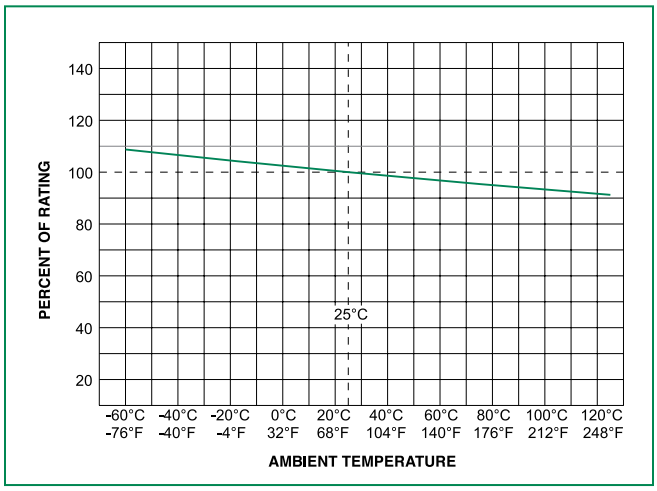
* 10A with 500A @ 125 Vdc internal breaking capacity testing.

Revised: 07/15/15

Axial Lead & Cartridge Fuses

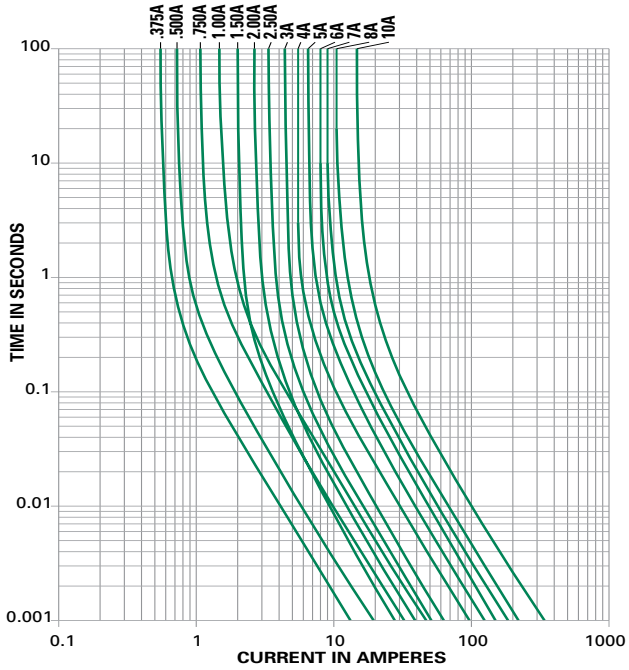
2AG > Fast Acting > 224/225 Series

Temperature Re-rating Curve

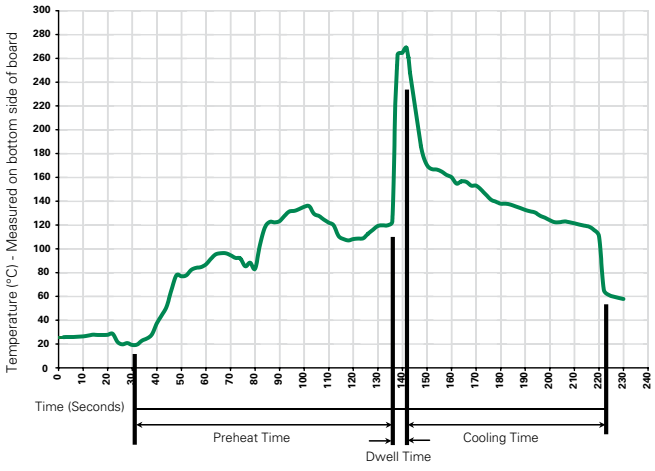


Note:
Rerating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

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:	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.

Revised: 07/15/15

Axial Lead & Cartridge Fuses

2AG > Fast Acting > 224/225 Series

Littelfuse
Expertise Applied | Answers Delivered

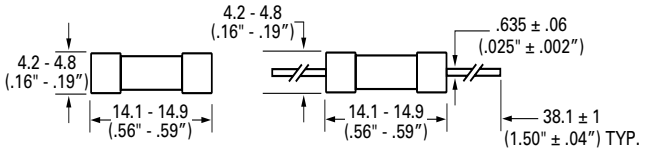
Product Characteristics

Materials	Body : Glass 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 RH (95%) and elevated temp (40°C) for 240 hours
Salt Spray	MIL-STD-202, Method 101, Test Condition B

Dimensions

225 000P Series 224 000P Series



Part Numbering System

0224 xxxx M X P

Series

Amp Code
Refer to Amp Code column of Electrical Characteristics Table

Quantity Code
M = 1000

Packaging Code
X = Filler

Lead-free

Note: The ratings from 4A to 10A with MXUP in the suffix

Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code	Taping Width
224 Series				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A
Reel and Tape	EIA 296-E	1500	DRT1	T1=53mm (2.087")
225 Series				
Bulk	N/A	1000	MX	N/A
Bulk	N/A	100	HX	N/A

Additional Information

Datasheet 224 Series
Resources 224 Series
Samples 224 Series
Datasheet 225 Series
Resources 225 Series
Samples 225 Series

Revised: 07/15/15