

Axial Lead and Cartridge Fuses

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Axial Lead and Cartridge Fuses

Subminiature

RoHS PICO® II Very Fast-Acting Fuse 251/253



The PICO® II very fast-acting fuse is designed to meet an extensive array of performance characteristics in a space-saving subminiature package.

- **RoHS Compliant** version now available, use ordering suffix 'L' (see example on data sheet).

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1/16–15	4 hours, Minimum
200%	1/16–7	1 second, Maximum
	10	3 seconds, Maximum
	12–15	10 seconds, Maximum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. Approved by METI from 1 through 5 amperes.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

REFERENCE TO MIL SPEC: Available in FM10 on QPL for MIL-PRF-23419. To order, change 251 to 253 as shown below.

INTERRUPTING RATINGS:

300 amperes at rated voltage VDC.

50 amperes at rated voltage VAC.

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: –55°C to 125°C.

Shock: MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz); Method 204, Test Condition C (55–2000 Hz at 10 G's Peak).

Moisture Resistance: MIL-STD-202, Method 106.

PHYSICAL SPECIFICATIONS:

Materials: Encapsulated, Epoxy-Coated Body; Solder Coated Copper Wire Leads. RoHS Compliant Product: Pure Tin coated copper wire leads.

Flammability Rating:

UL 94V0

Soldering Parameters:

Wave Solder — 260°C, 10 seconds maximum.

Solderability: MIL-STD-202, Method 208.

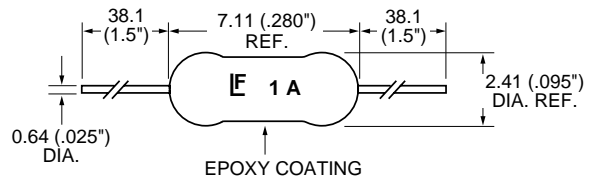
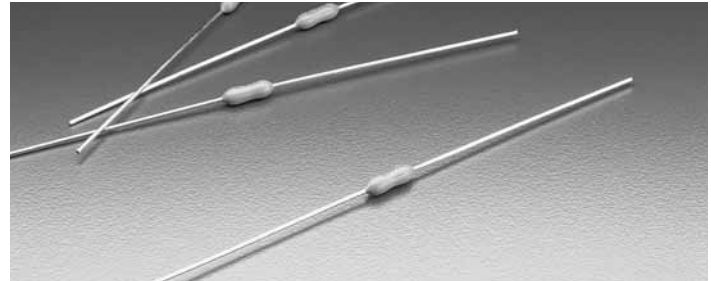
Lead Pull Force: MIL-STD-202, Method 211, Test Condition A (will withstand a 7 lb. axial pull test).

PATENTED

ORDERING INFORMATION:

Std. Type Catalog Number	Mil. Type Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
0251.062	0253.062	1/16	125	7.0	0.000113
0251.125	0253.125	1/8	125	1.70	0.00174
0251.250	0253.250	1/4	125	0.665	0.0116
0251.375	0253.375	3/8	125	0.395	0.0296
0251.500	0253.500	1/2	125	0.280	0.0598
0251.750	0253.750	3/4	125	0.175	0.153
0251.001	0253.001	1	125	0.128	0.256
0251.1.25		1 1/4	125	0.100	0.390
0251.01.5	0253.01.5	1 1/2	125	0.0823	0.587
0251.002	0253.002	2	125	0.0473	0.405
0251.02.5		2 1/2	125	0.0360	0.721
0251.003	0253.003	3	125	0.0290	1.19
0251.03.5		3 1/2	125	0.0240	1.58
0251.004	0253.004	4	125	0.0204	2.45
0251.005	0253.005	5	125	0.0155	4.14
0251.007	0253.007	7	125	0.0105	10.4
0251.010	0253.010	10	125	0.00705	25.5
0251.012		12	32	0.0055	45.2
0251.015	0253.015	15	32	0.00446	68.8

Note: Higher Ampere Ratings Available. Contact Technical Assistance for Details

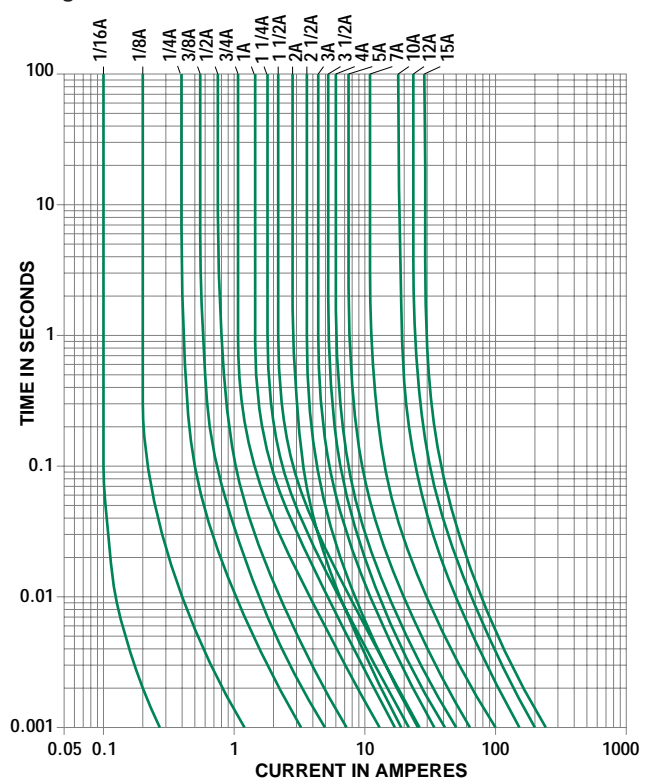


NOTE: .025" diameter for 1/16–10A, .032" diameter for 12–15A.

PACKAGING SPECIFICATIONS: Tape and Reel per EIA-296; T1: 2.062" (52.4mm) taped spacing; 5,000 per reel.

Options: For **RoHS Compliant** devices add the letter 'L' to end of packaging suffix. Example: R251001.NRT1L (RoHS Compliant 1A, 5,000 per reel).

Average Time Current Curves



Axial Lead and Cartridge Fuses

Subminiature

RoHS PICO® II 250 Volt Very Fast-Acting Fuse 263 Series



The PICO® II 250 Volt Fuse is a specially designed axial leaded fuse that achieves a 250 volt rating in a small package.

- **RoHS Compliant** version now available, use ordering suffix 'L' (see example on data sheet).

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	1 second, Maximum
300%	0.1 second, Maximum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATING: 50 amperes at 250 VAC.

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: -55°C to 125°C.

Shock: MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz); MIL-STD-202, Method 204, Test Condition C (55–2000 Hz at 10 G's Peak).

Salt Spray: MIL-STD-202, Method 101, Test Condition B (48 hrs.).

Insulation Resistance (After Opening): MIL-STD-202, Method 302, Test Condition A (10,000 ohms minimum at 100 volts).

Resistance to Soldering Heat: MIL-STD-202, Method 210, Test Condition C (10 sec at 260°C).

Thermal Shock: MIL-STD-202, Method 107, Test Condition B (-55°C to 125°C).

Moisture Resistance: MIL-STD-202, Method 106.

PHYSICAL SPECIFICATIONS:

Materials: Encapsulated, Epoxy-Coated Body; Solder Coated Copper Leads. RoHS Compliant Product: Pure Tin coated copper wire leads.

Soldering Parameters:

Wave Solder — 260°C, 10 seconds maximum.

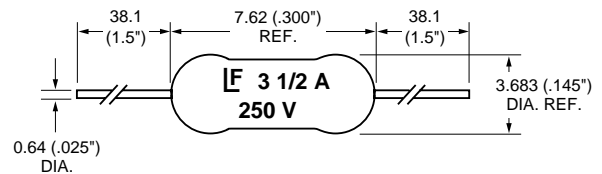
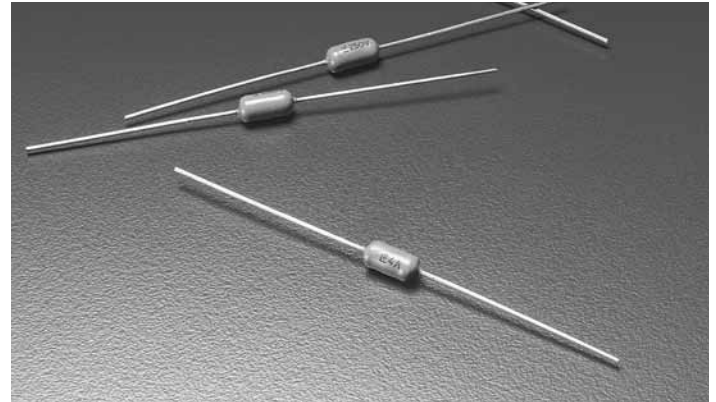
Solderability: MIL-STD-202, Method 208.

Lead Pull Force: MIL-STD-202, Method 211, Test Condition A (will withstand 7 lb. axial pull test).

PATENTED

ORDERING INFORMATION:

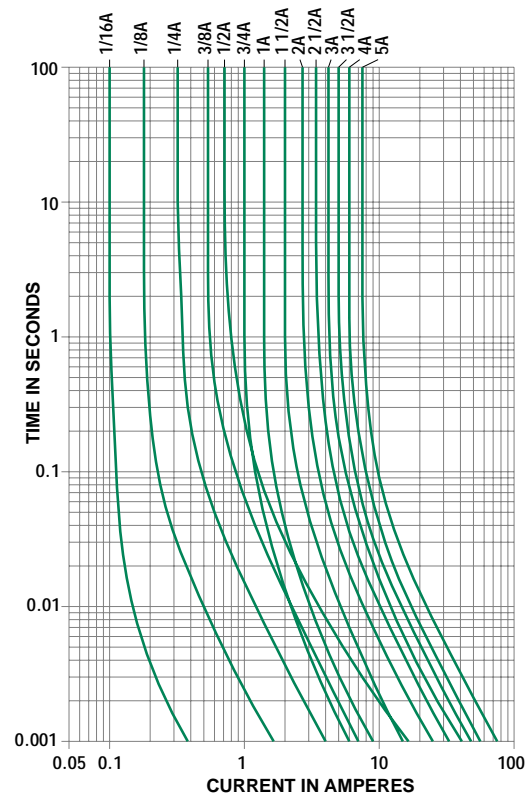
Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
0263.062	1/16	250	5.50	0.000192
0263.125	1/8	250	1.75	0.00251
0263.250	1/4	250	0.715	0.0165
0263.375	3/8	250	0.391	0.0444
0263.500	1/2	250	0.252	0.1125
0263.750	3/4	250	0.150	0.0411
0263.001	1	250	0.105	0.087
0263.01.5	1 1/2	250	0.0635	0.398
0263.002	2	250	0.0444	0.74
0263.02.5	2 1/2	250	0.0340	1.197
0263.003	3	250	0.0274	1.77
0263.03.5	3 1/2	250	0.0224	2.33
0263.004	4	250	0.0193	3.08
0263.005	5	250	0.0145	5.55



PACKAGING SPECIFICATIONS: Tape and Reel per EIA-296; T1: 2.062" (52.4mm) taped spacing; 3,000 per reel.

Options: For **RoHS Compliant** devices add the letter 'L' to end of packaging suffix. Example: 263001.L WRT1L (RoHS Compliant 1A, 3,000 per reel).

Average Time Current Curves



11 AXIAL LEAD AND CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Subminiature

RoHS PICO® II Time Lag Fuse 471 Series



- The PICO® II time-lag fuse is designed for applications that require moderate inrush withstand.
- For additional inrush withstand, consult the 473 Series.
- **RoHS Compliant** version now available, use ordering suffix 'L' (see example on data sheet).

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	120 seconds, Max.

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. Approved by METI from 1 through 5 amperes.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATINGS: 50 amperes at 125 VAC and VDC.

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: -55°C to 125°C.

Shock: MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz); Method 204, Test Condition C (55–2000 Hz at 10 G's Peak).

Moisture Resistance: MIL-STD-202, Method 106.

PHYSICAL SPECIFICATIONS:

Materials: Encapsulated, Epoxy-Coated Body; Solder Coated Copper Wire Leads. RoHS Compliant Product: Pure Tin coated copper wire leads.

Flammability Rating: UL 94V0

Soldering Parameters:

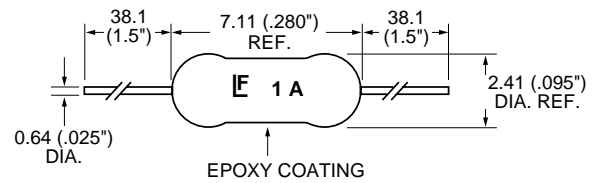
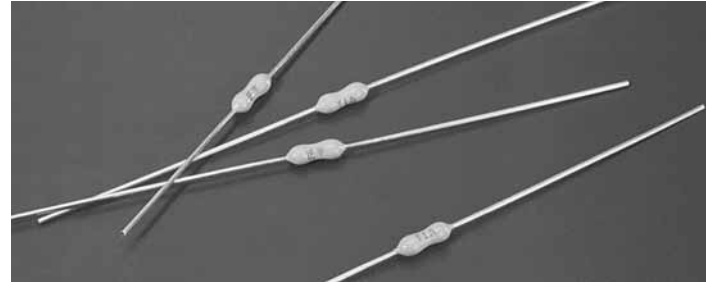
Wave Solder — 260°C, 10 seconds maximum.

Solderability: MIL-STD-202, Method 208.

Lead Pull Force: MIL-STD-202, Method 211, Test Condition A (will withstand a 7 lb. axial pull test).

ORDERING INFORMATION:

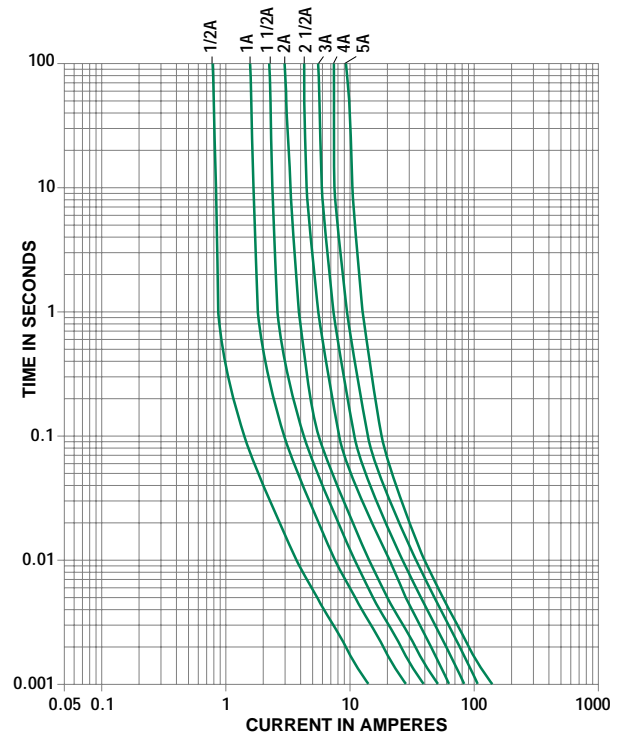
Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
0471.500	1/2	125	0.189	0.159
0471.001.	1	125	0.085	0.722
0471.01.5	1½	125	0.054	1.610
0471.002.	2	125	0.039	2.500
0471.02.5	2½	125	0.030	4.390
0471.003.	3	125	0.023	6.960
0471.004.	4	125	0.012	10.600
0471.005.	5	125	0.008	15.400



PACKAGING SPECIFICATIONS: Tape and Reel per EIA-296; T1: 2.062" (52.4mm) taped spacing; 5,000 per reel.

Options: For **RoHS Compliant** devices add the letter 'L' to end of packaging suffix. Example: 0471001.NRT1L (RoHS Compliant 1A, 5,000 per reel).

Average Time Current Curves



Axial Lead and Cartridge Fuses

Subminiature

RoHS PICO® II Slo-Blo® Fuse 473 Series



The PICO® II Slo-Blo® fuse combines time delay performance characteristics with the proven reliability of a PICO® fuse.

- **RoHS Compliant** version now available, use ordering suffix 'L' (see example on data sheet).

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	1 second, Min. ; 60 seconds, Max.
300%	0.2 second, Min. ; 3 seconds, Max.
800%	0.02 second, Min. ; 0.1 second, Max.

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA. Approved by METI from 1 through 5 amperes.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATING:

50 amperes at 125 VDC/VAC

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: -55°C to 125°C.

Shock: MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz); MIL-STD-202, Method 204, Test Condition C (55–2000 Hz at 10 G's Peak).

Salt Spray: MIL-STD-202, Method 101, Test Condition B.

Insulation Resistance (After Opening): MIL-STD-202, Method 302, (10,000 ohms minimum at 100 volts).

Resistance to Soldering Heat: MIL-STD-202, Method 210, Test Condition C (20 sec at 260°C).

Thermal Shock: MIL-STD-202, Method 107, Test Condition B (-65°C to 125°C).

Moisture Resistance: MIL-STD-202, Method 106 (90–98% RH), Heat (65°C).

PHYSICAL SPECIFICATIONS:

Materials: Encapsulated, Epoxy-Coated Body; Solder Coated Copper Wire Leads. RoHS Compliant Product: Pure Tin coated copper wire leads.

Soldering Parameters:

Wave Solder — 260°C, 3 seconds maximum.

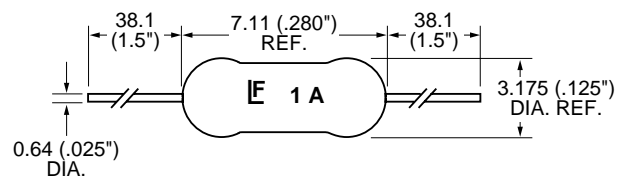
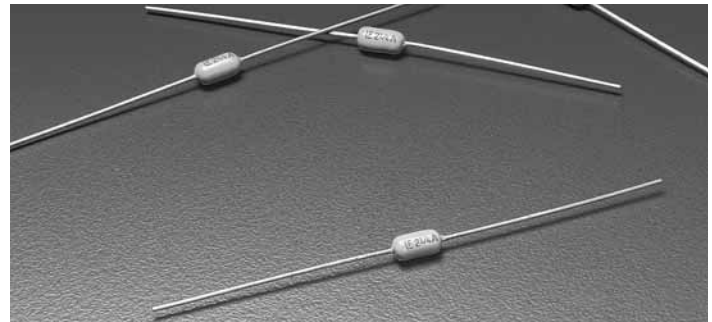
Solderability: MIL-STD-202, Method 208.

Lead Pull Force: MIL-STD-202, Method 211, Test Condition A (will withstand a 10 lb. axial pull test).

PATENTED

ORDERING INFORMATION:

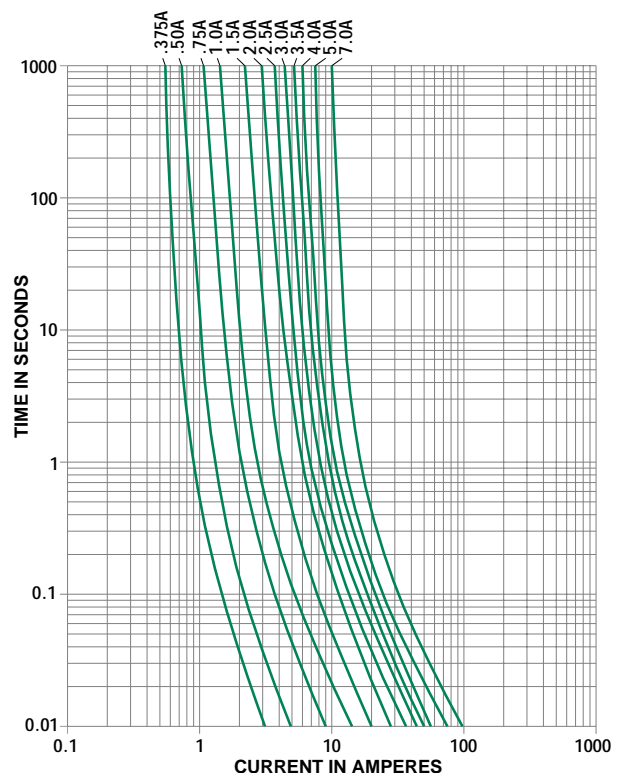
Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
0473.375	3/8	125	1.74	0.0850
0473.500	1/2	125	1.13	0.210
0473.750	3/4	125	0.460	0.760
0473 001	1	125	0.267	2.01
0473 01.5	1½	125	0.116	3.94
0473 002	2	125	0.0712	7.60
0473 2.25	2¼	125	0.0630	9.28
0473 02.5	2½	125	0.0520	13.0
0473 003	3	125	0.0380	21.0
0473 03.5	3½	125	0.0240	26.8
0473 004	4	125	0.0194	35.0
0473 005	5	125	0.0133	54.8
0473 007	7	125	0.0092	105.0



PACKAGING SPECIFICATIONS: Tape and Reel per EIA-296; T1: 2.062" (52.4mm) taped spacing; 4,000 per reel.

Options: For **RoHS Compliant** devices add the letter 'L' to end of packaging suffix. Example: 473001.YRT1L (RoHS Compliant 1A, 4,000 per reel).

Average Time Current Curves



Axial Lead and Cartridge Fuses

High-Reliability Subminiature

PICO® Fuse Very Fast-Acting Fuse 265/266/267 Series

UL SP QPL

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1/16–15	4 hours, Minimum
200%	1/16–7	1 second, Maximum
	10	3 seconds, Maximum
	15	10 seconds, Maximum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

FUSES TO MIL SPEC: 265 Series (except 1/16 ampere rating) is available in FM08A on QPL for MIL-PRF-23419/8. To order, change 265 to 267.

INTERRUPTING RATINGS:

300 amperes at rated voltage VDC
50 amperes at rated voltage VAC

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: –55°C to 125°C.

Shock: MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz); MIL-STD-202, Method 204, Test Condition C (55–2000 Hz at 10 G's Peak).

Salt Spray: MIL-STD-202, Method 101, Test Condition B.

Seal Test: MIL-STD-202, Method 112, Test Condition A.

Insulation Resistance (After Opening): MIL-STD-202, Method 302, Test Condition A (1/2 Megohm minimum).

Thermal Shock: MIL-STD-202, Method 107, Test Condition B (–65°C to 125°C).

Moisture Resistance: MIL-STD-202, Method 106.

PHYSICAL SPECIFICATIONS:

Materials: Gold-Plated Copper Leads, Type II

Weight: .32 Grams

Solderability: MIL-STD-202, Method 208.

Lead Pull Force: MIL-STD-202, Method 211, Test Condition A (will withstand a 5 lb. axial pull test).

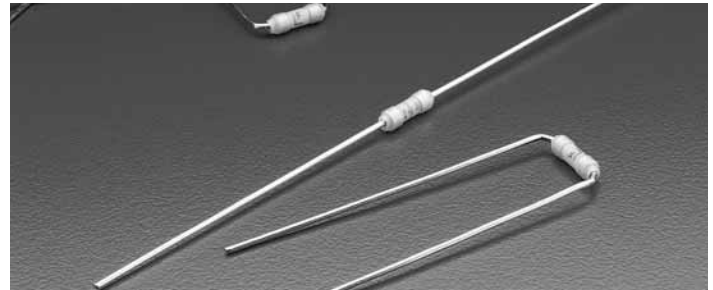
AQL (Electrical Characteristics): Certified to 1% AQL.

Sampling: Per MIL-STD-105, Inspection Level II.

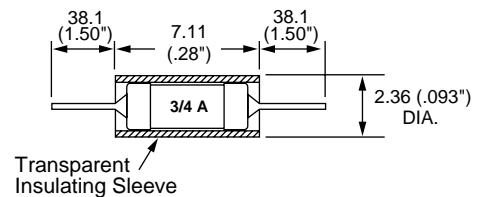
Traceability and Identification Records: Controlled by lot number and retained on file for a minimum of three years. Copies of Lot Certification Test data available when requested with order.

OPTIONS: Special screening tests, burn-in, etc. can be supplied on special order to meet specific requirements. For information on higher current ratings, contact Littelfuse.

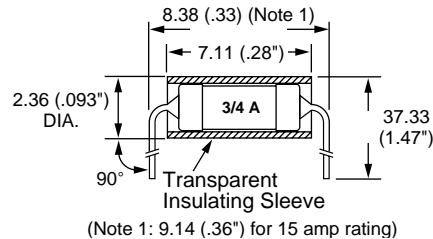
PATENTED



265 000 Series



266 000 Series



ORDERING INFORMATION:

Axial Lead Catalog Number	Radial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms
265.062	266.062	1/16	125	7.0
265.125	266.125	1/8	125	2.1
265.250	266.250	1/4	125	0.71
265.375	266.375	3/8	125	0.42
265.500	266.500	1/2	125	0.28
265.750	266.750	3/4	125	0.17
265.001	266.001	1	125	0.125
265.01.5	266.01.5	1½	125	0.08
265.002	266.002	2	125	0.055
265.02.5	266.02.5	2½	125	0.042
265.003	266.003	3	125	0.03515
265.004	266.004	4	125	0.023
265.005	266.005	5	125	0.014
265.007	266.007	7	125	0.01
265.010	266.010	10	125	0.00645
265.015	266.015	15	32	0.004

Please contact Littelfuse for Average Time Current Curve.

Axial Lead and Cartridge Fuses

High-Reliability Subminiature

MICRO™ FUSE Very Fast-Acting Type 262/268/269 Series

UL SP QPL

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1/500–5	4 hours, Minimum
200%	1/500–3/10	5 seconds, Maximum
	4/10–5	2 seconds, Maximum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA.

FUSES TO MIL SPEC: 262 Series is available in FM07A on QPL for MIL-PRF-23419/7. To order, change 262 to 269.

INTERRUPTING RATING: 10,000 amperes at 125 VAC/VDC

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: –55°C to 125°C.

Shock: (1/500): MIL-STD-202, Method 213, Test Condition A (50 G's peak for 11 milliseconds).
(1/200–5): MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz); MIL-STD-202, Method 204, Test Condition C (55–2000 Hz at 10 G's Peak).

Salt Spray: MIL-STD-202, Method 101, Test Condition B.

Seal Test: MIL-STD-202, Method 112, Test Condition A

Insulation Resistance (After Opening): MIL-STD-202, Method 302, Test Condition A (1/2 Megohm minimum).

Thermal Shock: MIL-STD-202, Method 107, Test Condition B (–65°C to 125°C).

Moisture Resistance: MIL-STD-202, Method 106.

PHYSICAL SPECIFICATIONS:

Materials: Gold-Plated Copper Leads, Type II (Fuse cap is also Gold-Plated).

Weight: 262 and 269 Series .36 Grams; 268 Series .48 Grams.

Lead Pull Force: MIL-STD-202, Method 211, Test Condition A (will withstand a 5 lb. axial pull test).

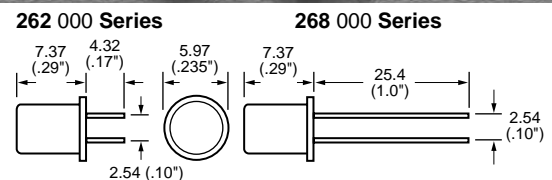
AQL (Electrical Characteristics): Certified to 1% AQL.

Sampling: Per MIL-STD-105, Inspection Level II.

Traceability and Identification Records: Controlled by lot number and retained on file for a minimum of three years. Copies of Lot Certification Test data available when requested with order.

OPTIONS: Special screening tests, burn-in, etc. can be supplied on special order to meet specific requirements.

PATENTED



ORDERING INFORMATION:

Plug-In Catalog Number	Radial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms
262.002	268.002	1/500	125	2000
262.005	268.005	1/200	125	280
262.010	268.010	1/100	125	94.0
262.015	268.015	1/64	125	44.0
262.031	268.031	1/32	125	16.45
262.050	268.050	1/20	125	3.20
262.062	268.062	1/16	125	2.25
262.100	268.100	1/10	125	1.17
262.125	268.125	1/8	125	1.0
262.200	268.200	2/10	125	2.30
262.250	268.250	1/4	125	1.75
262.300	268.300	3/10	125	1.25
262.400	268.400	4/10	125	0.227
262.500	268.500	1/2	125	0.167
262.600	268.600	6/10	125	0.140
262.700	268.700	7/10	125	0.114
262.750	268.750	3/4	125	0.104
262.800	268.800	8/10	125	0.094
262 001	268 001	1	125	0.100
262 01.5	268 01.5	1½	125	0.063
262 002	268 002	2	125	0.046
262 003	268 003	3	125	0.034
262 004	268 004	4	125	0.019
262 005	268 005	5	125	0.018

Please contact Littelfuse for Average Time Current Curve.

Axial Lead and Cartridge Fuses

Subminiature

MICRO™ FUSE Very Fast-Acting Type 272/273/274/278/279 Series

UL SP QPL

Developed originally for the U.S. Space Program, MICRO fuse provides reliability in a compact design. The MICRO fuse is available in plug in or radial lead styles and a complete range of ampere ratings from 1/500 to 5 amperes to suit a wide variety of design needs.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1/500–5	4 hours, Minimum
200%	1/500–3/10	5 seconds, Maximum
	4/10–5	2 seconds, Maximum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories and Certified by CSA.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATING: 10,000 amperes at 125 VAC/VDC.

FUSES TO MIL SPEC: 273 Series is available in Military QPL type (FM02). To order, change 273 to 274.

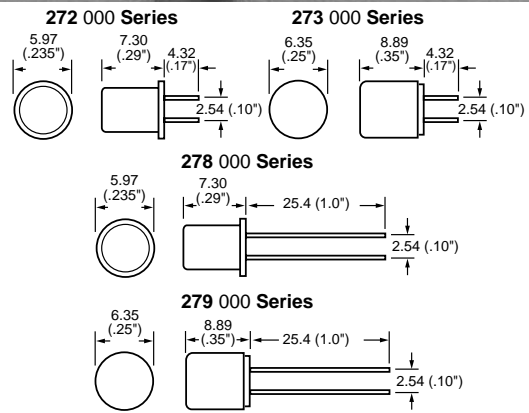
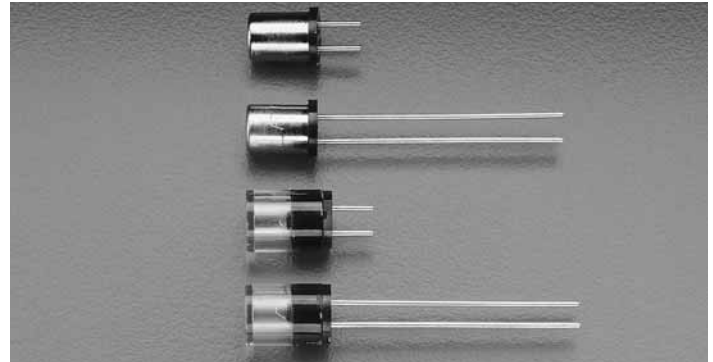
Operating Temperature:

273 and 279: –55°C to 85°C.
272 and 278: –55°C to 125°C

PATENTED

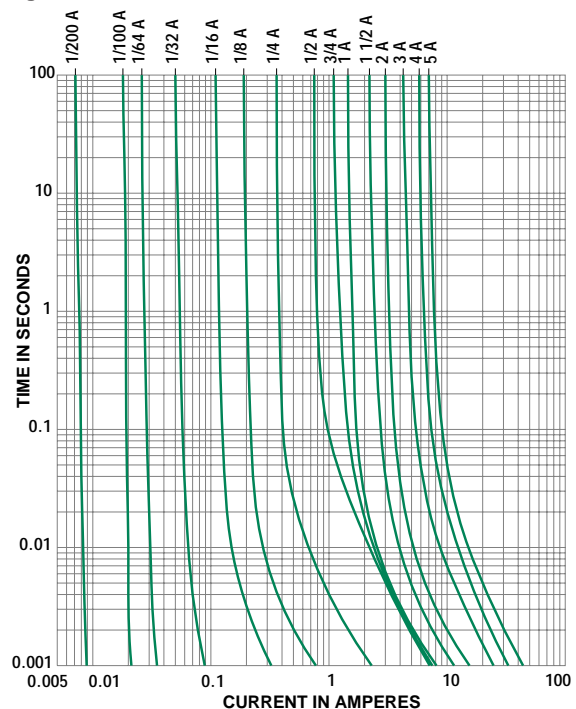
ORDERING INFORMATION:

Plug-In		Radial Lead		Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
Catalog Number	Catalog Number	Catalog Number	Catalog Number				
272.002	273.002	278.002	279.002	1/500	125	2200	0.0000000845
272.005	273.005	278.005	279.005	1/200	125	2800	0.0000000810
272.010	273.010	278.010	279.010	1/100	125	80.0	0.000000462
272.015	273.015	278.015	279.015	1/64	125	44.0	0.00000123
272.031	273.031	278.031	279.031	1/32	125	16.0	0.00000810
272.050	273.050	278.050	279.050	1/20	125	3.20	0.0000666
272.062	273.062	278.062	279.062	1/16	125	2.32	0.000115
272.100	273.100	278.100	279.100	1/10	125	1.25	0.000385
272.125	273.125	278.125	279.125	1/8	125	1.0	0.000691
272.200	273.200	278.200	279.200	2/10	125	2.30	0.00409
272.250	273.250	278.250	279.250	1/4	125	1.75	0.00640
272.300	273.300	278.300	279.300	3/10	125	1.25	0.00945
272.400	273.400	278.400	279.400	4/10	125	0.227	0.0251
272.500	273.500	278.500	279.500	1/2	125	0.167	0.0716
272.600	273.600	278.600	279.600	6/10	125	0.430	0.0411
272.700	273.700	278.700	279.700	7/10	125	0.324	0.0710
272.750	273.750	278.750	279.750	3/4	125	0.293	0.0900
272.800	273.800	278.800	279.800	8/10	125	0.271	0.113
272.001	273.001	278.001	279.001	1	125	0.0880	0.0648
272.01.5	273.01.5	278.01.5	279.01.5	1½	125	0.0578	0.160
272.002	273.002	278.002	279.002	2	125	0.0425	0.300
272.003	273.003	278.003	279.003	3	125	0.0275	0.759
272.004	273.004	278.004	279.004	4	125	0.0202	1.38
272.005	273.005	278.005	279.005	5	125	0.0156	2.21



NOTE: Amperage and voltage rating stamped on cap. Leads are solder-coated copper; .025" diameter.

Average Time Current Curves



Axial Lead and Cartridge Fuses

Subminiature Glass Body

2AG Fast-Acting Fuse 224/225 Series



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

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	1 second, Maximum

AGENCY APPROVALS: All ratings are Listed by UL and Certified by CSA. 1 through 10 amperes approved by METI.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATINGS:

0.1–10A	10,000 amperes at 125 VAC
0.1–1A	35 amperes at 250 VAC
1.5–3.5A	100 amperes at 250 VAC

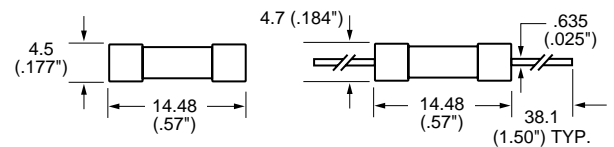
PACKAGING OPTIONS: 224 Series available on Tape and Reel per EIA-296. For 1500 pieces per reel, add packaging suffix DRT1. See page 8 for pitch Dimensions. 224, 225 series available in bulk packaging. For 1000 pieces bulk add packaging suffix M.

PATENTED



225 000 Series

224 000 Series



Axial Lead Material: Solder coated copper.

ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
225.100	224.100	1/10	250	6.15	0.000750
225.125	224.125	1/8	250	3.90	0.00286
225.250	224.250	1/4	250	1.15	0.0300
225.375	224.375	3/8	250	0.395	0.171
225.500	224.500	1/2	250	0.265	0.365
225.750	224.750	3/4	250	0.152	1.05
225.001	224.001	1	250	0.102	2.22
225.01.5	224.01.5	1 1/2	250	0.0705	0.800
225.002	224.002	2	250	0.0490	1.50
225.02.5	224.02.5	2 1/2	250	0.0365	2.68
225.003	224.003	3	250	0.0310	4.62
225.03.5	224.03.5	3 1/2	250	0.0258	6.70
225.004	224.004	4	125	0.0233	9.40
225.005	224.005	5	125	0.0179	17.00
225.006	224.006	6	125	0.0147	22.1
225.007	224.007	7	125	0.0123	40.0
225.008	224.008	8	125	0.0100	56.0
225.010	224.010	10	125	0.00675	116.0

2AG Special 350V

Fast-Acting Fuse



The **220 007** subminiature fuse is intended for fluorescent lighting ballast protection or similar applications up to 350V.

AXIAL LEAD PART NUMBER: 220 007 (ampere rating of 3A).

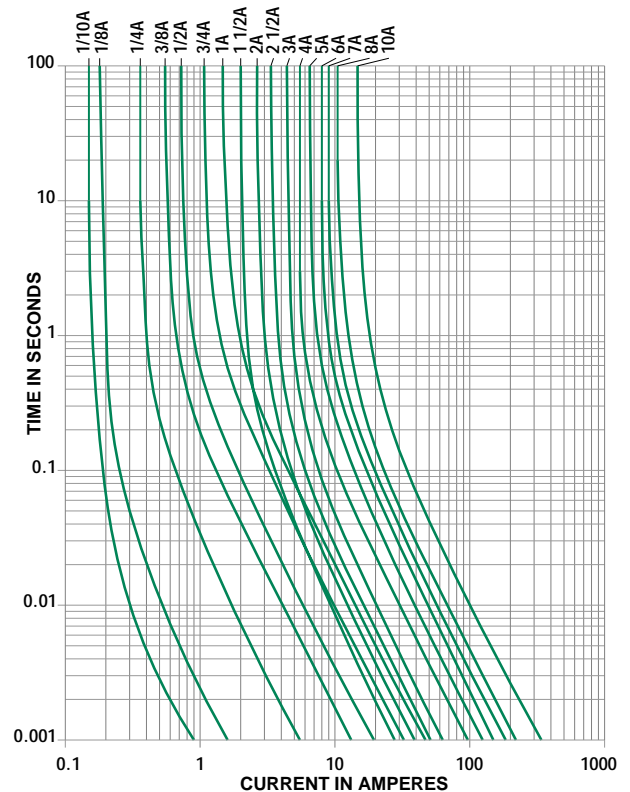
DIMENSIONS: Same as 224 Series.

ELECTRICAL CHARACTERISTICS: Same as 224 Series.

INTERRUPTING RATING: 100 amperes at 350 VAC.

Contact Littelfuse concerning other ampere ratings.

Average Time Current Curves



11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Subminiature Glass Body

RoHS **Pb** **2AG** Fast-Acting Fuse 224P/225P Series



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

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	1 second, Maximum

AGENCY APPROVALS: All ratings are Listed by UL and Certified by CSA. 1 through 10 amperes approved by METI.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATINGS:

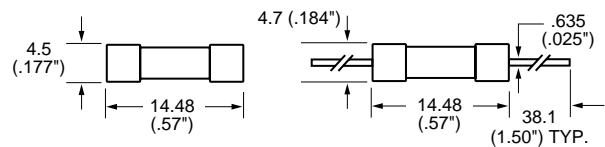
0.1–10A	10,000 amperes at 125 VAC
0.1–1A	35 amperes at 250 VAC
1.5–3.5A	100 amperes at 250 VAC

PACKAGING OPTIONS: 224P Series available on Tape and Reel per EIA-296. For 1500 pieces per reel, add packaging suffix DRT1P. See page 8 for pitch Dimensions. 224P, 225P series available in bulk packaging. For 1000 pieces bulk add packaging suffix MXP.



225 000P Series

224 000P Series



Axial Lead Material: Tin coated copper.

ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
225.100P	224.100P	1/10	250	6.15	0.000750
225.125P	224.125P	1/8	250	3.90	0.00286
225.250P	224.250P	1/4	250	1.15	0.0300
225.375P	224.375P	3/8	250	0.395	0.171
225.500P	224.500P	1/2	250	0.265	0.365
225.750P	224.750P	3/4	250	0.152	1.05
225.001P	224.001P	1	250	0.102	2.22
225.01.5P	224.01.5P	1½	250	0.0705	0.800
225.002P	224.002P	2	250	0.0490	1.50
225.02.5P	224.02.5P	2½	250	0.0365	2.68
225.003P	224.003P	3	250	0.0310	4.62
225.03.5P	224.03.5P	3½	250	0.0258	6.70
225.004P	224.004P	4	125	0.0233	9.40
225.005P	224.005P	5	125	0.0179	17.00
225.006P	224.006P	6	125	0.0147	22.1
225.007P	224.007P	7	125	0.0123	40.0
225.008P	224.008P	8	125	0.0100	56.0
225.010P	224.010P	10	125	0.00675	116.0

2AG Special 350V

Fast-Acting Fuse



The **220 007P** subminiature fuse is intended for fluorescent lighting ballast protection or similar applications up to 350V.

AXIAL LEAD PART NUMBER: 220 007P (ampere rating of 3A).

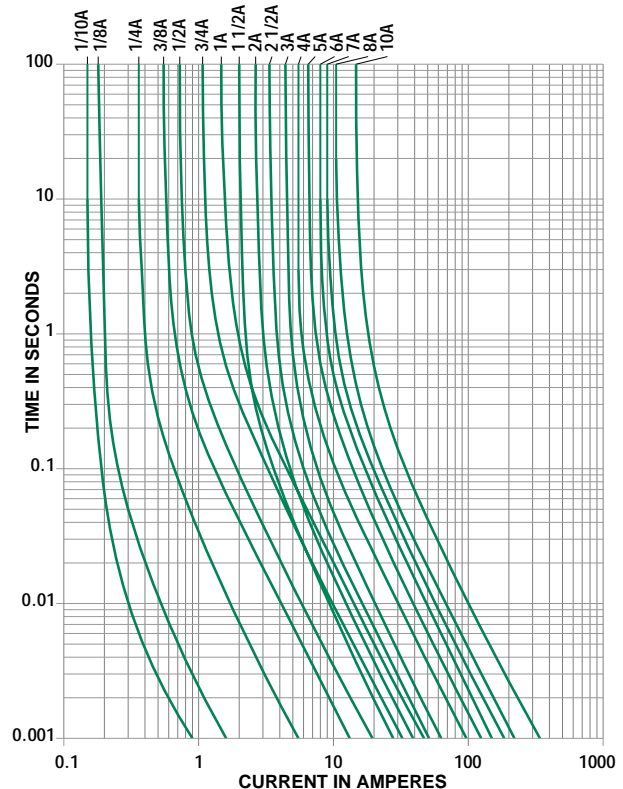
DIMENSIONS: Same as 224P Series.

ELECTRICAL CHARACTERISTICS: Same as 224P Series.

INTERRUPTING RATING: 100 amperes at 350 VAC.

Contact Littelfuse concerning other ampere ratings.

Average Time Current Curves



Axial Lead and Cartridge Fuses

Subminiature Glass Body

2AG Slo-Blo® Fuse 229/230 Series



The 2AG Slo-Blo® fuses are available in cartridge form or with axial leads. Axial leaded fuses are board washable. 2AG fuses provide the same performance characteristics as their 3AG counterpart, while occupying one-third the space. Sleeved fuses are available.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	3 seconds, Minimum
	20 seconds, Maximum

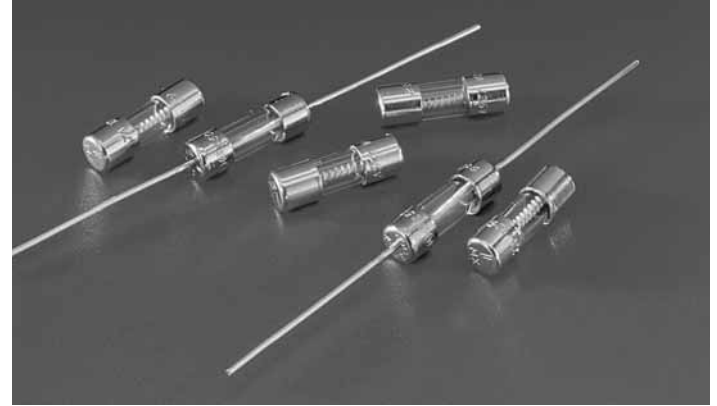
AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 3.5 amperes. Recognized under the Components Program of Underwriters Laboratories from 4 through 7 amperes. 1 through 7 amperes approved by METI.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

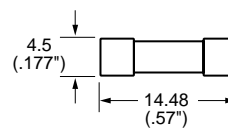
INTERRUPTING RATINGS:

0.25–3.5A	10,000 amperes at 125VAC
4–7A	400 amperes at 125VAC
0.25–1A	35 amperes at 250VAC
1.25–3.5A	100 amperes at 250VAC

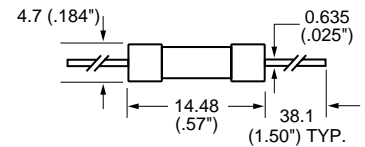
PACKAGING OPTIONS: 230 Series available on Tape and Reel per EIA-296. For 1500 pieces per reel, add packaging suffix DRT1W. See page 8 for pitch dimensions. 229 and 230 series available in bulk packaging. For 1000 pieces bulk, add packaging suffix M.



229 000 Series



230 000 Series

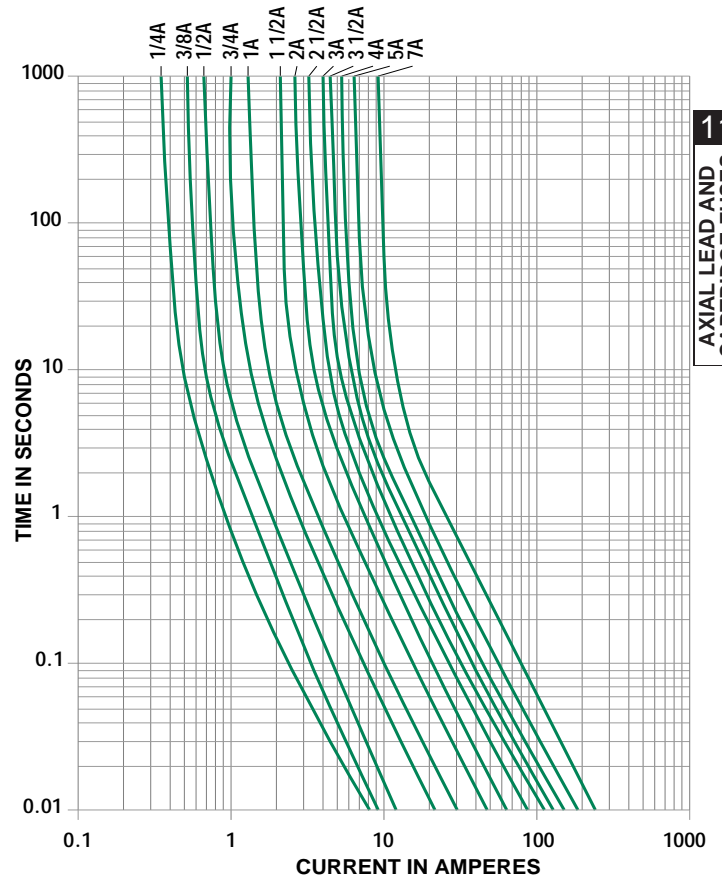


Axial Lead Material: Solder coated copper.

ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
229.250	230.250	1/4	250	2.41	0.216
229.350	230.350	.350	250	1.30	0.490
229.375	230.375	3/8	250		0.580
229.500	230.500	1/2	250	0.688	1.16
229.600	230.600	6/10	250	0.477	1.75
229.750	230.750	3/4	250	0.340	2.95
229.800	230.800	8/10	250	0.304	3.45
229 001	230 001	1	250		5.64
229 1.25	230 1.25	1 1/4	250	0.145	9.80
229 01.5	230 01.5	1 1/2	250	0.107	15.0
229 002	230 002	2	250	0.0692	30.0
229 2.25	230 2.25	2 1/4	250	0.0562	39.0
229 02.5	230 02.5	2 1/2	250	0.0498	50.0
229 003	230 003	3	250	0.0380	77.0
229 03.5	230 03.5	3 1/2	250	0.0310	110.0
229 004	230 004	4	125	0.0256	148.0
229 005	230 005	5	125	0.0185	267.0
229 006	230 006	6	125	0.0140	380.0
229 007	230 007	7	125	0.0115	464.0

Average Time Current Curves



Axial Lead and Cartridge Fuses

Subminiature Glass Body

2AG Slo-Blo® Fuse 229/230 Series

SURGE WITHSTAND SPECIFICATIONS

Our standard 229 and 230 Series Slo-Blo® fuses meet the demanding requirements of the Telecom industry. These Fuses combine conventional overcurrent protection with the ability to withstand high current, short duration pulses. These fuses comply with the short circuit requirements of UL 1459 for telephone equipment. Insulating Sleeve Option available. We have characterized these fuses for the Telecom industry requirements as shown below.

ELECTRICAL CHARACTERISTICS:

Short Circuit Capabilities:

UL 60950 (UL 1459 Included):	60A,	600VAC
	40A,	600VAC
	7A,	600VAC
	2.2A,	600VAC

- Meets UL 497 Specifications

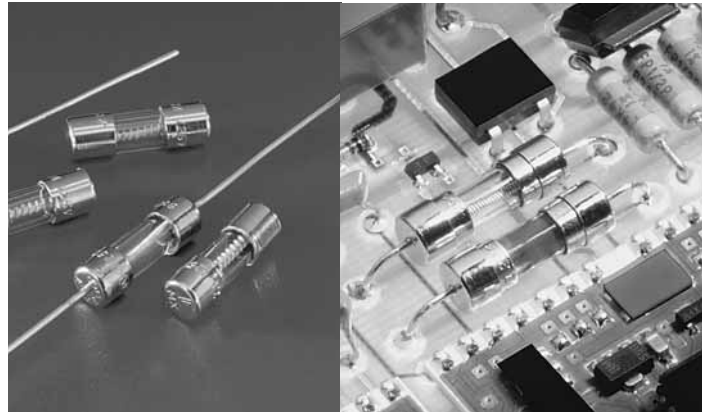
PEAK WITHSTAND CURRENT (I_p): These fuses will withstand 50 repetitions of a double exponential impulse wave having peak currents (I_p) and peak voltages as listed.

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	10 x 160 microsec. 1500V	10 x 560 microsec. 800V	10 x 1000 microsec. 1000V
229.250	230.250	1/4	23.0A	16.6A	12.4A
229.350	230.350	.350	34.0A	25.8A	19.3A
229.375	230.375	3/8	40.0A	25.4A	19.0A
229.500	230.500	1/2	60.0A	37.7A	28.2A
229.600	230.600	6/10	71.0A	47.2A	35.3A
229.750	230.750	3/4	91.0A	65.5A	49.0A
229.800	230.800	8/10	104.0A	68.9A	51.6A
229 001	230 001	1	130.0A	88.6A	66.3A
229 1.25	230 1.25	1 1/4 ¹	162.0A	118.1A	100.0A

¹500A peak, 2500V, 2 x 10 microseconds, 20 repetitions.

INDICATING SLO-BLO® FUSE

The 2AG Indicating Slo-Blo® fuse instantly identifies itself upon opening by showing a discoloration of its glass body. Guesswork and time consuming circuit testing are eliminated. This unique design offers the same quality performance characteristics as the standard 2AG fuse design.



* When ordering the 2AG Indicating Slo-Blo Fuse, an 'S' is required after the catalog number.

Example:

-1A Indicating Slo-Blo® Fuse = 230 001S

2AG 229/230 Series General Specifications

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: -55°C to 125°C.

Shock: MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz, 0.06 inches total excursion).

Salt Spray: MIL-STD-202 Method 101, Test Condition B (48 hours).

Insulation Resistance (After Opening): MIL-STD-202, Method 302, Test Condition B.

Resistance to Soldering Heat: (Axial Leaded Fuses):

MIL-STD-202, Method 210A, Test Condition B (260°C, 3 Seconds).

Thermal Shock: MIL-STD-202, Method 107,

Test Condition B (-65°C to 125°C).

Moisture Resistance: MIL-STD-202, Method 106

(90-98% RH, 65°C).

Solderability: (Axial Leaded Fuses): MIL-STD-202, Method 208.

PHYSICAL SPECIFICATIONS:

Materials: Glass Body, Nickel-Plated Brass Fuse Caps. (Insulating sleeve option available).

SOLDERING PARAMETERS:

Wave solder — 500°F (260°C), 3 seconds Max.

Reflow solder — Not recommended.

Axial Lead and Cartridge Fuses

Subminiature Glass Body

RoHS **PO** **2AG** Slo-Blo® Fuse 229P/230P Series



The 2AG Slo-Blo® fuses are available in cartridge form or with axial leads. Axial leaded fuses are board washable. 2AG fuses provide the same performance characteristics as their 3AG counterpart, while occupying one-third the space. Sleeved fuses are available.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	3 seconds, Minimum
	20 seconds, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 3.5 amperes. Recognized under the Components Program of Underwriters Laboratories from 4 through 7 amperes. 1 through 7 amperes approved by METI.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATINGS:

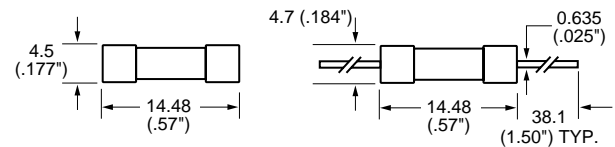
0.25–3.5A	10,000 amperes at 125VAC
4–7A	400 amperes at 125VAC
0.25–1A	35 amperes at 250VAC
1.25–3.5A	100 amperes at 250VAC

PACKAGING OPTIONS: 230P Series available on Tape and Reel per EIA-296. For 1500 pieces per reel, add packaging suffix DRTIP. See page 8 for pitch dimensions. 229P and 230P series available in bulk packaging. For 1000 pieces bulk, add packaging suffix MXP.



229 000P Series

230 000P Series



Axial Lead Material: Tin coated copper.

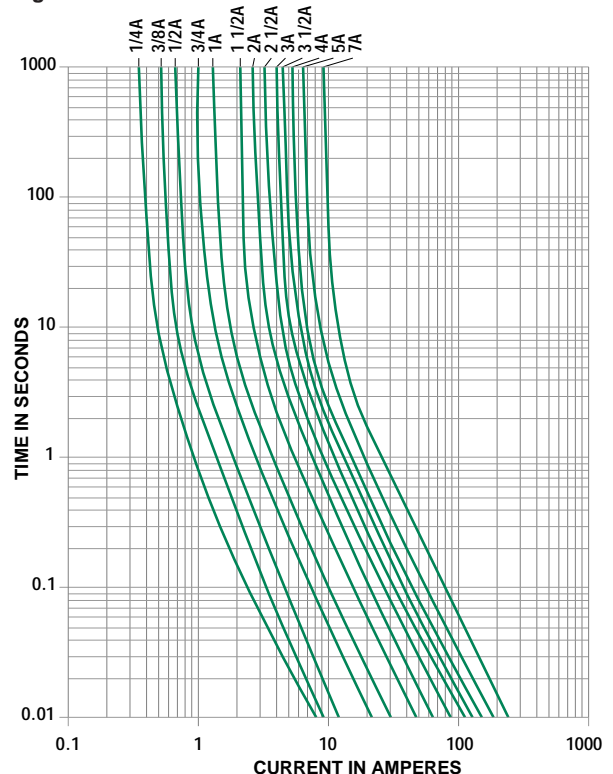
PHYSICAL SPECIFICATIONS:

Materials: Glass Body, Nickel-Plated Brass Fuse Caps (Insulating sleeve option available).

SOLDERING PARAMETERS:

Wave solder- 500°F (260°C), 3 seconds Max.
Reflow solder- Not recommended

Average Time Current Curves



ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
229.250P	230.250P	1/4	250	2.41	0.216
229.350P	230.350P	.350	250	1.30	0.490
229.375P	230.375P	3/8	250		0.580
229.500P	230.500P	1/2	250	0.688	1.16
229.600P	230.600P	6/10	250	0.477	1.75
229.750P	230.750P	3/4	250	0.340	2.95
229.800P	230.800P	8/10	250	0.304	3.45
229.001P	230.001P	1	250		5.64
229.1.25P	230.1.25P	1 1/4	250	0.145	9.80
229.01.5P	230.01.5P	1 1/2	250	0.107	15.0
229.002P	230.002P	2	250	0.0692	30.0
229.2.25P	230.2.25P	2 1/4	250	0.0562	39.0
229.02.5P	230.02.5P	2 1/2	250	0.0498	50.0
229.003P	230.003P	3	250	0.0380	77.0
229.03.5P	230.03.5P	3 1/2	250	0.0310	110.0
229.004P	230.004P	4	125	0.0256	148.0
229.005P	230.005P	5	125	0.0185	267.0
229.006P	230.006P	6	125	0.0140	380.0
229.007P	230.007P	7	125	0.0115	464.0

Axial Lead and Cartridge Fuses

Subminiature Glass Body

RoHS **PO** **2AG** Slo-Blo® Fuse 229P/230P Series

SURGE WITHSTAND SPECIFICATIONS

Our standard 229P and 230P Series Slo-Blo® fuses meet the demanding requirements of the Telecom industry. These Fuses combine conventional overcurrent protection with the ability to withstand high current, short duration pulses. These fuses comply with the short circuit requirements of UL 1459 for telephone equipment. Insulating Sleeve Option available. We have characterized these fuses for the Telecom industry requirements as shown below.

ELECTRICAL CHARACTERISTICS:

Short Circuit Capabilities:

UL 60950 (UL 1459 Included):	60A,	600VAC
	40A,	600VAC
	7A,	600VAC
	2.2A,	600VAC

- Meets UL 497 Specifications

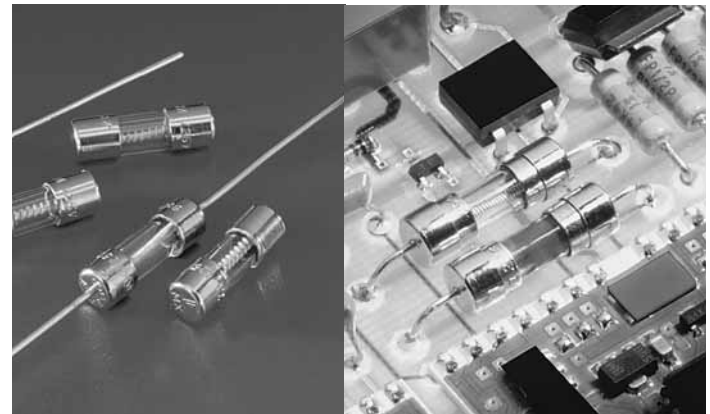
PEAK WITHSTAND CURRENT (I_p): These fuses will withstand 50 repetitions of a double exponential impulse wave having peak currents (I_p) and peak voltages as listed.

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	10 x 160 microsec. 1500V	10 x 560 microsec. 800V	10 x 1000 microsec. 1000V
229.250P	230.250P	1/4	23.0A	16.6A	12.4A
229.350P	230.350P	.350	34.0A	25.8A	19.3A
229.375P	230.375P	3/8	40.0A	25.4A	19.0A
229.500P	230.500P	1/2	60.0A	37.7A	28.2A
229.600P	230.600P	6/10	71.0A	47.2A	35.3A
229.750P	230.750P	3/4	91.0A	65.5A	49.0A
229.800P	230.800P	8/10	104.0A	68.9A	51.6A
229.001P	230.001P	1	130.0A	88.6A	66.3A
229.1.25P	230.1.25P	1 1/4 ¹	162.0A	118.1A	100.0A

¹ 500A peak, 2500V, 2 x 10 microseconds, 20 repetitions.

INDICATING SLO-BLO® FUSE

The 2AG Indicating Slo-Blo® fuse instantly identifies itself upon opening by showing a discoloration of its glass body. Guesswork and time consuming circuit testing are eliminated. This unique design offers the same quality performance characteristics as the standard 2AG fuse design.



* When ordering the 2AG Indicating Slo-Blo Fuse, an 'S' is required after the catalog number.

Example:

-1A Indicating Slo-Blo® Fuse = 230 001S

2AG 229P/230P Series General Specifications

ENVIRONMENTAL SPECIFICATIONS:

Operating Temperature: -55°C to 125°C.

Shock: MIL-STD-202, Method 213, Test Condition I (100 G's peak for 6 milliseconds).

Vibration: MIL-STD-202, Method 201 (10–55 Hz, 0.06 inches total excursion).

Salt Spray: MIL-STD-202 Method 101, Test Condition B (48 hours).

Insulation Resistance (After Opening): MIL-STD-202, Method 302, Test Condition B.

Resistance to Soldering Heat: (Axial Leaded Fuses):

MIL-STD-202, Method 210A, Test Condition B (260°C, 3 Seconds).

Thermal Shock: MIL-STD-202, Method 107, Test Condition B (-65°C to 125°C).

Moisture Resistance: MIL-STD-202, Method 106 (90-98% RH, 65°C).

Solderability: (Axial Leaded Fuses): MIL-STD-202, Method 208.

PHYSICAL SPECIFICATIONS:

Materials: Glass Body, Nickel-Plated Brass Fuse Caps. (Insulating sleeve option available).

SOLDERING PARAMETERS:

Wave solder — 500°F (260°C), 3 seconds Max.

Reflow solder — Not recommended.

Axial Lead and Cartridge Fuses

Glass Body

3AG Fast-Acting Type 312/318 Series



A standard for cost-effective reliability and performance in circuit protection, the 3AG fuse satisfies a broad range of application requirements.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
110%	1/32–35	4 hours, Minimum
135%	1/32–35	1 hour, Maximum
200%	1/32–10	5 sec., Maximum
	12–30	10 sec., Maximum
	35	20 sec., Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 30 amperes.

1/100–10 amperes listed to UL 248-14 (UL 198-G)

12–30 amperes listed to UL 275.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATING:

10,000A @ 125VAC

35A @ 250VAC

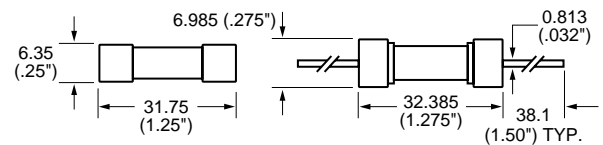
ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
312.031	318.031	1/32	250	23.3	0.0000300
312.062	318.062	1/16	250	24.5	0.000249
312.100	318.100	1/10	250	11.2	0.00102
312.125	318.125	1/8	250	7.10	0.00289
312.150	318.150	15/100	250	5.10	0.00550
312.175	318.175	.175	250	3.85	0.00960
312.187	318.187	3/16	250	3.40	0.0128
312.200	318.200	2/10	250	3.00	0.0165
312.250	318.250	1/4	250	2.00	0.0355
312.300	318.300	3/10	250	1.40	0.0689
312.375	318.375	3/8	250	0.820	0.185
312.500	318.500	1/2	250	0.495	0.483
312.600	318.600	6/10	250	0.360	0.880
312.750	318.750	3/4	250	0.243	1.84
312 001	318 001	1	250	0.189	0.760
312 1.25	318 1.25	1 1/4	250	0.138	1.45
312 01.5	318 01.5	1 1/2	250	0.103	2.35
312 01.6	318 01.6	1 9/10	250	0.0930	2.80
312 1.75	318 1.75	1 3/4	250	0.0850	3.60
312 01.8	318 01.8	1 8/10	250	0.0820	3.85
312 002	318 002	2	250	0.0700	5.20
312 2.25	318 2.25	2 1/4	250	0.0590	7.20
312 02.5	318 02.5	2 1/2	250	0.0510	9.54
312 003	318 003	3	250	0.0424	14.0
312 004	318 004	4	250	0.0291	28.5
312 005	318 005	5	250	0.0223	50.0
312 006	318 006	6	250	0.0177	81.1
312 007	318 007	7	250	0.0145	118.0
312 008	318 008	8	250	0.0121	166.0
312 010	318 010	10	250	0.00925	298.0
312 012	—	12	32	0.0071	—
312 015	—	15	32	0.0052	—
312 020	—	20	32	0.0034	—
312 025	—	25	32	0.0024	—
312 030	—	30	32	0.0019	—
312 035	—	35	32	0.0013	—



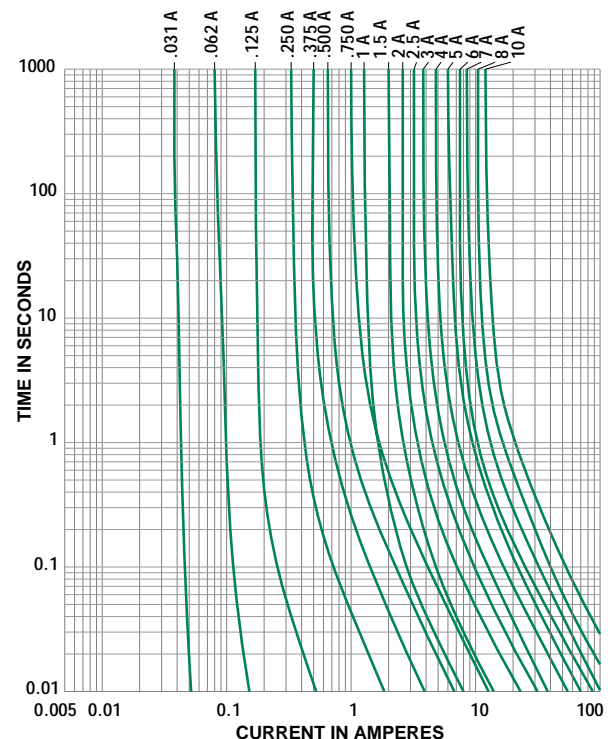
312 000 Series

318 000 Series



Axial Lead Material: Solder coated copper.

Average Time Current Curves

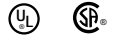


11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Glass Body

RoHS **Pb** **3AG** Fast-Acting Type 312P/318P Series



A standard for cost-effective reliability and performance in circuit protection, the 3AG fuse satisfies a broad range of application requirements.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
110%	1/32–35	4 hours, Minimum
135%	1/32–35	1 hour, Maximum
200%	1/32–10	5 sec., Maximum
	12–30	10 sec., Maximum
	35	20 sec., Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 30 amperes.

1/100–10 amperes listed to UL 248-14 (UL 198-G)

12–30 amperes listed to UL 275.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERUPTING RATING:

10,000A @ 125VAC

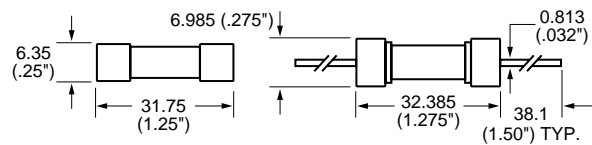
35A @ 250VAC

ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
312.031P	318.031P	1/32	250	23.3	0.0000300
312.062P	318.062P	1/16	250	24.5	0.000249
312.100P	318.100P	1/10	250	11.2	0.00102
312.125P	318.125P	1/8	250	7.10	0.00289
312.150P	318.150P	15/100	250	5.10	0.00550
312.175P	318.175P	.175	250	3.85	0.00960
312.187P	318.187P	3/16	250	3.40	0.0128
312.200P	318.200P	2/10	250	3.00	0.0165
312.250P	318.250P	1/4	250	2.00	0.0355
312.300P	318.300P	3/10	250	1.40	0.0689
312.375P	318.375P	3/8	250	0.820	0.185
312.500P	318.500P	1/2	250	0.495	0.483
312.600P	318.600P	6/10	250	0.360	0.880
312.750P	318.750P	3/4	250	0.243	1.84
312 001P	318 001P	1	250	0.189	0.760
312 1.25P	318 1.25P	1 1/4	250	0.138	1.45
312 01.5P	318 01.5P	1 1/2	250	0.103	2.35
312 01.6P	318 01.6P	1 9/10	250	0.0930	2.80
312 1.75P	318 1.75P	1 3/4	250	0.0850	3.60
312 01.8P	318 01.8P	1 7/10	250	0.0820	3.85
312 002P	318 002P	2	250	0.0700	5.20
312 2.25P	318 2.25P	2 1/4	250	0.0590	7.20
312 02.5P	318 02.5P	2 1/2	250	0.0510	9.54
312 003P	318 003P	3	250	0.0424	14.0
312 004P	318 004P	4	250	0.0291	28.5
312 005P	318 005P	5	250	0.0223	50.0
312 006P	318 006P	6	250	0.0177	81.1
312 007P	318 007P	7	250	0.0145	118.0
312 008P	318 008P	8	250	0.0121	166.0
312 010P	318 010P	10	250	0.00925	298.0
312 012P	—	12	32	0.0071	—
312 015P	—	15	32	0.0052	—
312 020P	—	20	32	0.0034	—
312 025P	—	25	32	0.0024	—
312 030P	—	30	32	0.0019	—
312 035P	—	35	32	0.0013	—

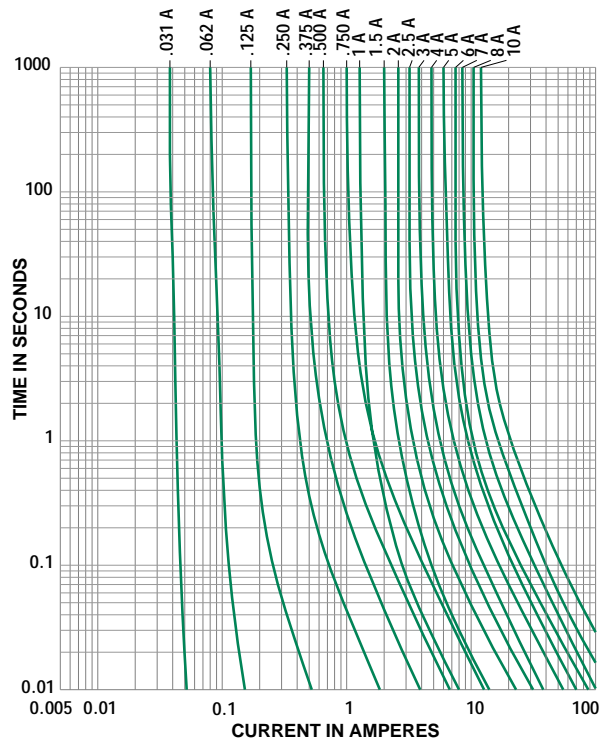


312 000P Series 318 000P Series



Axial Lead Material: Tin coated copper.

Average Time Current Curves



Axial Lead and Cartridge Fuses

Glass Body

3AG Slo-Blo® Fuse 313/315 Series



A standard for cost-effective reliability and performance in circuit protection, the 3AG fuse satisfies a broad range of application requirements.

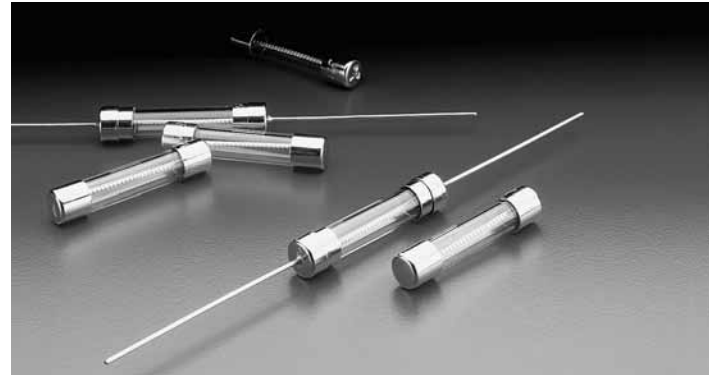
ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	5 seconds, Minimum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 8 amperes. 10-30A ratings are recognized under the components program of Underwriters Laboratories.

313 000 Series approved by METI from 1 through 5 amperes.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.



PATENTED

INTERRUPTING RATING:

0.01-8A	10,000A @ 125 VAC
0.1-1A	35A @ 250 VAC
1.2-3.2A	100A @ 250 VAC
4-8A	200A @ 250 VAC
10-30A	300A @ 32 VAC

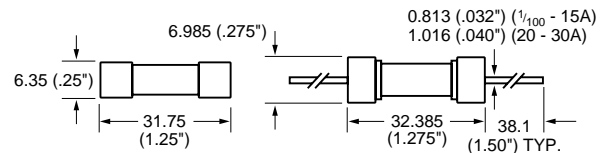
ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
313.010	315.010	1/100	250	3300	0.000121
313.031	315.031	1/32	250	330	0.00303
313.040	315.040	4/100	250	220	0.00630
313.062	315.062	1/16	250	91.0	0.0210
313.100	315.100	1/10	250	33.3	0.0850
313.125	315.125	1/8	250	22.3	0.152
313.150	315.150	15/100	250	15.3	0.270
313.175	315.175	.175	250	8.60	0.177
313.187	315.187	3/16	250	7.95	0.230
313.200	315.200	2/10	250	6.54	0.270
313.250	315.250	1/4	250	4.27	0.385
313.300	315.300	3/10	250	3.11	0.730
313.375	315.375	3/8	250	2.08	1.23
313.400	315.400	4/10	250	1.86	1.35
313.500*	315.500	1/2	250	1.25	2.55
313.600	315.600	6/10	250	0.914	4.00
313.700	315.700	7/10	250	0.695	5.90
313.750	315.750	3/4	250	0.617	7.16
313.800	315.800	8/10	250	0.550	8.00
313 001*	315 001	1	250	0.375	14.0
313 01.2	315 01.2	1 ² / ₁₀	250	0.276	21.5
313 1.25	315 1.25	1 ¹ / ₄	250	0.258	24.0
313 01.5*	315 01.5	1 ¹ / ₂	250	0.190	38.0
313 01.6	315 01.6	1 ⁹ / ₁₀	250	0.170	49.6
313 01.8	315 01.8	1 ⁸ / ₁₀	250	0.140	58.0
313 002*	315 002	2	250	0.116	77.0
313 2.25	315 2.25	2 ¹ / ₄	250	0.0960	121.0
313 02.5	315 02.5	2 ¹ / ₂	250	0.0805	130.0
313 02.8	315 02.8	2 ⁹ / ₁₀	250	0.0670	170.0
313 003*	315 003	3	250	0.0588	200.0
313 03.2	315 03.2	3 ² / ₁₀	250	0.0525	209.0
313 004*	315 004	4	250	0.0308	76.1
313 005*	315 005	5	250	0.0212	140.0
313 6.25*	315 6.25	6 ¹ / ₄	250	0.0152	242.0
313 06.3	315 06.3	6.30	250	0.0152	242.0
313 007*	315 007	7	250	0.0127	347.0
313 008*	315 008	8	250	0.0110	445.0
313 010*	315 010	10	32	0.00820	760.0
313 012	315 012	12	32	0.00640	1200.0
313 015	315 015	15	32	0.00500	1870.0
313 020	315 020	20	32	0.00220	9560.0
313 025	315 025	25	32	0.00170	16500.0
313 030	315 030	30	32	0.00120	26900.0

*These ratings available with an indicating option. Add the 'ID' designation to the series number, i.e. 313.500 ID.

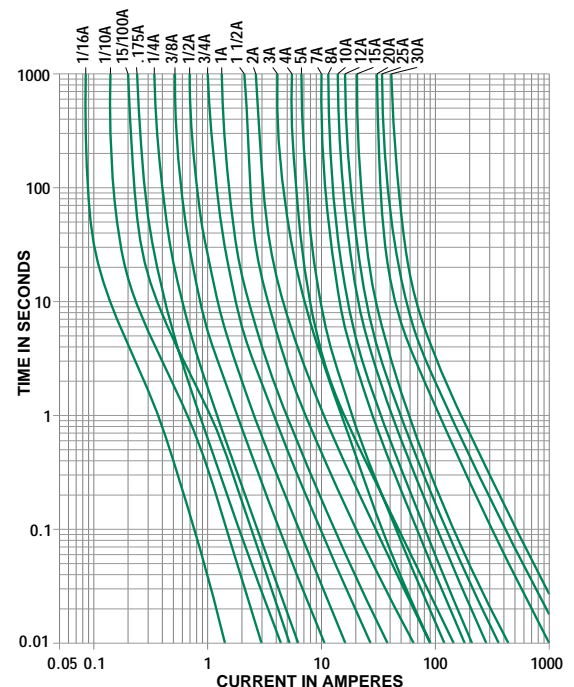
313 000 Series

315 000 Series



Axial Lead Material: Solder coated copper.

Average Time Current Curves



Axial Lead and Cartridge Fuses

Glass Body

RoHS **Pb** **3AG** Slo-Blo® Fuse 313P/315P Series



A standard for cost-effective reliability and performance in circuit protection, the 3AG fuse satisfies a broad range of application requirements.

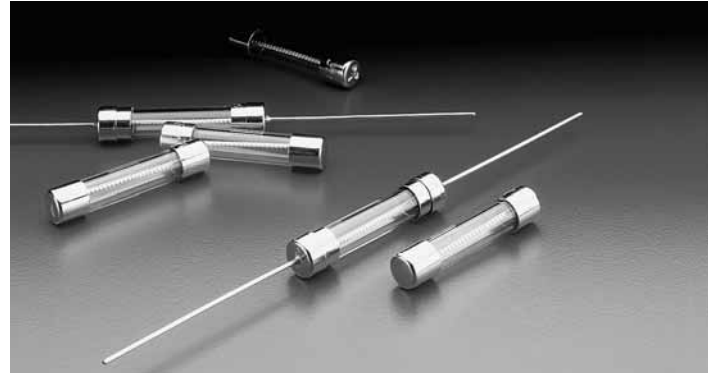
ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	5 seconds, Minimum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 8 amperes. 10-30A ratings are recognized under the components program of Underwriters Laboratories.

313 000P Series approved by METI from 1 through 5 amperes.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

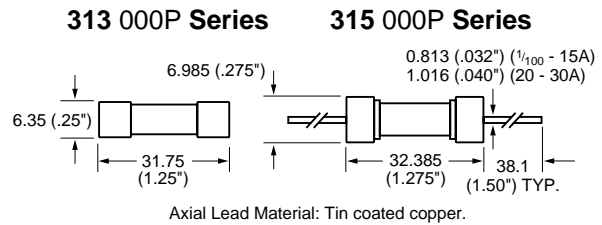


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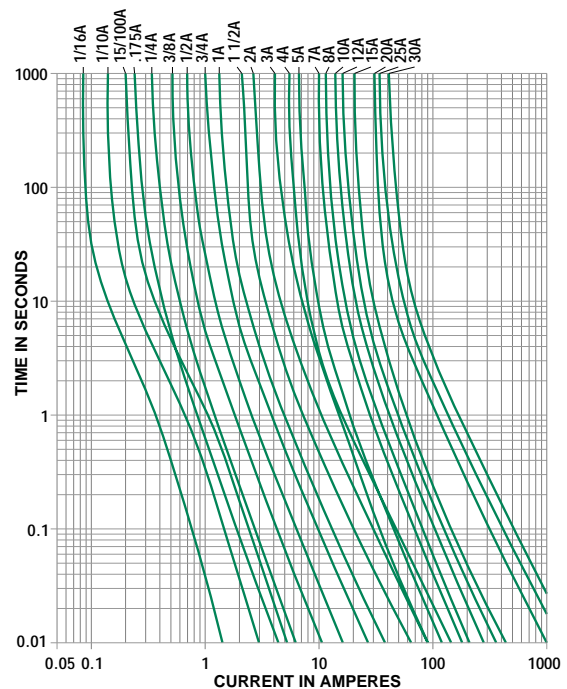
Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
313.010P	315.010P	1/100	250	3300	0.000121
313.031P	315.031P	1/32	250	330	0.00303
313.040P	315.040P	4/100	250	220	0.00630
313.062P	315.062P	1/16	250	91.0	0.0210
313.100P	315.100P	1/10	250	33.3	0.0850
313.125P	315.125P	1/8	250	22.3	0.152
313.150P	315.150P	15/100	250	15.3	0.270
313.175P	315.175P	.175	250	8.60	0.177
313.187P	315.187P	3/16	250	7.95	0.230
313.200P	315.200P	2/10	250	6.54	0.270
313.250P	315.250P	1/4	250	4.27	0.385
313.300P	315.300P	3/10	250	3.11	0.730
313.375P	315.375P	3/8	250	2.08	1.23
313.400P	315.400P	4/10	250	1.86	1.35
313.500P*	315.500P	1/2	250	1.25	2.55
313.600P	315.600P	6/10	250	0.914	4.00
313.700P	315.700P	7/10	250	0.695	5.90
313.750P	315.750P	3/4	250	0.617	7.16
313.800P	315.800P	8/10	250	0.550	8.00
313 001P*	315 001P	1	250	0.375	14.0
313 01.2P	315 01.2P	1 ² / ₁₀	250	0.276	21.5
313 1.25P	315 1.25P	1 ¹ / ₄	250	0.258	24.0
313 01.5P*	315 01.5P	1 ¹ / ₂	250	0.190	38.0
313 01.6P	315 01.6P	1 ¹ / ₁₀	250	0.170	49.6
313 01.8P	315 01.8P	1 ⁹ / ₁₀	250	0.140	58.0
313 002P*	315 002P	2	250	0.116	77.0
313 2.25P	315 2.25P	2 ¹ / ₄	250	0.0960	121.0
313 02.5P	315 02.5P	2 ¹ / ₂	250	0.0805	130.0
313 02.8P	315 02.8P	2 ⁹ / ₁₀	250	0.0670	170.0
313 003P*	315 003P	3	250	0.0588	200.0
313 03.2P	315 03.2P	3 ¹ / ₁₀	250	0.0525	209.0
313 004P*	315 004P	4	250	0.0308	76.1
313 005P*	315 005P	5	250	0.0212	140.0
313 6.25P*	315 6.25P	6 ¹ / ₄	250	0.0152	242.0
313 06.3P	315 06.3P	6.30	250	0.0152	242.0
313 007P*	315 007P	7	250	0.0127	347.0
313 008P*	315 008P	8	250	0.0110	445.0
313 010P*	315 010P	10	32	0.00820	760.0
313 012P	315 012P	12	32	0.00640	1200.0
313 015P	315 015P	15	32	0.00500	1870.0
313 020P	315 020P	20	32	0.00220	9560.0
313 025P	315 025P	25	32	0.00170	16500.0
313 030P	315 030P	30	32	0.00120	26900.0

INTERUPTING RATING:

- 0.01-8A 10,000A @ 125 VAC
- 0.1-1A 35A @ 250 VAC
- 1.2-3.2A 100A @ 250 VAC
- 4-8A 200A @ 250 VAC
- 10-30A 300A @ 32 VAC



Average Time Current Curves



*These ratings available with an indicating option. Add the 'ID' designation to the series number. i.e. 313.500 ID.

Axial Lead and Cartridge Fuses

Ceramic Body

3AB Fast-Acting Fuse 314/324 Series



Ceramic body construction permits higher interrupting ratings and voltage ratings. Ideal for applications where high current loads are expected.

ELECTRICAL CHARACTERISTICS:

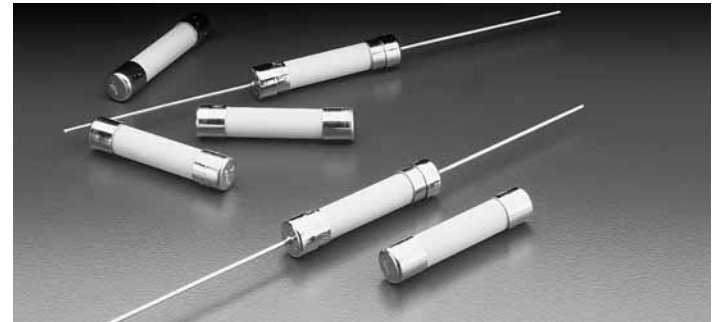
% of Ampere Rating	Ampere Rating	Opening Time
110%	1/8-30	4 hours, Minimum
135%	1/8-30	1 hour, Maximum
200%	1/8-12	15 seconds, Maximum
	15-30	30 seconds, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 15 amperes at 250 VAC/125 VDC. Recognized under the Components Program of Underwriters Laboratories at 20-30A, certified by CSA at 20A, and approved by METI from 10 through 30 amperes.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

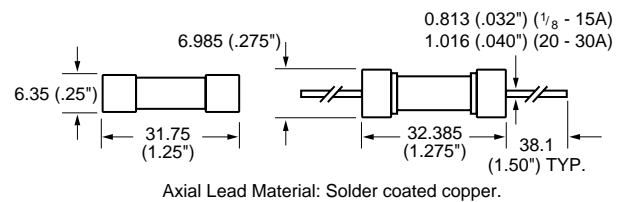
INTERRUPTING RATINGS:

0.125 - 20A	10,000 @ 125 VAC
25- 30A	400A @ 125 VAC
0.125 - .75A	35A @ 250 VAC
1 - 3A	100A @ 250VAC
4 - 15A	750A @ 250VAC
20A	1,000A @ 250VAC
	200A @ 300VAC
25-30A	100A @ 250VAC



314 000 Series

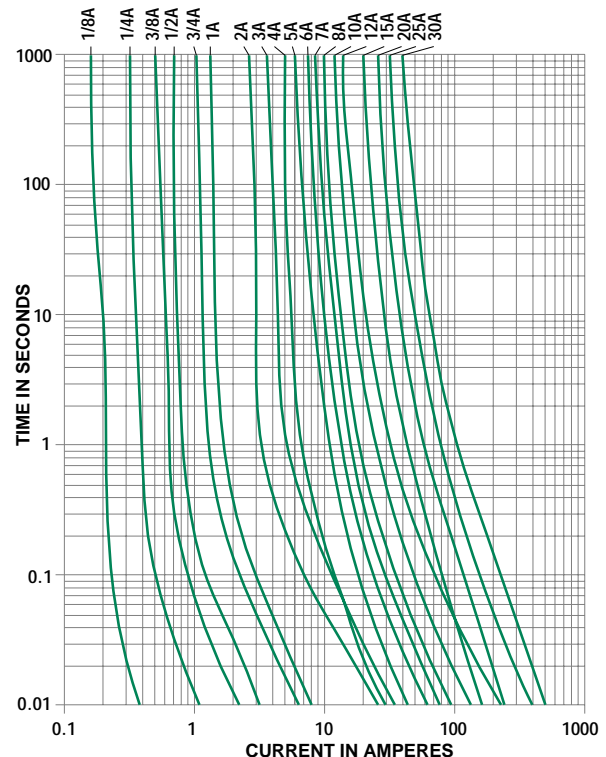
324 000 Series



ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
314.125	324.125	1/8	250	6.20	0.00149
314.250	324.250	1/4	250	1.95	0.0140
314.375	324.375	3/8	250	0.820	0.050
314.500	324.500	1/2	250	0.500	0.115
314.750	324.750	3/4	250	0.250	0.466
314.001	324.001	1	250	0.189	0.690
314.002	324.002	2	250	0.0700	11.0
314.003	324.003	3	250	0.0432	14.6
314.004	324.004	4	250	0.0470	10.4
314.005	324.005	5	250	0.0300	26.0
314.006	324.006	6	250	0.0240	45.0
314.007	324.007	7	250	0.0187	71.0
314.008	324.008	8	250	0.0153	105.0
314.010	324.010	10	250	0.0105	206.0
314.012	324.012	12	250	0.00760	570.0
314.015	324.015	15	250	0.00505	292.0
314.020	324.020	20	250	0.00355	631.0
314.025	324.025	25	250	0.00235	1450.0
314.030	324.030	30	250	0.00182	2490.0

Average Time Current Curves



Axial Lead and Cartridge Fuses

Ceramic Body

RoHS **Pb** **3AB** Fast-Acting Fuse 314P/324P Series



Ceramic body construction permits higher interrupting ratings and voltage ratings. Ideal for applications where high current loads are expected.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
110%	1/8–30	4 hours, Minimum
135%	1/8–30	1 hour, Maximum
200%	1/8–12	15 seconds, Maximum
	15–30	30 seconds, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA through 15 amperes at 250 VAC/125 VDC. Recognized under the Components Program of Underwriters Laboratories at 20-30A, certified by CSA at 20A, and approved by METI from 10 through 30 amperes.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

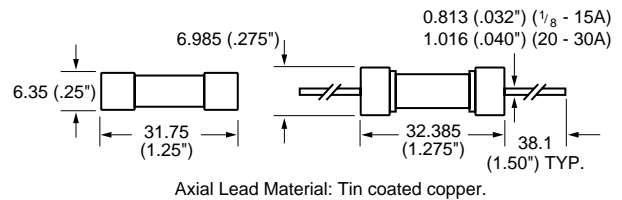
INTERRUPTING RATINGS:

0.125 - 20A	10,000 @ 125 VAC
25- 30A	400A @ 125 VAC
0.125 - .75A	35A @ 250 VAC
1 - 3A	100A @ 250VAC
4 - 15A	750A @ 250VAC
20A	1,000A @ 250VAC
	200A @ 300VAC
25-30A	100A @ 250VAC



314 000P Series

324 000P Series

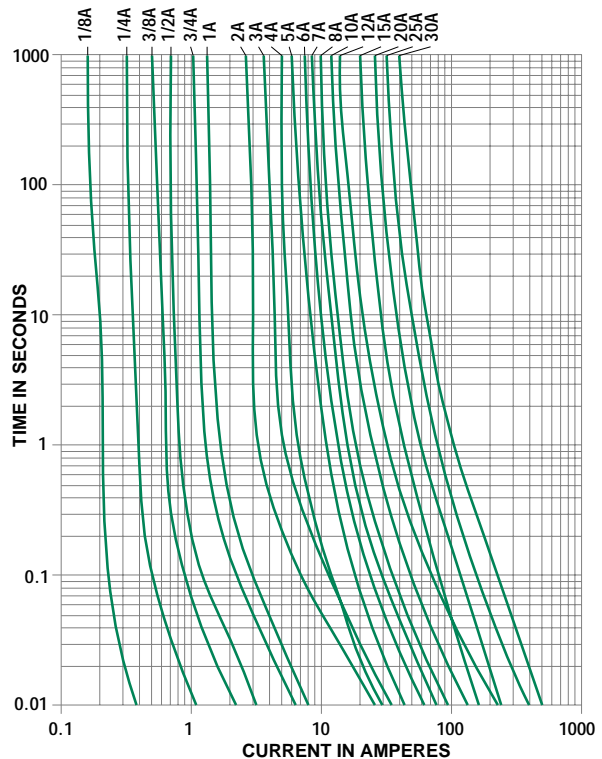


Axial Lead Material: Tin coated copper.

ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
314.125P	324.125P	1/8	250	6.20	0.00149
314.250P	324.250P	1/4	250	1.95	0.0140
314.375P	324.375P	3/8	250	0.820	0.050
314.500P	324.500P	1/2	250	0.500	0.115
314.750P	324.750P	3/4	250	0.250	0.466
314 001P	324 001P	1	250	0.189	0.690
314 002P	324 002P	2	250	0.0700	11.0
314 003P	324 003P	3	250	0.0432	14.6
314 004P	324 004P	4	250	0.0470	10.4
314 005P	324 005P	5	250	0.0300	26.0
314 006P	324 006P	6	250	0.0240	45.0
314 007P	324 007P	7	250	0.0187	71.0
314 008P	324 008P	8	250	0.0153	105.0
314 010P	324 010P	10	250	0.0105	206.0
314 012P	324 012P	12	250	0.00760	570.0
314 015P	324 015P	15	250	0.00505	292.0
314 020P	324 020P	20	250	0.00355	631.0
314 025P	324 025P	25	250	0.00235	1450.0
314 030P	324 030P	30	250	0.00182	2490.0

Average Time Current Curves



Axial Lead and Cartridge Fuses

Ceramic Body

3AB Slo-Blo® Fuse 325/326 Series



Ceramic body construction permits higher interrupting ratings and voltage ratings. Ideal for applications where high current loads are expected.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
110%	1/100–30	4 hours, Minimum
135%	1/100–30	1 hour, Maximum
200%	1/100–3.2	5 sec., Min. ; 30 sec. Max.
	4–30	5 sec., Min. ; 60 sec. Max.

AGENCY APPROVALS: Listed by Underwriters Laboratories from 1/4 through 10 amperes. Certified by CSA from 1/4 through 30 amperes. Recognized under the component program of Underwriters Laboratories for 12-30A.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

PATENTED

INTERRUPTING RATING:

0.010 - 20A	10,000A @ 125 VAC
25 - 30A	400A @ 125 VAC
0.010 - 3.2A	100A @ 250 VAC
4 - 20A	400A @ 250 VAC

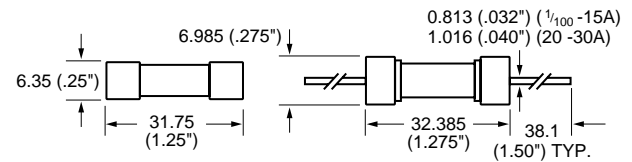
ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
326.010	325.010	1/100	250	3300	0.00148
326.031	325.031	1/32	250	330	0.0110
326.062	325.062	1/16	250	91.0	0.0276
326.100	325.100	1/10	250	33.3	0.0870
326.125	325.125	1/8	250	22.3	0.100
326.150	325.150	15/100	250	15.3	0.143
326.175	325.175	.175	250	8.84	0.220
326.187	325.187	3/16	250	7.67	0.230
326.200	325.200	2/10	250	6.72	0.213
326.250	325.250	1/4	250	4.40	0.432
326.300	325.300	3/10	250	3.20	0.690
326.375	325.375	3/8	250	2.14	1.20
326.400	325.400	4/10	250	1.92	1.33
326.500	325.500	1/2	250	1.29	2.50
326.600	325.600	6/10	250	0.940	3.90
326.700	325.700	7/10	250	0.716	6.42
326.750	325.750	3/4	250	0.636	7.00
326.800	325.800	8/10	250	0.568	8.20
326.001	325.001	1	250	0.386	16.3
326.01.2	325.01.2	1 ² / ₁₀	250	0.284	22.0
326.1.25	325.1.25	1 ¹ / ₄	250	0.266	24.0
326.01.5	325.01.5	1 ¹ / ₂	250	0.196	40.1
326.01.6	325.01.6	1 ⁹ / ₁₀	250	0.175	45.0
326.002	325.002	2	250	0.120	80.0
326.02.5	325.02.5	2 ¹ / ₂	250	0.0830	136.0
326.02.8	325.02.8	2 ⁸ / ₁₀	250	0.0690	170.0
326.003	325.003	3	250	0.0600	200.0
326.03.2	325.03.2	3 ¹ / ₁₀	250	0.0535	214.0
326.004	325.004	4	250	0.0755	9.71
326.005	325.005	5	250	0.0518	25.0
326.6.25	325.6.25	6 ¹ / ₄	250	0.0343	60.4
326.007	325.007	7	250	0.0225	47.3
326.008	325.008	8	250	0.0191	67.1
326.010	325.010	10	250	0.0131	137.0
326.012	325.012	12	250	0.0066	129.0
326.015	325.015	15	250	0.0049	245.0
326.020	325.020	20	250	0.0033	575.0
326.025	325.025	25	125	0.0024	1030.0
326.030	325.030	30	125	0.0019	1690.0



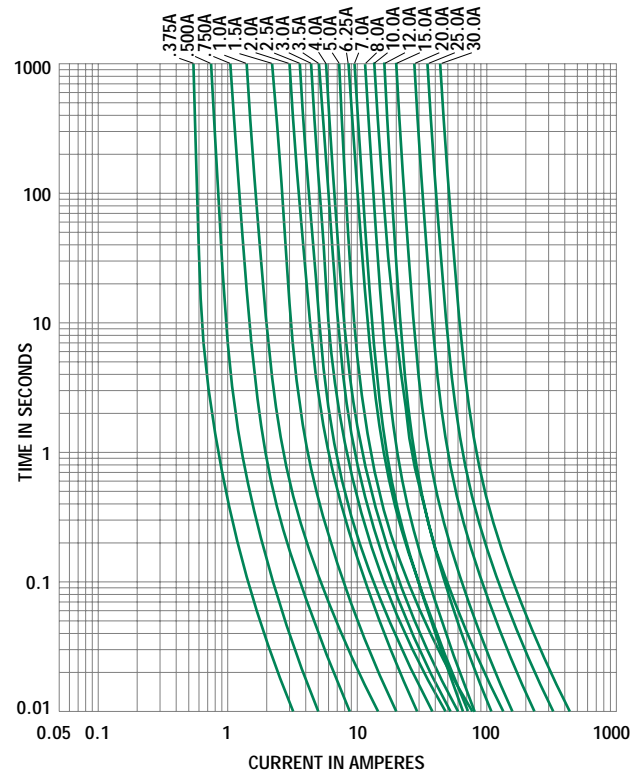
326 000 Series

325 000 Series



Axial Lead Material: Solder coated copper.

Average Time Current Curves



Axial Lead and Cartridge Fuses

Ceramic Body

RoHS **3AB** Slo-Blo® Fuse 325P/326P Series



Ceramic body construction permits higher interrupting ratings and voltage ratings. Ideal for applications where high current loads are expected.

ELECTRICAL CHARACTERISTICS:

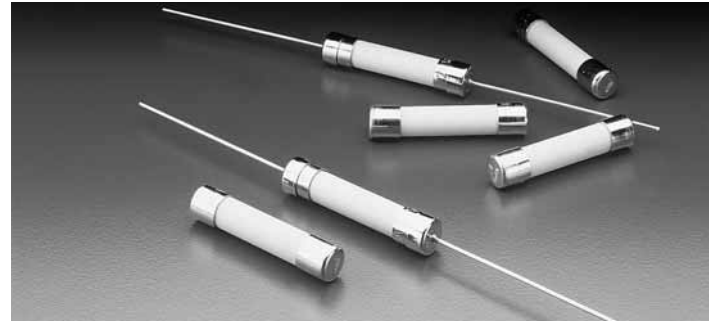
% of Ampere Rating	Ampere Rating	Opening Time
110%	1/100-30	4 hours, Minimum
135%	1/100-30	1 hour, Maximum
200%	1/100-3.2	5 sec., Min. ; 30 sec. Max.
	4-30	5 sec., Min. ; 60 sec. Max.

AGENCY APPROVALS: Listed by Underwriters Laboratories from 1/4 through 10 amperes. Certified by CSA from 1/4 through 30 amperes. Recognized under the component program of Underwriters Laboratories for 12-30A.

AGENCY FILE NUMBERS: UL E10480, CSA LR 29862.

INTERRUPTING RATING:

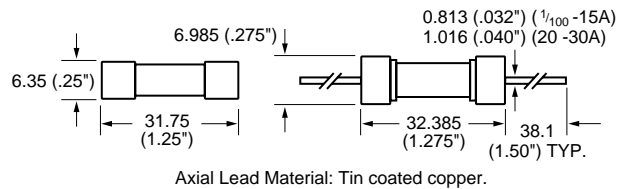
0.010 - 20A	10,000A @ 125 VAC
25 - 30A	400A @ 125 VAC
0.010 - 3.2A	100A @ 250 VAC
4 - 20A	400A @ 250 VAC



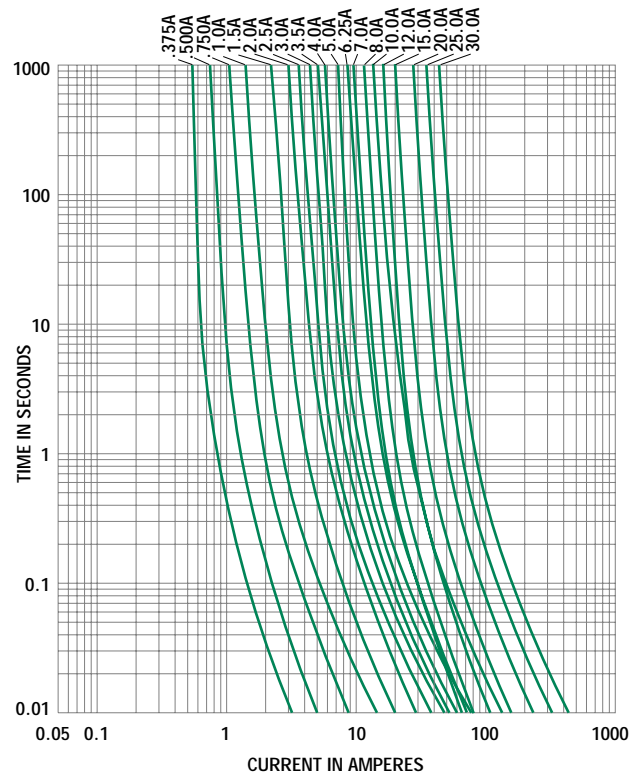
ORDERING INFORMATION:

Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
326.010P	325.010P	1/100	250	3300	0.00148
326.031P	325.031P	1/32	250	330	0.0110
326.062P	325.062P	1/16	250	91.0	0.0276
326.100P	325.100P	1/10	250	33.3	0.0870
326.125P	325.125P	1/8	250	22.3	0.100
326.150P	325.150P	15/100	250	15.3	0.143
326.175P	325.175P	.175	250	8.84	0.220
326.187P	325.187P	3/16	250	7.67	0.230
326.200P	325.200P	2/10	250	6.72	0.213
326.250P	325.250P	1/4	250	4.40	0.432
326.300P	325.300P	3/10	250	3.20	0.690
326.375P	325.375P	3/8	250	2.14	1.20
326.400P	325.400P	4/10	250	1.92	1.33
326.500P	325.500P	1/2	250	1.29	2.50
326.600P	325.600P	6/10	250	0.940	3.90
326.700P	325.700P	7/10	250	0.716	6.42
326.750P	325.750P	3/4	250	0.636	7.00
326.800P	325.800P	8/10	250	0.568	8.20
326.001P	325.001P	1	250	0.386	16.3
326.01.2P	325.01.2P	1 ² / ₁₀	250	0.284	22.0
326.1.25P	325.1.25P	1 ¹ / ₄	250	0.266	24.0
326.01.5P	325.01.5P	1 ¹ / ₂	250	0.196	40.1
326.01.6P	325.01.6P	1 ³ / ₁₀	250	0.175	45.0
326.002P	325.002P	2	250	0.120	80.0
326.02.5P	325.02.5P	2 ¹ / ₂	250	0.0830	136.0
326.02.8P	325.02.8P	2 ³ / ₁₀	250	0.0690	170.0
326.003P	325.003P	3	250	0.0600	200.0
326.03.2P	325.03.2P	3 ³ / ₁₀	250	0.0535	214.0
326.004P	325.004P	4	250	0.0755	9.71
326.005P	325.005P	5	250	0.0518	25.0
326.6.25P	325.6.25P	6 ¹ / ₄	250	0.0343	60.4
326.007P	325.007P	7	250	0.0225	47.3
326.008P	325.008P	8	250	0.0191	67.1
326.010P	325.010P	10	250	0.0131	137.0
326.012P	325.012P	12	250	0.0066	129.0
326.015P	325.015P	15	250	0.0049	245.0
326.020P	325.020P	20	250	0.0033	575.0
326.025P	325.025P	25	125	0.0024	1030.0
326.030P	325.030P	30	125	0.0019	1690.0

326 000P Series 325 000P Series



Average Time Current Curves



Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS 5 x 20 mm Fast-Acting Fuse 217 Series



- Designed to International (IEC) Standards for use globally.
- Meets the IEC 60127-2, Sheet 2 specification for Fast-Acting Fuses.
- Available in Cartridge and Axial Lead Form.
- Available in ratings of 0.032 to 15 amperes.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

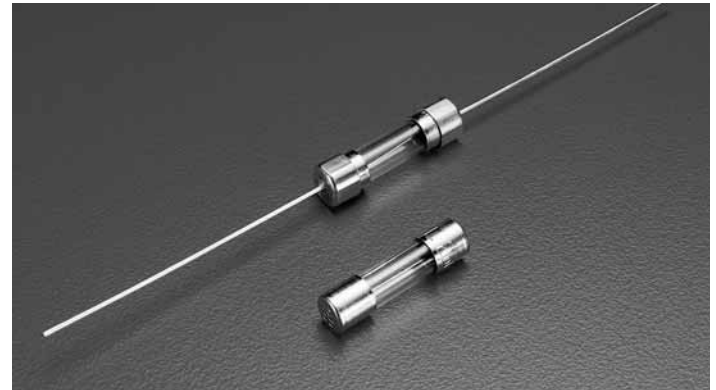
% of Ampere Rating	Ampere Rating	Opening Time
150%	.032–6.3	60 minutes, Minimum
	8-15	30 minutes, Minimum
210%	.032-15	30 minutes, Maximum
275%	.032–.100	0.01 sec., Min. ; .5 sec. Max.
	.125–15	0.05 sec., Min. ; 2 sec. Max.
400%	.032–.100	.003 sec., Min. ; 0.1 sec. Max.
	.125–6.3	.01 sec., Min. ; 0.3 sec. Max.
	8 - 15	.01 sec., Min. ; 0.4 sec. Max.
1000%	.032–6.3	.02 second, Maximum
	8-15	.04 second, Maximum

INTERRUPTING RATING: 35 amperes or 10 x rated current; (whichever is greater) to a maximum 100 amperes @ 250VAC, unity Power Factor.

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
217.032	.032	250	262.2	0.000048
217.040	.040	250	183.2	0.000074
217.050	.050	250	15.20	0.00020
217.063	.063	250	10.43	0.00057
217.080	.080	250	7.88	0.00085
217.100	.100	250	5.10	0.0034
217.125	.125	250	3.68	0.0049
217.160	.160	250	2.53	0.011
217.200	.200	250	1.65	0.025
217.250	.250	250	1.18	0.043
217.315	.315	250	0.810	0.110
217.400	.400	250	0.277	0.130
217.500	.500	250	0.210	0.225
217.630	.630	250	0.168	0.420
217.800	.800	250	0.134	0.870
217 001	1	250	0.096	1.07
217 1.25	1.25	250	0.070	2.29
217 01.6	1.6	250	0.046	4.74
217 002	2	250	0.040	5.88
217 02.5	2.5	250	0.033	9.72
217 3.15	3.15	250	0.022	18.2
217 004	4	250	0.016	30.0
217 005	5	250	0.013	43.9
217 06.3	6.3	250	0.0098	64.2
217 008	8*	250	0.0068	203.5
217 010	10*	250	0.0060	223.5
217 015	15*	250	0.0040	607.0



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass

Cap: Nickel Plated Brass

Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A Terminal strength: MIL-STD-202F Method 211A, Test Condition A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS **Pb** **5 x 20 mm** Fast-Acting Fuse 217 Series

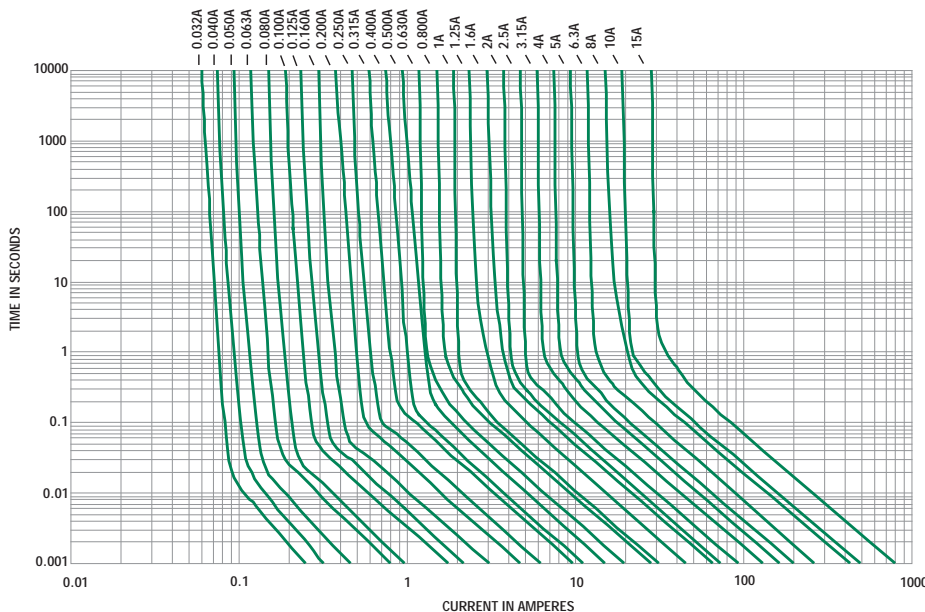


Agency Approvals

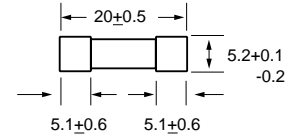
Agency Approvals		Ampere Range
	Cartridge NBK120802-E10480 A&C Leaded NBK120802-E10480 B&D	1A – 15A
	Certificate No. 2002010207007600 2002010207007599	32mA – 800mA 1A – 6.3A
	Certificate No. SU05001-3004 SU05001-2005 SU05001-2006 SU05001-2007	32mA – 40mA 50mA – 315mA 400mA – 6.3A 8A & 10A
	Recognised File No. E10480 Guide No. JDYX2	32mA – 6.3A
	File No. 029862 Acc. Class No. LR1422-30	
	Licence No. KM41462	400mA – 6.3A
	File No. 9848103, 9931059 304518 & 304555	32mA – 6.3A
	Pending	32mA – 10A
		32mA – 15A

Note: 600mA, 1.5A and 3A ratings are available with UL recognition and CSA acceptance only. 8A and 10A are under consideration by IEC(125V).

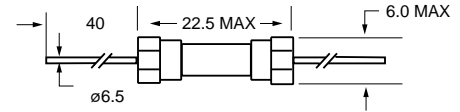
Average Time Current Curves



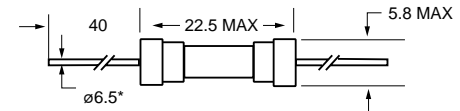
0217 000²



0217.032 XE¹
to
0217.315 XE¹



0217.400 XE¹
to
0217.015 XE¹



All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts replace XE with XEP
- 2 For RoHS compliant parts add suffix 'XP'

Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS **Pb** **5 x 20 mm** Time Lag Fuse (Slo-Blo®) Fuse 213 Series



- Designed to International (IEC) Standards for use globally.
- Meets the IEC 60127-2, Sheet 3 specification for Time Lag Fuses.
- Available in Cartridge and Axial Lead Form.
- Available in ratings of 0.200 to 6.3 amperes.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS (213 Series):

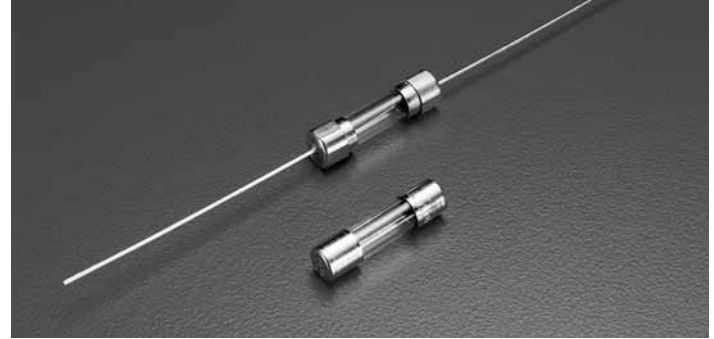
% of Ampere Rating	Ampere Rating	Opening Time
150%	.032–6.3	60 minutes, Minimum
	8 - 15	30 minutes, Minimum
210%	.032–15	2 minutes, Maximum
275%	.032–.100	0.2 sec., Min. ; 10 sec. Max.
	.125–15	0.6 sec., Min. ; 10 sec. Max.
400%	.032–.100	.04 sec., Min. ; 3 sec. Max.
	.125–15	.15 sec., Min. ; 3 sec. Max.
1000%	.032–.100	.01 sec., Min. ; 0.3 sec. Max.
	.125–15	0.02 sec., Min. ; 0.3 sec. Max.

INTERRUPTING RATINGS: 35 amperes or 10 x rated current; (whichever is greater) to a maximum 100A @ 250 VAC, unity power factor.

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

213 Surge Withstand				
Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting Pt A°Sec.
0213.200	.200	250	1.60	0.350
0213.250	.250	250	1.05	0.555
0213.315	.315	250	0.848	1.14
0213.400	.400	250	0.535	1.35
0213.500	.500	250	0.370	2.90
0213.630	.630	250	0.275	4.80
0213.800	.800	250	0.165	9.42
0213 001	1	250	0.117	19.20
0213 1.25	1.25	250	0.081	27.15
0213 01.6	1.6	250	0.055	44.2
0213 002.	2	250	0.044	92.7
0213 02.5	2.5	250	0.030	138.0
0213 3.15	3.15	250	0.022	226.5
0213 004	4	250	0.017	202
0213 005.	5	250	0.011	314
0213 06.3	6.3	250	0.008	600



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass

Cap: Nickel Plated Brass

Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to IEC Standard

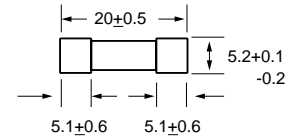
RoHS **Pb** **5 x 20 mm** Time Lag Fuse (Slo-Blo®) Fuse 213 Series



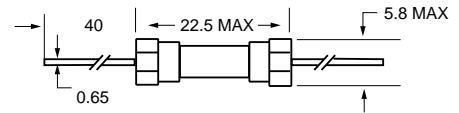
Agency Approvals

Agency Approvals		Ampere Range
	Certificate No. Cartridge NBK120802-E10480 A&C Leaded NBK120802-E10480 B&D	1A – 6.3A
	Certificate No. 2002010207007597 2003010207045592	200mA – 6.3A 5A
	Recognised File No. E10480 Guide No. JDYX2	200mA – 6.3A
	File No. 029862 Acc. Class No. LR1422-30	
	Licence No. KM41462	
	File No. 9905092, 9923025, 304515	

0213 000²



0213 000 XE¹



All dimensions in mm

- Notes:
 * Ratings above 6.3A have 0.8 mm dia lead
 1 For RoHS compliant parts replace XE with XEP
 2 For RoHS compliant parts add suffix 'XP'

Average Time Current Curves



Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS 5 x 20 mm Time Lag Fuse (Slo-Blo®) Fuse 218 Series



- Designed to International (IEC) Standards for use globally.
- Meets the IEC 60127-2, Sheet 3 specification for Time Lag Fuses.
- Available in Cartridge and Axial Lead Form.
- Available in ratings of 0.032 to 15 amperes.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS (218 Series):

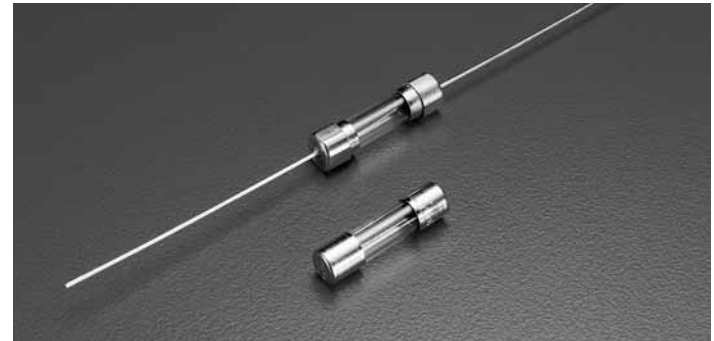
% of Ampere Rating	Ampere Rating	Opening Time
150%	.032–6.3	60 minutes, Minimum
	8 - 15	30 minutes, Minimum
210%	.032–15	2 minutes, Maximum
275%	.032–.100	0.2 sec., Min. ; 10 sec. Max.
	.125–15	0.6 sec., Min. ; 10 sec. Max.
400%	.032–.100	.04 sec., Min. ; 3 sec. Max.
	.125–15	.15 sec., Min. ; 3 sec. Max.
1000%	.032–.100	.01 sec., Min. ; 0.3 sec. Max.
	.125–15	0.02 sec., Min. ; 0.3 sec. Max.

INTERRUPTING RATINGS: 35 amperes or 10 x rated current; (whichever is greater) to a maximum 100A @ 250 VAC, unity power factor.

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

218				
Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
218.032	.032	250	58.45	0.00305
218.040	.040	250	35.70	0.0055
218.050	.050	250	23.30	0.0071
218.063	.063	250	18.1	0.012
218.080	.080	250	12.6	0.0265
218.100	.100	250	8.95	0.0495
218.125	.125	250	4.41	0.150
218.160	.160	250	2.44	0.225
218.200	.200	250	1.60	0.350
218.250	.250	250	1.05	0.555
218.315	.315	250	0.848	1.14
218.400	.400	250	0.535	1.35
218.500	.500	250	0.370	2.90
218.630	.630	250	0.275	4.80
218.800	.800	250	0.073	1.99
218 001	1	250	0.055	3.33
218 1.25	1.25	250	0.042	5.80
218 01.6	1.6	250	0.032	10.61
218 002	2	250	0.029	14.80
218 02.5	2.5	250	0.022	23.85
218 3.15	3.15	250	0.017	39.20
218 004	4	250	0.013	70.95
218 005	5	250	0.010	114.0
218 06.3	6.3	250	0.0075	204.0
218 008	8	250	0.0059	350.5
218 010	10	250	0.0045	583.0
218 015	15	250	0.0030	1441.0



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass

Cap: Nickel Plated Brass

Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Terminal strength: MIL-STD-202F Method 211A, Test Condition A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS **Pb** **5 x 20 mm** Time Lag Fuse (Slo-Blo®) Fuse 218 Series

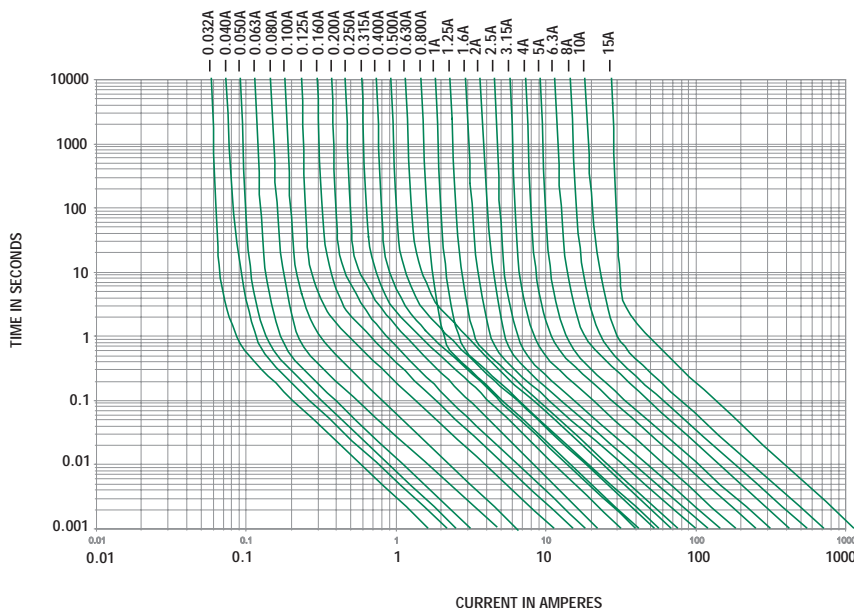


Agency Approvals

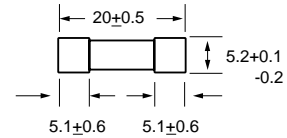
Agency Approvals		Ampere Range
	Certificate No. Cartridge NBK120802-E10480 A&C Leaded NBK120802-E10480 B&D	1A – 15A
	Certificate No. 2002010207007596	32mA – 6.3A
	Certificate No. SU05001-3005 SU05001-2008 SU05001-2009	32mA – 40mA 50mA – 800mA 1A – 10A
	Recognised File No. E10480 Guide No. JDYX2	32mA – 15A
	File No. 029862 Acc. Class No. LR1422-30	
	Licence No. KM41462	80mA – 6.3A
	File No. 9850004, 9840179, 9446070, 9708209, 9843043, 312377 & 304650	32mA – 6.3A
		32mA – 15A

Note: 8A and 10A are under consideration by IEC(125V).

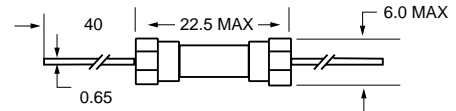
Average Time Current Curves



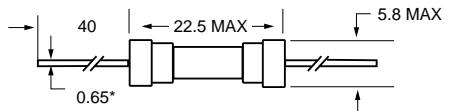
0218 000²



0218.032 XE¹
to
0218.100XE¹



0218.125 XE¹
to
0218015. XE¹



All dimensions in mm

Notes:
* Ratings above 6.3A have 0.8 mm dia lead
1 For RoHS compliant parts replace XE with XEP
2 For RoHS compliant parts add suffix 'XP'

Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS **Pb** **5 x 20 mm** Fast-Acting Fuse 216 Series



- Designed to International (IEC) Standards for use globally.
- Meets the IEC 60127-2, Sheet 1 specification for Fast Acting Fuses.
- Available in Cartridge and Axial Lead Form.
- Available in ratings of 0.050 to 10 amperes.
- High breaking capacity.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

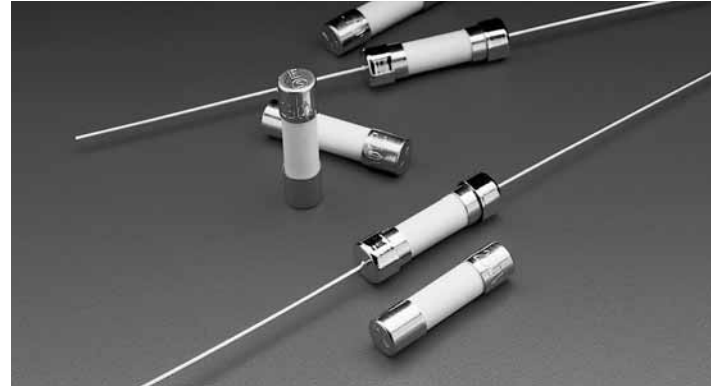
% of Ampere Rating	Ampere Rating	Opening Time
150%	.05–6.3	60 minutes, Minimum
	8-10	30 minutes, Minimum
210%	.05–10	30 minutes, Maximum
275%	.05–4	0.01 sec., Min. ; 2 sec. Max.
	5–6.3	0.01 sec., Min. ; 3 sec. Max.
	8-10	0.04 sec., Min. ; 20 sec. Max.
400%	.05–6.3	.003 sec., Min. ; 0.3 sec. Max.
	8-10	.01 sec., Min. ; 1.0 sec. Max.
1000%	.05–6.3	.02 seconds, Maximum
	8-10	.03 seconds, Maximum

INTERRUPTING RATING: 1500 amperes @ 250 VAC, 0.7-0.8 power factor.

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
216.050	.050	250	15.90	0.00019
216.063	.063	250	10.45	0.00055
216.080	.080	250	7.89	0.00086
216.100	.100	250	5.42	0.0033
216.125	.125	250	3.68	0.0056
216.160	.160	250	5.20	0.0018
216.200	.200	250	3.35	0.0045
216.250	.250	250	2.35	0.0092
216.315	.315	250	1.85	0.015
216.400	.400	250	1.67	0.028
216.500	.500	250	1.20	0.045
216.630	.630	250	0.790	0.097
216.800	.800	250	0.588	0.18
216 001	1	250	0.228	0.19
216 1.25	1.25	250	0.153	0.49
216 01.6	1.6	250	0.108	1.04
216 002	2	250	0.0770	1.92
216 02.5	2.5	250	0.0575	2.77
216 3.15	3.15	250	0.0333	7.85
216 004	4	250	0.0243	15.4
216 005	5	250	0.0168	28.2
216 06.3	6.3	250	0.0125	57.9
216 008	8*	250	0.0120	66.1
216 010	10*	250	0.00775	158.5



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Ceramic

Cap: Nickel Plated Brass

Leads: Tin Plated Copper

Filler Sand (160mA – 10A)

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

11
AXIAL LEAD AND CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to IEC Standard

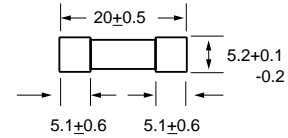
RoHS **Pb** **5 x 20 mm** Fast-Acting Fuse 216 Series



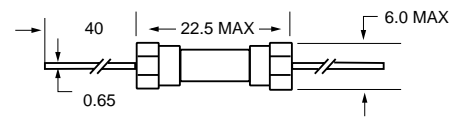
Agency Approvals

Agency Approvals		Ampere Range
	Certificate No. Cartridge NBK250702-E10480 A & C NBK250702-E10480 E Leaded NBK250702-E10480 B & D NBK250702-E10480 F	1A – 10A
	Certificate No. 2003010207079960 2002010207007594	50mA – 800mA 1A – 6.3A
	Certificate No. SU05001-2013	1A – 10A
	Recognised File No. E10480 Guide No. JDYX2	50mA – 10A
	File No. 029862 Acc. Class No. LR1422-30	
	Licence No. KM41462	1A – 6.3A
	File No. 9848103, 9931059 304518 & 304555	32mA – 6.3A
		50mA – 10A

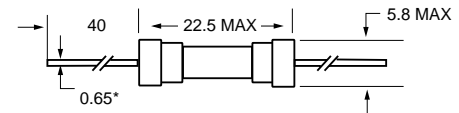
0216 000²



0216.050 XE¹
to
0216.100 XE¹



0216001.XE¹
to
0216010.XE¹

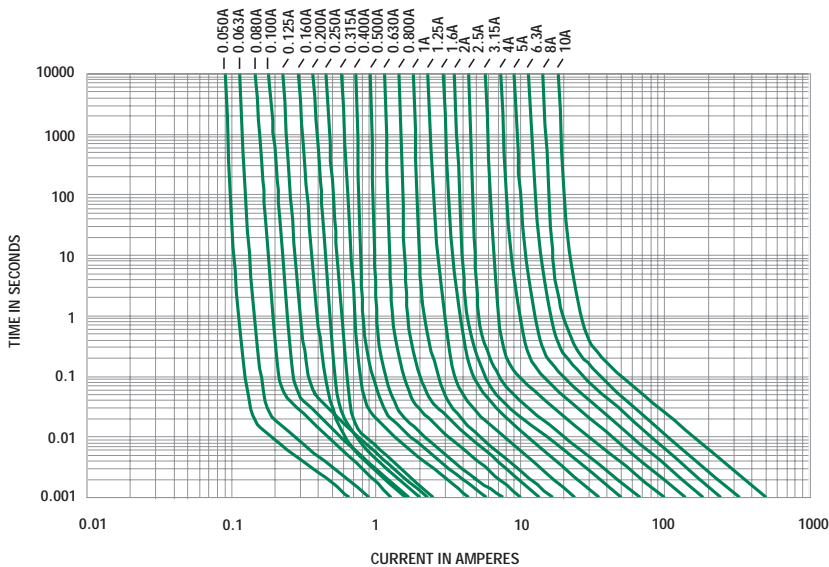


All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts replace XE with XEP
- 2 For RoHS compliant parts add suffix 'XP'

Average Time Current Curves



Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS 5 x 20 mm Time Lag Fuse (Slo-Blo® Fuse) 215 Series



- Designed to International (IEC) Standards for use globally.
- Meets the IEC 60127-2, Sheet 5 specification for Time Lag Fuses.
- Available in Cartridge and Axial Lead Form.
- Available in ratings of .2 to 12 amperes.
- High breaking capacity.
- RoHS compliant and Pb-free version available, add XP suffix to standard catalog number

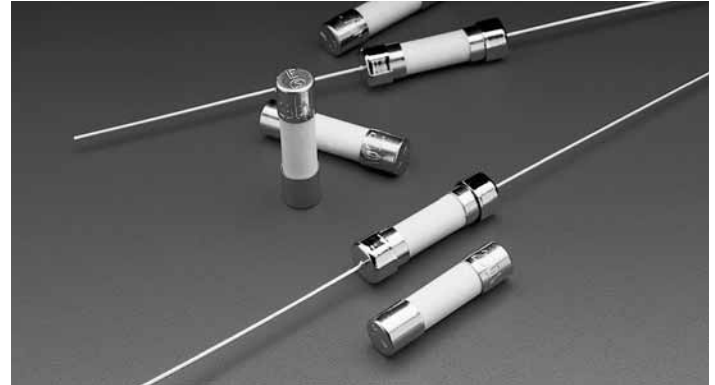
ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
150%	.1-6.3	60 minutes, Minimum
	8-12	30 minutes, Minimum
210%	.1-12	30 minutes, Maximum
275%	.1-.8	.25 sec., Min. ; 80 sec. Max.
	1-12	.75 sec., Min. ; 80 sec. Max.
400%	.1-.8	.05 sec., Min. ; 5 sec. Max.
	1-3.15	.095 sec., Min. ; 5 sec. Max.
	4-6.3	.150 sec., Min. ; 5 sec. Max.
1000%	.1-.8	.005 sec., Min. ; .15 sec., Max.
	1-12	.010 sec., Min. ; .15 sec., Max.

INTERRUPTING RATING: 1500 amperes @ 250VAC, 0.7-0.8 power factor.

ORDERING INFORMATION: RoHS compliant and Pb-free version available, add XP suffix to standard catalog number

Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
215.200	.200*	250	1.750	0.37
215.250	.250*	250	1.170	0.56
215.315	.315*	250	0.873	1.08
215.400	.400*	250	0.560	1.45
215.500	.500*	250	1.080	0.34
215.630	.630*	250	0.660	0.56
215.800	.800*	250	0.436	0.954
215 001	1	250	0.110	1.05
215 1.25	1.25	250	0.085	2.05
215 01.6	1.6	250	0.0588	3.90
215 002	2	250	0.043	6.95
215 02.5	2.5	250	0.0312	10.65
215 3.15	3.15	250	0.0220	21.2
215 004	4	250	0.0163	38.7
215 005	5	250	0.0125	82.85
215 06.3	6.3	250	0.0099	132.5
215 008	8*	250	0.0078	209.5
215 010	10*	250	0.0060	360.5
215 012	12*	250	0.0055	515.0



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Ceramic
Cap: Nickel Plated Brass
Leads: Tin Plated Copper
Filler: Sand (500mA – 12A)

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

Designed to IEC Standard

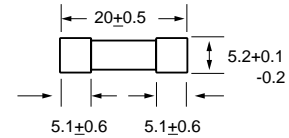
RoHS **Pb** **5 x 20 mm** Time Lag Fuse (Slo-Blo®) Fuse 215 Series



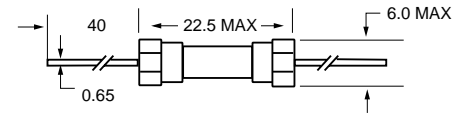
Agency Approvals

Agency Approvals		Ampere Range
	Certificate No.	Cartridge
		NBK250702-E10480 A & C
		NBK250702-E10480 E
		Leaded
	NBK250702-E10480 B & D	1A – 5A
	NBK250702-E10480 F	6.3A – 12A
	Certificate No.	2002010207007593
		1A – 6.3A
	Certificate No.	SU05001-2011
		SU05001-2012
		Pending
		1A – 3.15A
		4A – 10A
		12A
	Recognised File No.	E10480
	Guide No.	JDYX2
		50mA – 12A
	File No.	029862
	Acc. Class No.	LR1422-30
		200mA – 6.3A
	Licence No.	KM41462
		200mA – 10A
	File No.	403906, 0212085, 0147100
		200mA – 12A

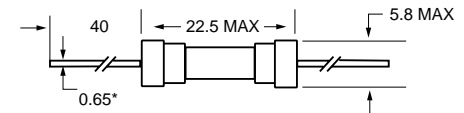
0215 000²



0215.200 XE¹
to
0215.800 XE¹



0215001.XE¹
to
0215012.XE¹

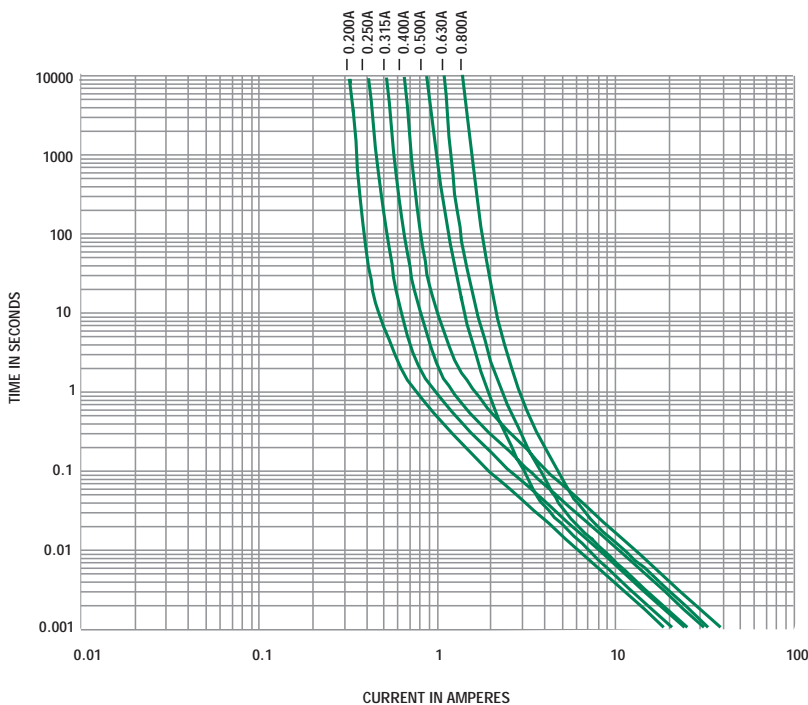


All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts replace XE with XEP
- 2 For RoHS compliant parts add suffix 'XP'

Average Time Current Curves



Axial Lead and Cartridge Fuses

Designed to IEC Standard

5 x 20 mm Time Lag Fuse (Slo-Blo®) Fuse 219 Series



- Designed to International (IEC) Standards for use globally.
- Meets the IEC 60127-2, Sheet 6 specification for Time Lag Fuses.
- Available in Cartridge and Axial Lead Format.
- Available in ratings of 1.0 to 6.3 amperes.
- Enhanced Breaking Capacity, medium I²t

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
150%	60 minutes, Minimum
210%	2 minutes, Maximum
275%	0.6 sec., Min. ; 10 sec. Max
400%	.15 sec., Min. ; 3 sec. Max
1000%	0.02 sec., Min. ; 0.3 sec. Max.

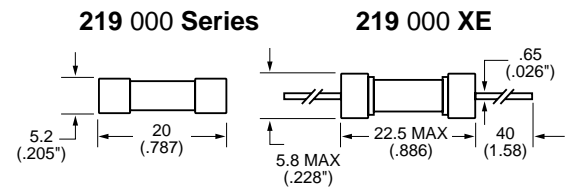
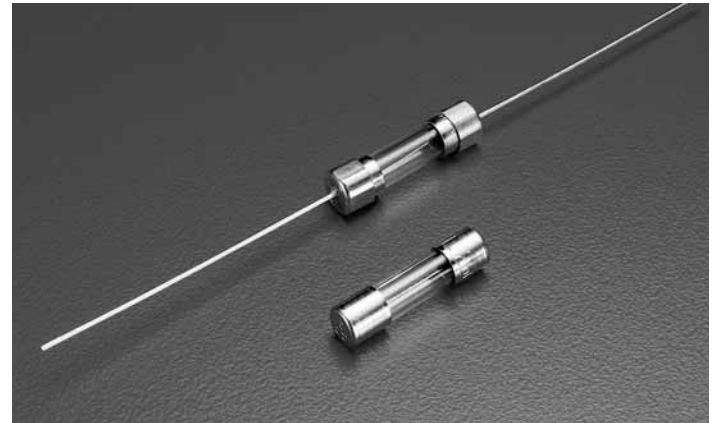
AGENCY APPROVALS: Sheet 6 IEC 60127: SEMKO, BSI, METI, CCC, K Mark and VDE approved 1A-6.3A. Recognized 1A to 6.3A under the components program of Underwriters Laboratories and recognized by CSA. METI A 1A to 6.3A.

INTERRUPTING RATINGS: 150 amperes @ 250VAC, unity power factor

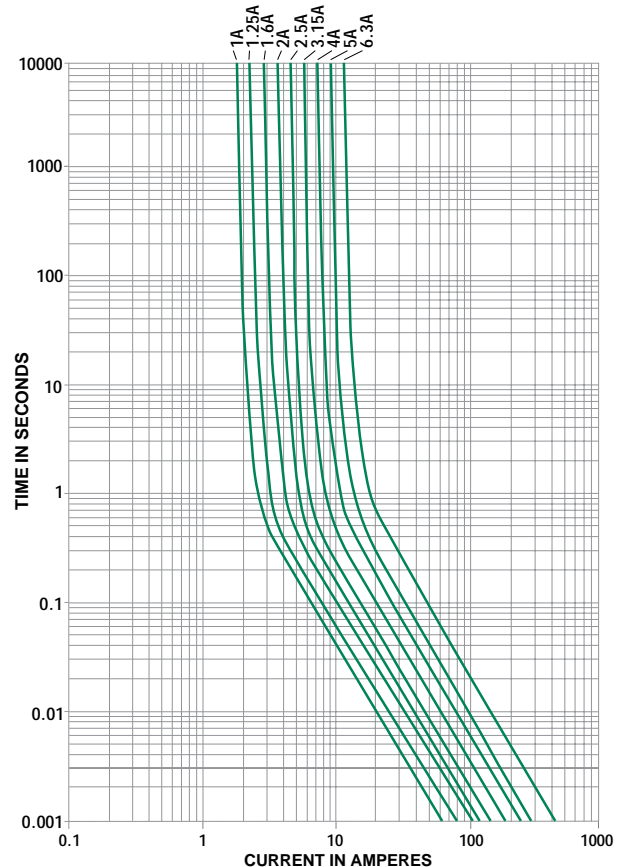
PACKAGING: For Axial Leads add packaging suffix XE.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Nominal Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec
0219 001.	1	250	0.055	3.33
0219 1.25	1.25	250	0.042	5.80
0219 01.6	1.6	250	0.032	10.61
0219 002.	2	250	0.029	14.80
0219 02.5	2.5	250	0.022	23.85
0219 3.15	3.15	250	0.017	39.20
0219 004.	4	250	0.013	70.95
0219 005.	5	250	0.010	114.0
0219 06.3	6.3	250	0.0075	204.0



Average Time Current Curves



11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to IEC Standard

RoHS  **5 x 20 mm** Time Lag Fuse (Slo-Blo®) Fuse 219XA Series



- Designed to International (IEC) Standards for use globally.
- Meets the IEC 60127-2, Sheet 6 specification for Time Lag Fuses.
- Available in Cartridge and Axial Lead Format.
- Available in ratings of 1.0 to 6.3 amperes.
- Enhanced Breaking Capacity, High I²t
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

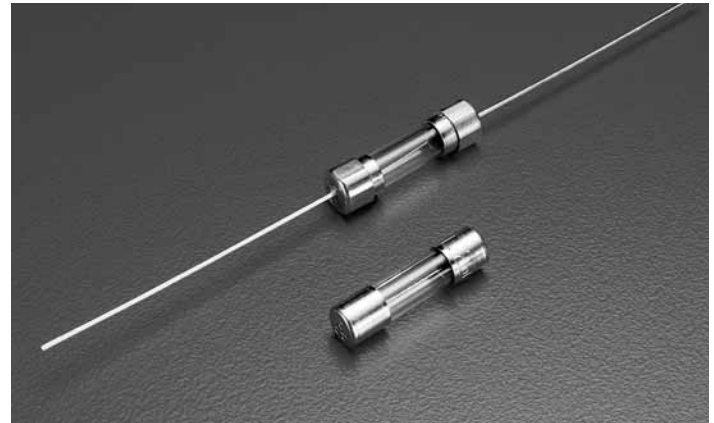
% of Ampere Rating	Opening Time
150%	60 minutes, Minimum
210%	2 minutes, Maximum
275%	0.6 sec., Min. ; 10 sec. Max
400%	.15 sec., Min. ; 3 sec. Max
1000%	0.02 sec., Min. ; 0.3 sec. Max.

INTERRUPTING RATINGS: 150 amperes @ 250VAC, unity power factor

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

Catalog Number	Ampere Rating	Nominal Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec
0219.125A	.125	250	4.41	0.150
0219.160A	.160	250	2.44	0.225
0219.200A	.200	250	1.60	0.350
0219.250A	.250	250	1.05	0.555
0219.315A	.315	250	0.848	1.14
0219.400A	.400	250	0.535	1.35
0219.500A	.500	250	0.370	2.90
0219.630A	.630	250	0.275	4.80
0219.800A	.800	250	0.163	1.99
0219 001.A	1	250	0.117	19.2
0219 1.25A	1.25	250	0.082	27.2
0219 01.6A	1.6	250	0.055	44.2
0219 002.A	2	250	0.046	92.7
0219 02.5A	2.5	250	0.031	138.0
0219 3.15A	3.15	250	0.023	202.1
0219 004.A	4	250	0.016	330.0
0219 005.A	5	250	0.012	544.0
0219 06.3A	6.3	250	0.011	1093.0



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass
Cap: Nickel Plated Brass
Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

Designed to IEC Standard

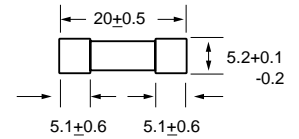
RoHS 5 x 20 mm Time Lag Fuse (Slo-Blo®) Fuse219XA Series



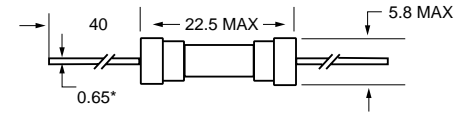
Agency Approvals

Agency Approvals		Ampere Range
	Certificate No. Cartridge NBK220604-E10480A NBK230604-E10480A Leaded NBK220604-E10480B NBK230604-E10480B	1A – 5A 6.3A 1A – 5A 6.3A
	Certificate No. 2004010207110266 2003010207079982	125mA – 800mA 1A – 6.3A
	Certificate No. Pending	125mA – 6.3A
	Recognised File No. E10480 Guide No. JDYX2	
	File No. Pending Acc. Class No.	
	Licence No. KM41462	
	File No. 402708 310144	125mA – 800mA 1A – 6.3A

0219 000XA²



0219000XAE¹

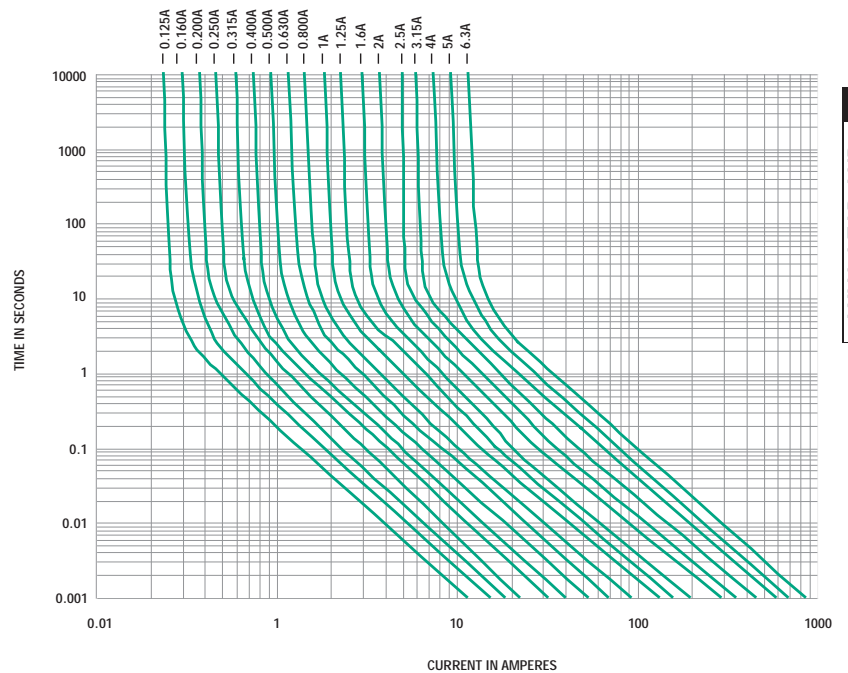


All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts replace XAE with XEP
- 2 For RoHS compliant parts add suffix 'P'

Average Time Current Curves



11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to METI Standard

RoHS **Pb** **5 x 20 mm** Medium-Acting Fuse 232 Series



- Designed to Japanese Standard JIS C6575.
- Available in Cartridge, Axial and Radial Lead Format.
- Available in ratings of 1A to 10A.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
130%	1 hour, Minimum
160%	1 hour, Maximum
200%	2 minutes, Maximum
1000%	.01 sec, Minimum

INTERRUPTING RATING:

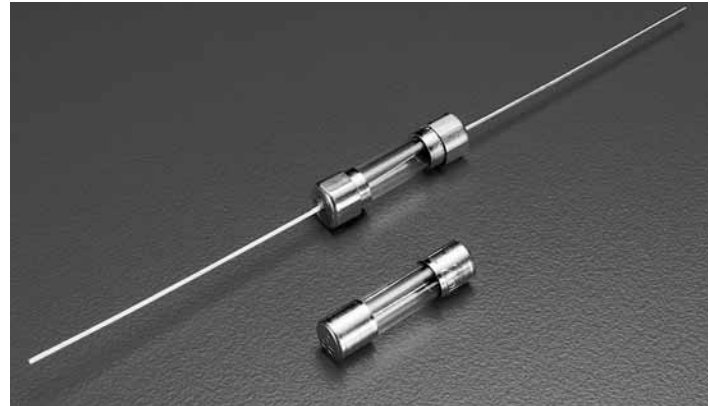
1A-5A 10,000A @ 125VAC, 0.7-0.8 power factor
 6.3A-10A 300A @ 125VAC, 0.7-0.8 power factor
 100 amperes at 250 VAC, 0.7-0.8 power factor

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

Catalog Number	Ampere Rating	Voltage Rating*	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec
0232 001.	1	125/250	0.0957	1.41
0232 1.25	1.25	125/250	0.0707	4.22
0232 01.6	1.6	125/250	0.0567	7.14
0232 002.	2	125/250	0.0385	8.47
0232 02.5	2.5	125/250	0.0297	14.25
0232 003.	3	125/250	0.0257	17.65
0232 3.15	3.15	125/250	0.0235	22.55
0232 004.	4	125/250	0.018	38.75
0232 005.	5	125/250	0.0145	58.25
0232 06.3	6.3	125/250	0.0105	92.85
0232 008.	8	125/250	.0076	187.5
0232 010.	10	125/250	.0061	298.5

*To order 125V rating, add part number suffix X125



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass
 Cap: Nickel Plated Brass
 Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Product Marking: Cap 1: current and voltage rating.
 Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

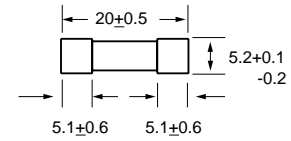
RoHS **5 x 20 mm** Medium-Acting Fuse 232 Series



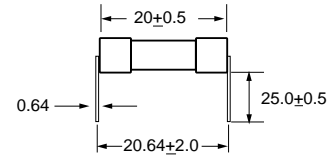
Agency Approvals

Agency Approvals		Ampere Range	
	Certificate No.	Cartridge	
		NBK010702-E10480 A	1A – 5A 125V 10,000A
		NBK290502-E10480 C	6.3A – 10A 125V 300A
		Leaded	
		NBK010702-E10480 B	1A – 5A 125V 10,000A
		NBK290502-E10480 E	6.3A – 10A 125V 300A
	Certificate No.	SU05001-2001	1A – 10A (125V)
			1A – 10A

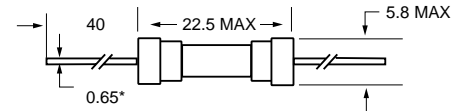
0232 000¹



0232 000 XW²



0232 000 XE²

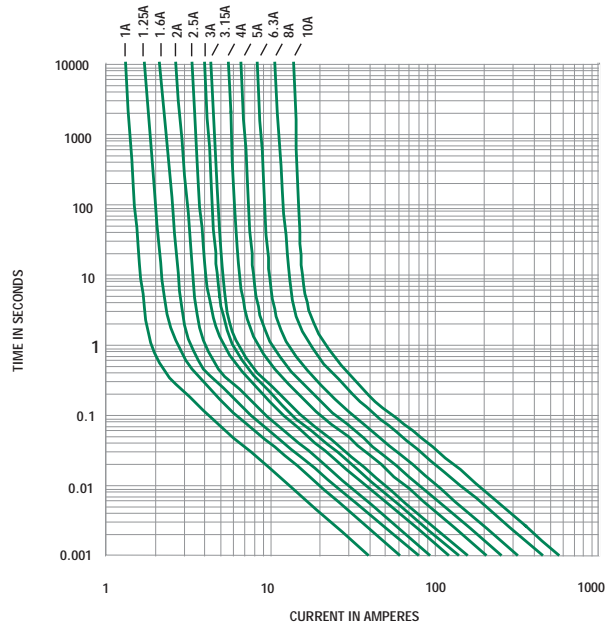


All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts add suffix 'XP'
- 2 For RoHS compliant parts add suffix 'P'

Average Time Current Curves



11
AXIAL LEAD AND CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

RoHS **Pb** **5 x 20 mm** Fast-Acting Fuse 235 Series



- Designed to UL/CSA/ANCE 248 Standard.
- Available in Cartridge and Axial Lead Format.
- Available in ratings of 0.100 to 6 amperes.
- RoHS compliant and Pb-free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	5 second, Maximum

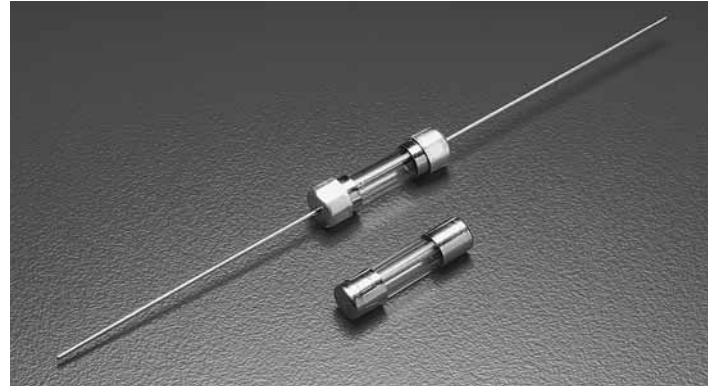
INTERRUPTING RATING:

0.10-1A	10,000 amperes at 125 VAC, 0.7-0.8 power factor 35 amperes at 250 VAC, 0.7-0.8 power factor
1.25A-3.15A	10,000 amperes at 125 VAC, 0.7-0.8 power factor 100 amperes at 250 VAC, 0.7-0.8 power factor
4A-6A	10,000 amperes at 125 VAC, 0.7-0.8 power factor

ORDERING INFORMATION:

RoHS compliant and Pb-free version available, add XP suffix to standard catalog number

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
235.100	.100	250	8.40	0.00160
235.125	.125	250	5.75	0.00280
235.200	.200	250	3.15	0.00890
235.250	.250	250	2.25	0.0170
235.300	.300	250	1.60	0.0330
235.400	.400	250	1.08	0.0600
235.500	.500	250	0.455	0.0710
235.600	.600	250	0.318	0.115
235.700	.700	250	0.263	0.160
235.800	.800	250	0.195	0.260
235 001	1	250	0.153	0.480
235 1.25	1.25	250	0.106	1.12
235 01.6	1.6	250	0.0775	2.08
235 002	2	250	0.0600	2.72
235 02.5	2.5	250	0.0438	5.59
235 003	3	250	0.0348	8.62
235 004	4	125	0.0248	17.60
235 005	5	125	0.0185	28.15
235 006	6	125	0.0150	48.60



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass

Cap: Nickel Plated Brass

Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Terminal strength: MIL-STD-202F Method 211A, Test Condition A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

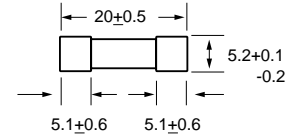
RoHS **5 x 20 mm** Fast-Acting Fuse 235 Series



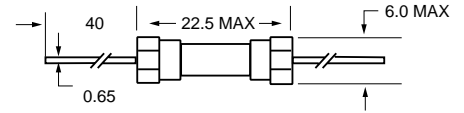
Agency Approvals

Agency Approvals	Ampere Range
Certificate No. Cartridge NBK290502-E10480 G NBK280602-E10480 C NBK290502-E10480 I Leded NBK290502-E10480 H NBK280602-E10480 D NBK290502-E10480 J	1A – 3A 250V 100A 4A & 5A 125V 10000A 6A 125V 500A
Certificate No. SU05001-3007 SU05001-2002 SU05001-2003	100mA – 400mA 500mA – 3A 4A – 6A
Listed File No. E10480 Guide No. JDYX	100mA – 6A
File No. 029862 Cert. Class No. LR1422-01	

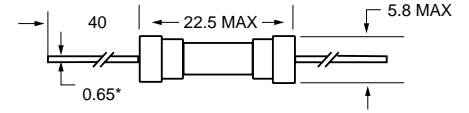
0235000¹



0235.100 XE²
to
0235.400 XE²



0235.500 XE²
to
0235006.XE²

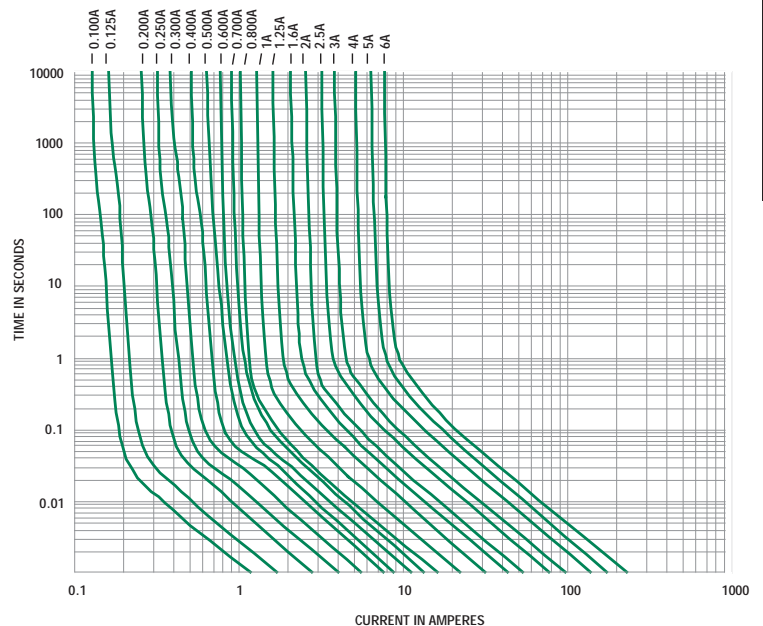


All dimensions in mm

Notes:

- * Ratings above 6.3A
 ø0.8 mm dia lead
- 1 For RoHS compliant parts
 add suffix 'XP'
- 2 For RoHS compliant parts
 add suffix 'P'

Average Time Current Curves



11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

RoHS  **5 x 20 mm** Medium-Acting Fuse 233 Series



- Designed to UL/ CSA/ANCE 248 Standard.
- Available in Cartridge, Axial and Radial Lead Format.
- Available in ratings of 1A to 10A.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
110%	1–3.5	4 hours, Minimum
	4–10	1 hour, Minimum
135%	1–10	3 sec., Min. ; 1 hour Max.
200%	1–10	0.4 sec., Min. ; 4 sec., Max.

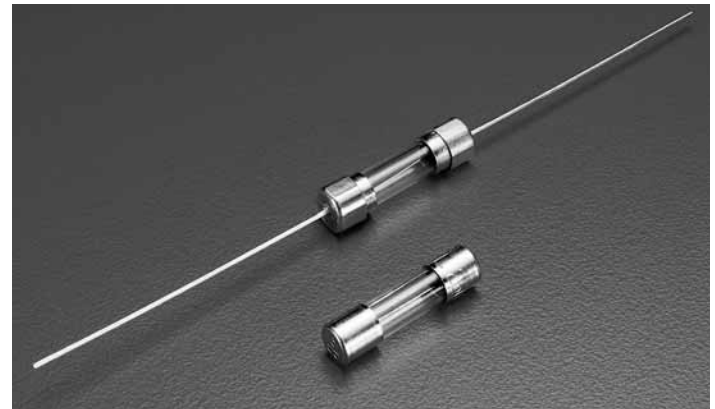
INTERRUPTING RATING:

10,000 amperes at 125 VAC, 0.7-0.8 power factor

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec
0233 001	1	125	0.18	2.03
0233 1.25	1.25	125	0.13	3.48
0233 01.6	1.6	125	0.088	6.31
0233 002.	2	125	0.068	10.2
0233 02.5	2.5	125	0.052	17.5
0233 003.	3	125	0.043	27.0
0233 3.15	3.15	125	0.038	30.6
0233 03.5	3.5	125	0.034	37.3
0233 004.	4	125	0.032	53.0
0233 005.	5	125	0.022	92.4
0233 006.	6	125	0.018	135
0233 06.3	6.3	125	0.017	156



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass
Cap: Nickel Plated Brass
Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

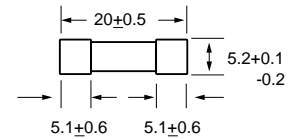
RoHS **5 x 20 mm** Medium-Acting Fuse 233 Series



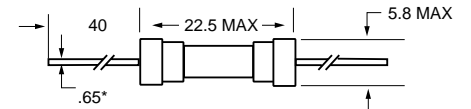
Agency Approvals

Agency Approvals		Ampere Range
	Certificate No. Cartridge NBK280602-E10480 C NBK290502-E10480 I Leaded	1A – 5A 125V 10000A 6A & 6.3A 125V 500A
	Certificate No. Cartridge NBK280602-E10480 D NBK290502-E10480 J	1A – 5A 125V 10000A 6A & 6.3A 125V 500A
	Listed File No. E10480 Guide No. JDYX	1A – 6.3A
	File No. 029862 Cert. Class No. LR1422-01	

0233 000¹



0233000XE²

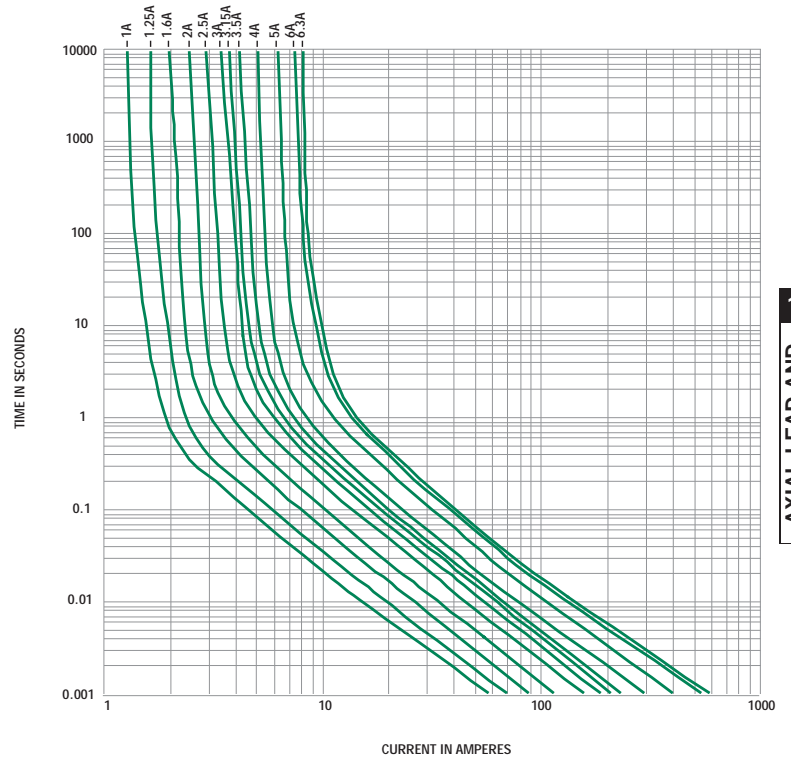


All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts add suffix 'XP'
- 2 For RoHS compliant parts add suffix 'P'

Average Time Current Curves



11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

RoHS **Pb** **5 x 20 mm** Medium-Acting Fuse 234 Series



- Designed to UL/ CSA/ANCE 248 Standard.
- Available in Cartridge, Axial and Radial Lead Format.
- Available in ratings of 1A to 10A.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
110%	1–3.5	4 hours, Minimum
	4–10	1 hour, Minimum
135%	1–10	3 sec., Min. ; 1 hour Max.
200%	1–10	0.4 sec., Min. ; 4 sec., Max.

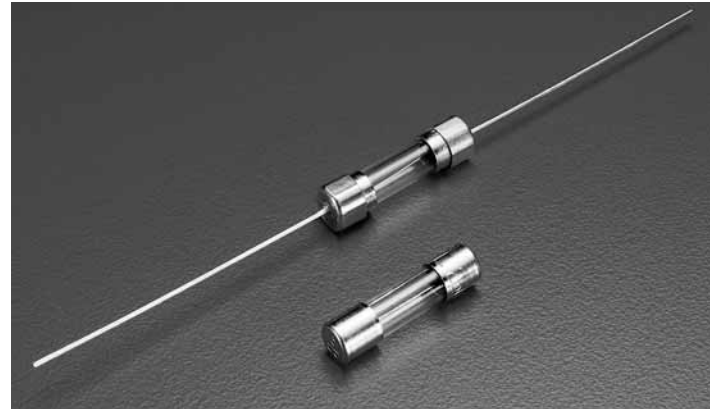
INTERRUPTING RATING:

1A	35 amperes at 250 VAC 0.7-0.8 power factor
1.25-3.5A	10,000 amperes at 125 VAC, 0.7-0.8 power factor 100 amperes at 250 VAC, 0.7-0.8 power factor
4A-10A	10,000 amperes at 125 VAC, 0.7-0.8 power factor 200 amperes at 250 VAC, 0.7-0.8 power factor

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec
0234 001	1	250	0.18	2.03
0234 1.25	1.25	250	0.13	3.48
0234 01.6	1.6	250	0.088	6.31
0234 002.	2	250	0.068	10.2
0234 02.5	2.5	250	0.052	17.5
0234 003.	3	250	0.043	27.0
0234 3.15	3.15	250	0.038	30.6
0234 03.5	3.5	250	0.034	37.3
0234 004.	4	250	0.032	10.7
0234 005.	5	250	0.022	21.2
0234 006.	6	250	0.018	33.9
0234 06.3	6.3	250	0.017	38.7
0234 008.	8	250	0.013	82.9
0234 010.	10	250	0.010	133



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass(1A-3.5A), Ceramic(4A-10A)

Cap: Nickel Plated Brass

Leads: Tin Plated Copper

Filter: Sand (4A – 10A)

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

Terminal strength: MIL-STD-202F Method 211A, Test Condition A

Product Marking: Cap 1: current and voltage rating.

Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

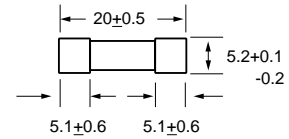
RoHS 5 x 20 mm Medium-Acting Fuse 234 Series



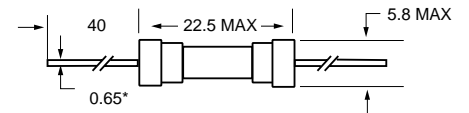
Agency Approvals

Agency Approvals		Ampere Range
	Certificate No. Cartridge	
	NBK290502-E10480 G	1A – 3.5A 250V 100A
	NBK280602-E10480 E	4A & 5A 250V 300A
	NBK280602-E10480 G Leaded	6A – 10A 250V 300A
	Certificate No. Cartridge	
	NBK290502-E10480 H	1A – 3.5A 250V 100A
	NBK280602-E10480 F	4A & 5A 250V 300A
	NBK280602-E10480 H	6A – 10A 250V 300A
	Listed File No. E10480	1A – 10A
	Guide No. JDYX	
	File No. 029862	
	Cert. Class No. LR1422-01	

0234 000¹



0234 000XE²

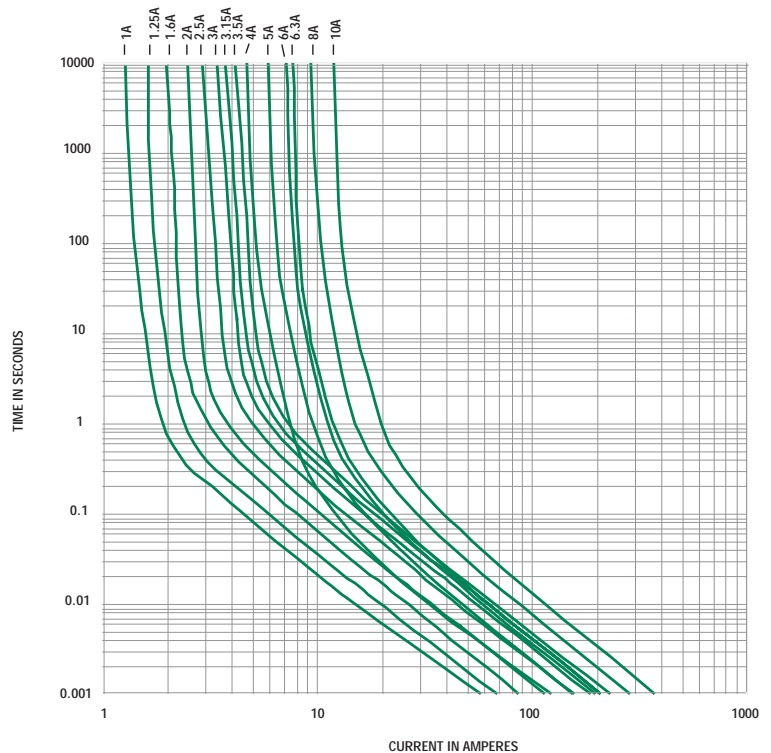


All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts add suffix 'XP'
- 2 For RoHS compliant parts add suffix 'P'

Average Time Current Curves

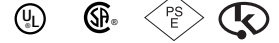


11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

RoHS **Pb** **5 x 20 mm** Time Lag Fuse (Slo-Blo®) Fuse 239 Series



- Designed to UL/CSA/ANCE 248 Standard.
- Available in Cartridge and Axial Lead Format.
- Available in ratings of 0.200 to 7 amperes.
- RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	5 seconds, Min. ; 2 min., Max.

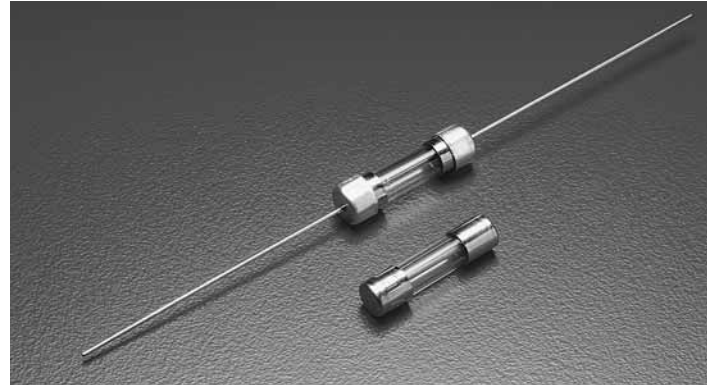
INTERRUPTING RATING:

0.20-1A	10,000 amperes at 125 VAC, 0.7-0.8 power factor 35 amperes at 250 VAC, 0.7-0.8 power factor
1.25A-3.15A	10,000 amperes at 125 VAC, 0.7-0.8 power factor 100 amperes at 250 VAC, 0.7-0.8 power factor
4A-7A	10,000 amperes at 125 VAC, 0.7-0.8 power factor

ORDERING INFORMATION:

RoHS compliant and Lead-Free version available, add XP suffix to standard catalog number

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Nominal Melting I ² t A ² Sec.
239.200	.200	250	3.90	0.170
239.250	.250	250	3.00	0.3508
239.300	.300	250	2.25	0.630
239.400	.400	250	1.46	1.53
239.500	.500	250	0.865	2.04
239.600	.600	250	0.688	2.48
239.700	.700	250	0.550	4.23
239.750	.750	250	0.453	5.57
239.800	.800	250	0.403	7.77
239 001	1	250	0.313	11.60
239 1.25	1.25	250	0.200	20.05
239 01.6	1.60	250	0.122	31.25
239 002	2	250	0.0975	51.95
239 02.5	2.50	250	0.053	81.85
239 003	3	250	0.0480	133.0
239 3.15	3.15	250	0.0425	131.5
239 004	4	125	0.0313	278.0
239 005	5	125	0.0208	311.0
239 007	7	125	0.0114	314.0



ENVIRONMENTAL SPECIFICATIONS:

Operating temperature: -55°C to 125°C

Thermal Shock: MIL-STD-202F Method 107G, Test Condition B: (5 cycles -65°C to +125°C)

Vibration: MIL-STD-202F Method 201A

Humidity: MIL-STD-202F Method 103B, Test Condition A. high relative humidity (95%) and elevated temperature (40°C) for 240 hours.

Salt Spray: MIL-STD-202F Method 101D, Test Condition B

PHYSICAL SPECIFICATIONS:

Material: Body: Glass
Cap: Nickel Plated Brass
Leads: Tin Plated Copper

Terminal Strength: MIL-STD-202F Method 211A, Test Condition A

Solderability: Reference IEC 60127 Second Edition 2003-01 Annex A

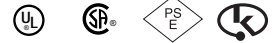
Product Marking: Cap 1: current and voltage rating.
Cap 2: Agency approval markings.

Packaging: Available in Bulk (v=5, H=100, M=1000 pcs/pkg) or on Tape/Reel (MRET1=1000 pcs/reel).

Axial Lead and Cartridge Fuses

Designed to UL/CSA Standards

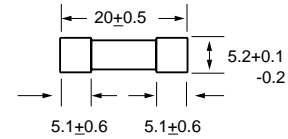
RoHS **5 x 20 mm** Time Lag Fuse (Slo-Blo®) Fuse 239 Series



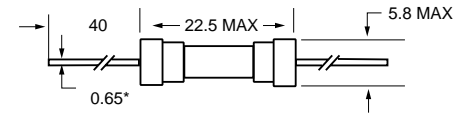
Agency Approvals

Agency Approvals		Ampere Range
	Certificate No. Cartridge	
	NBK290502-E10480 G	1A – 3A 250V 100A
	NBK280602-E10480 C	4A & 5A 125V 10000A
	NBK290502-E10480 I Leaded	7A 125V 500A
	NBK290502-E10480 H	1A – 3A 250V 100A
	NBK280602-E10480 D	4A & 5A 125V 10000A
	NBK290502-E10480 J	7A 125V 500A
	Certificate No. SU05001-2004	200mA – 3.15A
	SU05001-2014	4A – 7A
	Listed File No. E10480	200mA – 7A
	Guide No. JDYX	
	File No. 029862	
	Cert. Class No. LR1422-01	

0239 000¹



0239 000XE²

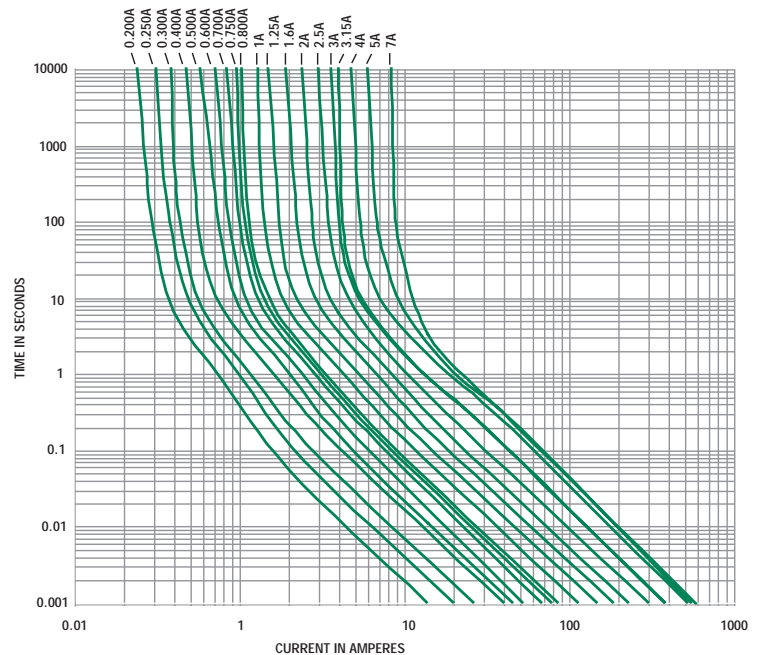


All dimensions in mm

Notes:

- * Ratings above 6.3A have 0.8 mm dia lead
- 1 For RoHS compliant parts add suffix 'XP'
- 2 For RoHS compliant parts add suffix 'P'

Average Time Current Curves



Axial Lead and Cartridge Fuses

Glass Body

3.6 x 10 mm Fast-Acting Fuse 672 Series



- Designed to UL/CSA 248 Standard.
- Fast-Acting, glass body fuse in a compact package.
- This space saving fuse is ideally suited for lighting, power supply, and adapter applications.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	5 seconds, Max.

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA from 0.050 through 10 Amps.

INTERRUPTING RATING:

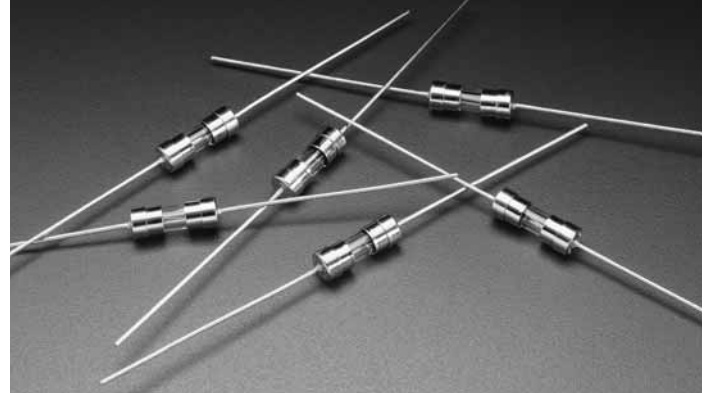
50A@250V AC

PACKAGING OPTIONS:

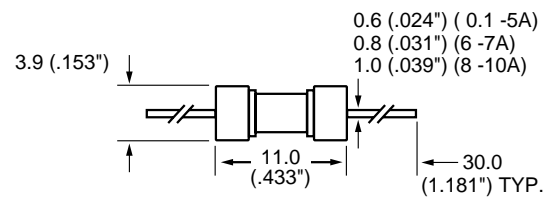
Please refer to the following suffixes when ordering:
 Bulk (1000 pieces): Add MXE suffix to the catalog part number.
 Tape and Reel (1500 pieces): Add DRT4 suffix to the catalog part number.

TAPE AND REEL SPECIFICATIONS:

Per EIA-296 with 10mm pitch and 56.5mm inside tape spacing.



672 000 Series

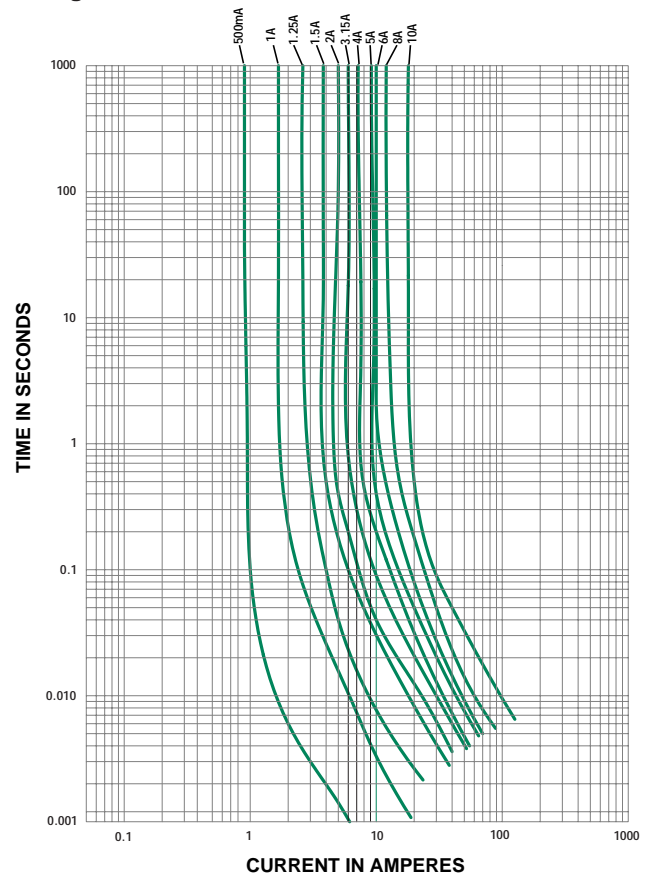


Axial Lead Material: Solder coated copper.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold mOhms	Nominal Melting i^2t A ² Sec.
0672.100	.100	250	4.8250	0.00194
0672.125	.125	250	3.8620	0.00289
0672.200	.200	250	1.7302	0.0114
0672.250	.250	250	1.6120	0.0225
0672.300	.300	250	0.9250	0.0295
0672.400	.400	250	0.5840	0.0695
0672.500	.500	250	0.2322	0.128
0672.600	.600	250	0.1765	0.218
0672.750	.750	250	0.1310	0.254
0672.800	.800	250	0.1215	0.304
0672 001.	1.00	250	0.1056	0.508
0672 01.5	1.50	250	0.0595	0.884
0672 01.6	1.60	250	0.0565	0.965
0672 002.	2.00	250	0.0378	2.27
0672 02.5	2.50	250	0.0342	3.73
0672 3.15	3.15	250	0.0253	5.95
0672 004.	4.00	250	0.0174	8.86
0672 04.5	4.50	250	0.0170	9.77
0672 005.	5.00	250	0.0145	15.6
0672 006.	6.00	250	0.0132	18.0
0672 06.3	6.30	250	0.0120	19.3
0672 06.5	6.50	250	0.0118	21.9
0672 007.	7.00	250	0.0111	25.8
0672 008.	8.00	250	0.0088	33.2
0672 010.	10.0	250	0.0056	88.5

Average Time Current Curves



Axial Lead and Cartridge Fuses

Glass Body

3.6 x 10 mm Slo-Blo® Fuse 673 Series



- Designed to UL/CSA 248 Standard.
- Slo-Blo, glass body fuse in a compact package.
- This space saving fuse is ideally suited for lighting, power supply, and adapter applications.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	60 seconds, Max.

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA from 0.050 through 10 Amps.

INTERRUPTING RATING:

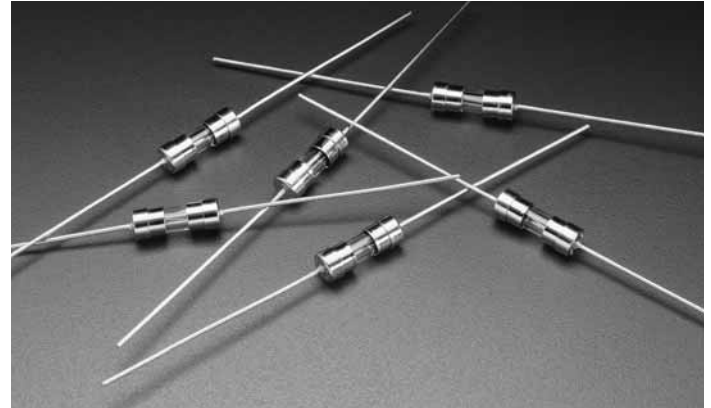
50A@250V AC

PACKAGING OPTIONS:

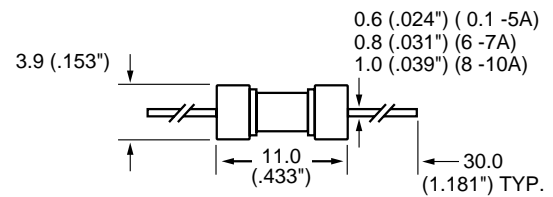
Please refer to the following suffixes when ordering:
 Bulk (1000 pieces): Add MXE suffix to the catalog part number.
 Tape and Reel (1500 pieces): Add DRT4 suffix to the catalog part number.

TAPE AND REEL SPECIFICATIONS:

Per EIA-296 with 10mm pitch and 56.5mm inside tape spacing.



673 000 Series

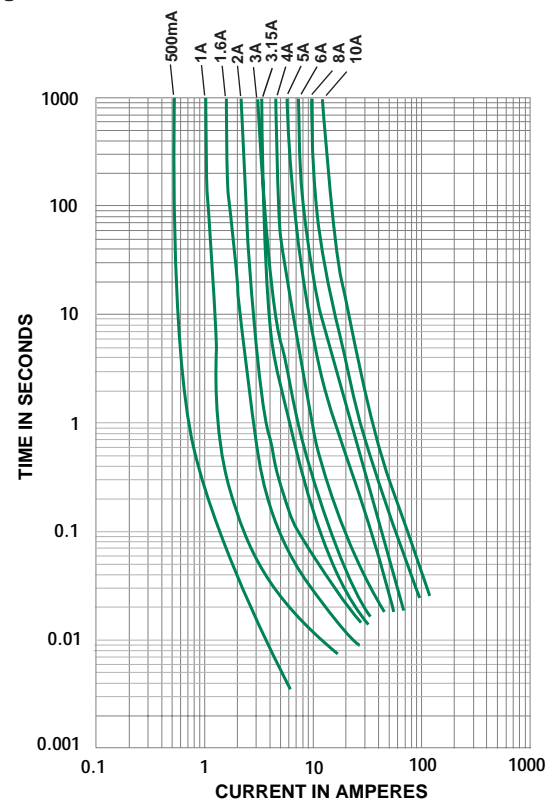


Axial Lead Material: Solder coated copper.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold mOhms	Nominal Melting i^2t A ² Sec.
0673.100	.100	250	7.5300	0.00250
0673.125	.125	250	2.9850	0.00370
0673.200	.200	250	2.5280	0.0161
0673.250	.250	250	1.7700	0.0252
0673.300	.300	250	1.1880	0.0332
0673.400	.400	250	0.3140	0.0735
0673.500	.500	250	0.2250	0.137
0673.600	.600	250	0.1550	0.482
0673.800	.800	250	0.1120	0.949
0673 001	1.00	250	0.0940	1.22
0673 01.5	1.50	250	0.0515	3.52
0673 01.6	1.60	250	0.0494	3.75
0673 002.	2.00	250	0.0410	6.56
0673 02.5	2.50	250	0.0344	9.19
0673 003.	3.00	250	0.0247	18.4
0673 004.	4.00	250	0.0191	28.6
0673 005.	5.00	250	0.0114	58.6
0673 006.	6.00	250	0.0095	77.2
0673 007.	7.00	250	0.0084	94.7
0673 008.	8.00	250	0.0077	114.0
0673 010.	10.0	250	0.0070	224.0

Average Time Current Curves



11
AXIAL LEAD AND CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Ceramic Body

3.6 x 10 mm Fast-Acting Fuse 674 Series



- Designed to UL/CSA 248 Standard.
- Fast-Acting, ceramic body fuse in a compact package.
- This space saving fuse is ideally suited for lighting, power supply, and adapter applications.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	5 seconds, Max.

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA from 0.100 through 8 Amps.

INTERRUPTING RATING:

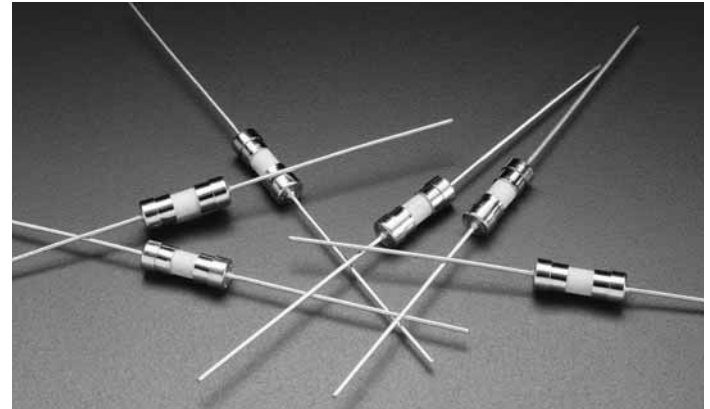
50A@250V AC

PACKAGING OPTIONS:

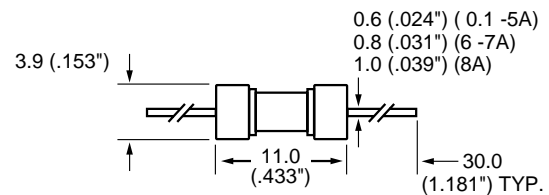
Please refer to the following suffixes when ordering:
 Bulk (1000 pieces): Add MXE suffix to the catalog part number.
 Tape and Reel (1500 pieces): Add DRT4 suffix to the catalog part number.

TAPE AND REEL SPECIFICATIONS:

Per EIA-296 with 10mm pitch and 56.5mm inside tape spacing.



674 000 Series

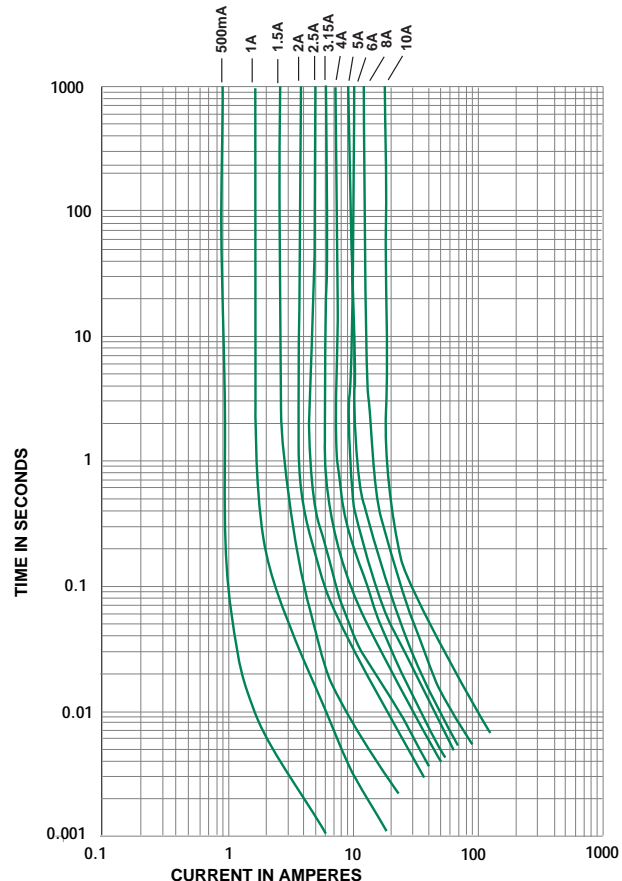


Axial Lead Material: Solder coated copper.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold mOhms	Nominal Melting i^2t A ² Sec.
0674.100	.100	250	4.8150	0.00192
0674.125	.125	250	3.8540	0.00299
0674.200	.200	250	1.7300	0.0114
0674.250	.250	250	1.6100	0.0225
0674.300	.300	250	0.9395	0.0295
0674.400	.400	250	0.5860	0.0688
0674.500	.500	250	0.2325	0.128
0674.600	.600	250	0.1780	0.217
0674.750	.750	250	0.1320	0.250
0674.800	.800	250	0.1220	0.303
0674.001	1.00	250	0.1050	0.506
0674.01.5	1.50	250	0.0592	0.881
0674.01.6	1.60	250	0.0560	0.951
0674.002	2.00	250	0.0380	2.25
0674.02.5	2.50	250	0.0341	3.73
0674.3.15	3.15	250	0.0251	5.98
0674.004	4.00	250	0.0175	8.96
0674.04.5	4.50	250	0.0171	9.58
0674.005	5.00	250	0.0144	15.9
0674.006	6.00	250	0.0131	18.0
0674.06.3	6.30	250	0.0120	19.2
0674.06.5	6.50	250	0.0119	21.6
0674.007	7.00	250	0.0112	25.2
0674.008	8.00	250	0.0088	35.4

Average Time Current Curves



Axial Lead and Cartridge Fuses

Ceramic Body

3.6 x 10 mm Slo-Blo® Fuse 675 Series



- Designed to UL/CSA 248 Standard.
- Slo-Blo, ceramic body fuse in a compact package.
- This space saving fuse is ideally suited for lighting, power supply, and adapter applications.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
100%	4 hours, Minimum
200%	60 seconds, Max.

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA from 0.100 through 5 Amps.

INTERRUPTING RATING:

50A @ 250V AC

PACKAGING OPTIONS:

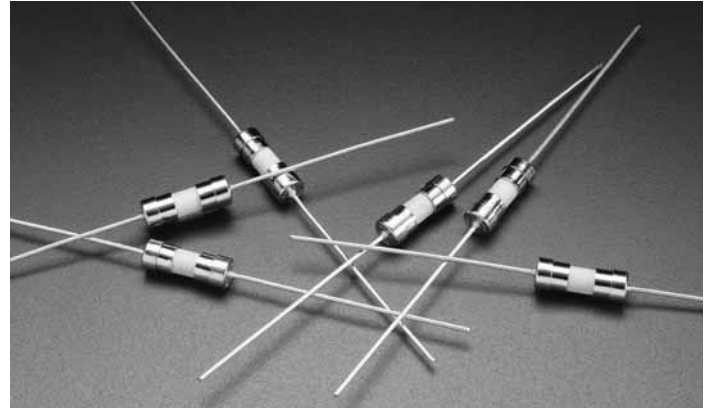
Please refer to the following suffixes when ordering:
 Bulk (1000 pieces): Add MXE suffix to the catalog part number.
 Tape and Reel (1500 pieces): Add DRT4 suffix to the catalog part number.

TAPE AND REEL SPECIFICATIONS:

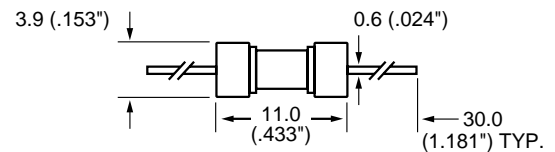
Per EIA-296 with 10mm pitch and 56.5mm inside tape spacing.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold mOhms	Nominal Melting i^2t A ² Sec.
0675.100	.100	250	7.5100	0.00250
0675.125	.125	250	2.9750	0.00360
0675.200	.200	250	2.4850	0.0158
0675.250	.250	250	1.7520	0.0250
0675.300	.300	250	1.1710	0.0322
0675.400	.400	250	0.3035	0.0750
0675.500	.500	250	0.2270	0.132
0675.600	.600	250	0.1504	0.469
0675.800	.800	250	0.1110	0.926
0675 001.	1.00	250	0.0930	1.22
0675 01.5	1.50	250	0.0510	3.51
0675 01.6	1.60	250	0.0490	3.71
0675 002.	2.00	250	0.0405	6.70
0675 02.5	2.50	250	0.0342	9.25
0675 003.	3.00	250	0.0245	18.3
0675 004.	4.00	250	0.0193	28.1
0675 005.	5.00	250	0.0113	58.8

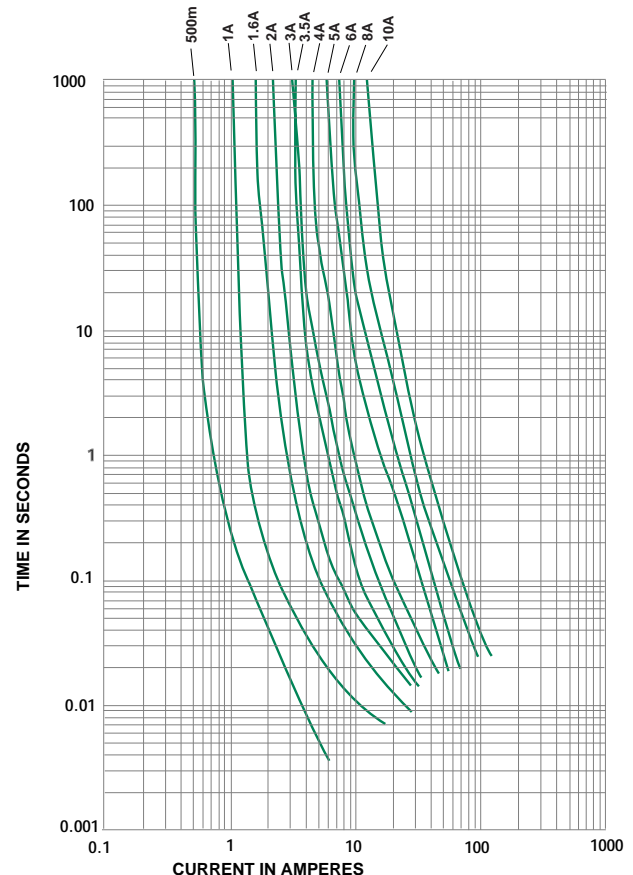


675 000 Series



Axial Lead Material: Solder coated copper.

Average Time Current Curves



11
AXIAL LEAD AND CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Ceramic Body

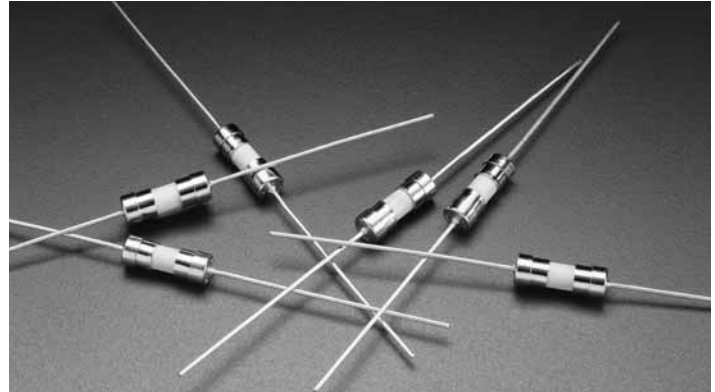
3.6 x 10 mm Fast-Acting Fuse 676 Series



- Meets the requirements of IEC 60127-3, Standard Sheet 3.
- Fast-Acting, ceramic body fuse in a compact package.
- This space saving fuse is ideally suited for lighting, power supply, and adapter applications.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
150%	60 minutes, Minimum
210%	30 minutes, Maximum
275%	10 msec., Min.; 3 sec. Max.
400%	3 msec., Min.; .3 sec. Max.
1000%	20 msec, Max.



676 000 Series

AGENCY APPROVALS:

Recognized under the Components Program of Underwriters Laboratories and recognized by CSA from 0.050 through 6.3 Amps. VDE approved from 1 through 5 Amps. CCC approval pending (1 through 5 Amps).

INTERRUPTING RATING:

35A or 10 x rated current, whichever is greater @ 250V AC

PACKAGING OPTIONS:

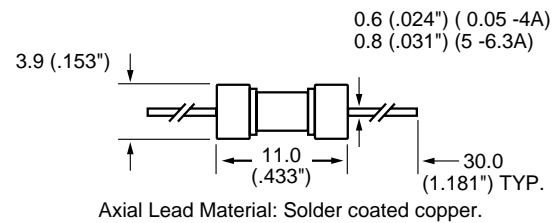
Please refer to the following suffixes when ordering:
 Bulk (1000 pieces): Add MXE suffix to the catalog part number.
 Tape and Reel (1500 pieces): Add DRT4 suffix to the catalog part number.

TAPE AND REEL SPECIFICATIONS:

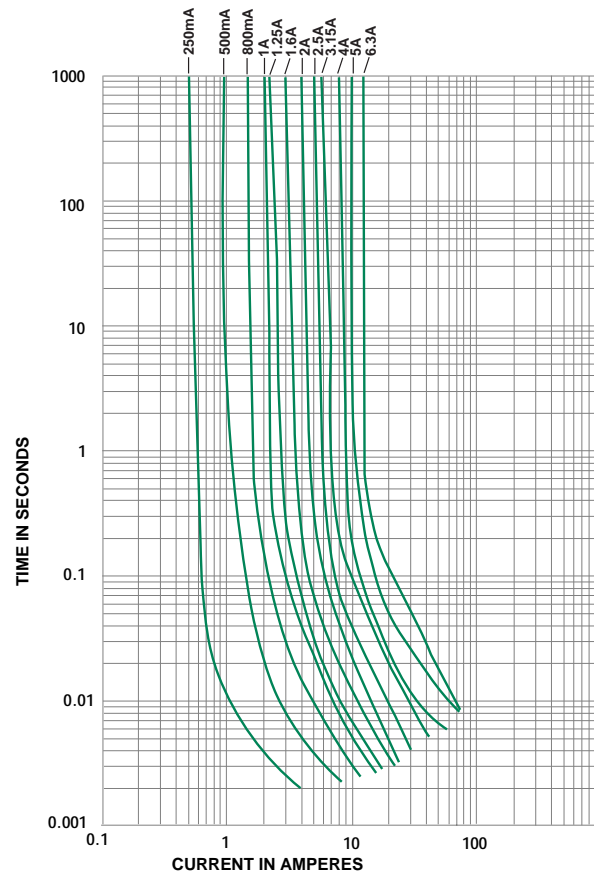
Per EIA-296 with 10mm pitch and 56.5mm inside tape spacing.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold mOhms	Nominal Melting i^2t A ² Sec.
0676.050	.050	250	9.400	0.00050
0676.063	.063	250	6.900	0.00080
0676.080	.080	250	4.700	0.00100
0676.100	.100	250	3.300	0.00160
0676.125	.125	250	2.300	0.00790
0676.160	.160	250	1.700	0.0128
0676.200	.200	250	0.500	0.0200
0676.250	.250	250	0.390	0.0250
0676.315	.315	250	0.285	0.0300
0676.400	.400	250	0.195	0.112
0676.500	.500	250	0.150	0.130
0676.630	.630	250	0.105	0.202
0676.800	.800	250	0.083	0.320
0676.001.	1.00	250	0.063	0.450
0676.1.25	1.25	250	0.053	0.750
0676.01.6	1.60	250	0.042	1.79
0676.002.	2.00	250	0.032	3.01
0676.02.5	2.50	250	0.025	5.15
0676.03.15	3.15	250	0.019	8.55
0676.004.	4.00	250	0.014	14.6
0676.005.	5.00	250	0.010	20.4
0676.06.3	6.30	250	0.006	33.8



Average Time Current Curves



Axial Lead and Cartridge Fuses

Ceramic Body

3.6 x 10 mm Slo-Blo® Fuse 677 Series



- Meets the requirements of IEC 60127-3, Standard Sheet 4.
- Slo-Blo, ceramic body fuse in a compact package.
- This space saving fuse is ideally suited for lighting, power supply, and adapter applications.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
150%	60 minutes, Minimum
210%	2 minutes, Maximum
275%	400 msec., Min.; 10 sec. Max.
400%	150 msec., Min.; .3 sec. Max.
1000%	20 msec., Min.; 150 msec Max.

AGENCY APPROVALS:

Recognized under the Components Program of Underwriters Laboratories and recognized by CSA from 0.250 through 6.3 Amps. VDE approved from 0.250 through 6.3 Amps. CCC approval pending (0.250 through 6.3 Amps).

INTERRUPTING RATING:

35A or 10 x rated current, whichever is greater @ 250V AC

PACKAGING OPTIONS:

Please refer to the following suffixes when ordering:
 Bulk (1000 pieces): Add MXE suffix to the catalog part number.
 Tape and Reel (1500 pieces): Add DRT4 suffix to the catalog part number.

TAPE AND REEL SPECIFICATIONS:

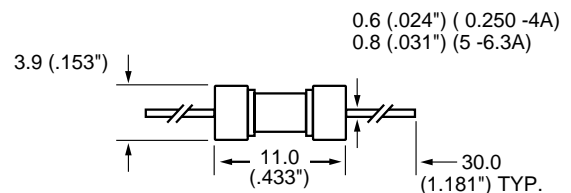
Per EIA-296 with 10mm pitch and 56.5mm inside tape spacing.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold mOhms	Nominal Melting i^2t A ² Sec.
0677.250	.250	250	0.630	0.312
0677.315	.315	250	0.460	0.422
0677.400	.400	250	0.360	0.755
0677.500	.500	250	0.310	1.32
0677.630	.630	250	0.178	2.55
0677.800	.800	250	0.125	3.25
0677.001.	1.00	250	0.092	6.95
0677.1.25	1.25	250	0.065	12.1
0677.01.6	1.60	250	0.048	18.2
0677.002.	2.00	250	0.035	20.8
0677.02.5	2.50	250	0.028	32.5
0677.3.15	3.15	250	0.020	40.8
0677.004.	4.00	250	0.016	95.0
0677.005.	5.00	250	0.014	140
0677.06.3	6.30	250	0.009	240

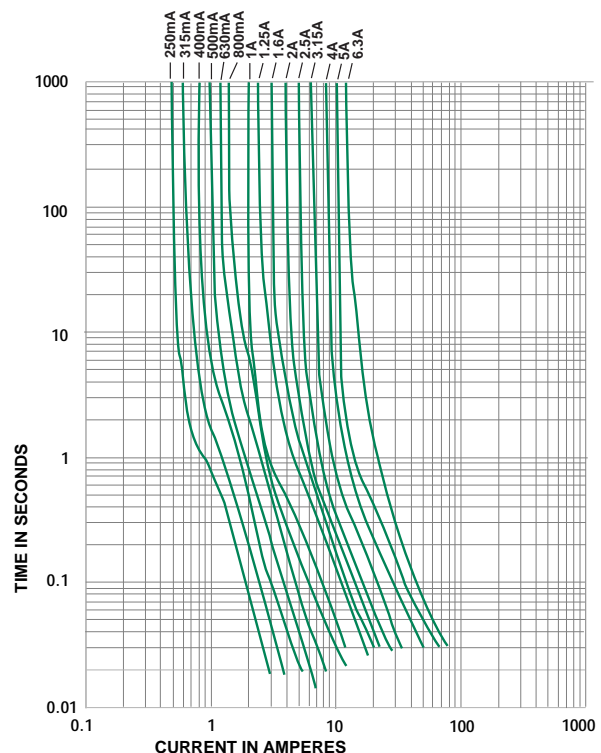


677 000 Series



Axial Lead Material: Solder coated copper.

Average Time Current Curves



Axial Lead and Cartridge Fuses

Special

3AB Very Fast-Acting Fuse 322 Series



For protection of silicon controlled rectifiers and similar solid-state devices.

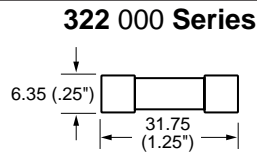
ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1-30	4 hours, Minimum
250%	1-10	.2 second, Maximum
	12-30	1 second, Maximum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories from 1 through 10 amperes at 250 VAC/65 VDC, 12 through 30 amperes at 65 VAC/VDC.

INTERUPTING RATINGS:

1-10A	10,000A @ 125 VAC
	100A @ 250 VAC
12-30A	200A @ 65 VAC



LOW VOLTAGE

SFE Fast-Acting Type 307 Series

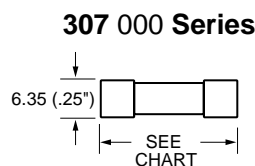


ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
110%	4 hours, Minimum
135%	1 hour, Maximum
200%	10 seconds, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories.

DESIGN STANDARDS: UL Standard 275. SAE (Society of Automotive Engineers) J554.



ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms
322 001	1	250	0.26
322 1.25	1 1/4	250	0.175
322 002	2	250	0.132
322 003	3	250	0.063
322 004	4	250	0.044
322 005	5	250	0.035
322 006	6	250	0.027
322 007	7	250	0.022
322 008	8	250	0.019
322 009	9	250	0.016
322 010	10	250	0.0135
322 012	12	65	0.0052
322 015	15	65	0.0043
322 020	20	65	0.0034
322 025	25	65	0.0029
322 030	30	65	0.0023

ORDERING INFORMATION:

Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms	Fuse Length
307 004	4	32	0.0220	15.875 (5/8")
307 006	6	32	0.0144	19.05 (3/4")
307 07.5	7 1/2	32	0.0113	22.23 (7/8")
307 009	9	32	0.00945	22.23 (7/8")
307 014	14	32	0.0055	26.99 (1 1/16")
307 020	20	32	0.0034	31.75 (1 1/4")
307 030	30	32	0.0021	36.51 (1 7/16")

Axial Lead and Cartridge Fuses

Special

RoHS **3AB** Very Fast-Acting Fuse 322P Series



For protection of silicon controlled rectifiers and similar solid-state devices.

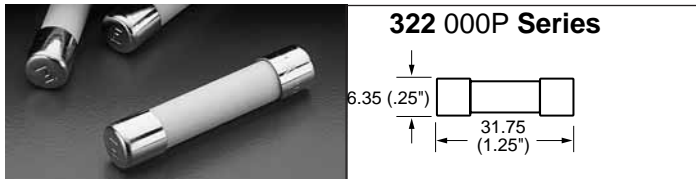
ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
100%	1–30	4 hours, Minimum
250%	1–10	.2 second, Maximum
	12–30	1 second, Maximum

AGENCY APPROVALS: Recognized under the Components Program of Underwriters Laboratories from 1 through 10 amperes at 250 VAC/65 VDC, 12 through 30 amperes at 65 VAC/VDC.

INTERUPTING RATINGS:

1-10A	10,000A @ 125 VAC
	100A @ 250 VAC
12-30A	200A @ 65 VAC



ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms
322 001P	1	250	0.26
322 1.25P	1 1/4	250	0.175
322 002P	2	250	0.132
322 003P	3	250	0.063
322 004P	4	250	0.044
322 005P	5	250	0.035
322 006P	6	250	0.027
322 007P	7	250	0.022
322 008P	8	250	0.019
322 009P	9	250	0.016
322 010P	10	250	0.0135
322 012P	12	65	0.0052
322 015P	15	65	0.0043
322 020P	20	65	0.0034
322 025P	25	65	0.0029
322 030P	30	65	0.0023

Axial Lead and Cartridge Fuses

Midget

AC Fast-Acting Type KLK Series

UL SR QPL

Fast-acting fuses designed for use in circuits with high AC fault current capacity or where military approval is required.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
135%	1/10–30	1 hour, Maximum
200	1/10–30	2 minutes, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA from $\frac{3}{10}$ through 30 amperes.

INTERRUPTING RATING:

100,000 amperes (capable of 200,000) at 600VAC.

MILITARY TYPE F60C INTERRUPTING RATINGS:

200,000 amperes at 500VAC

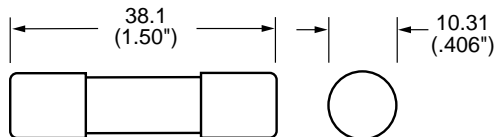
150,000 amperes at 500VDC

FUSES TO MIL SPEC: See F60C type in Military Section.

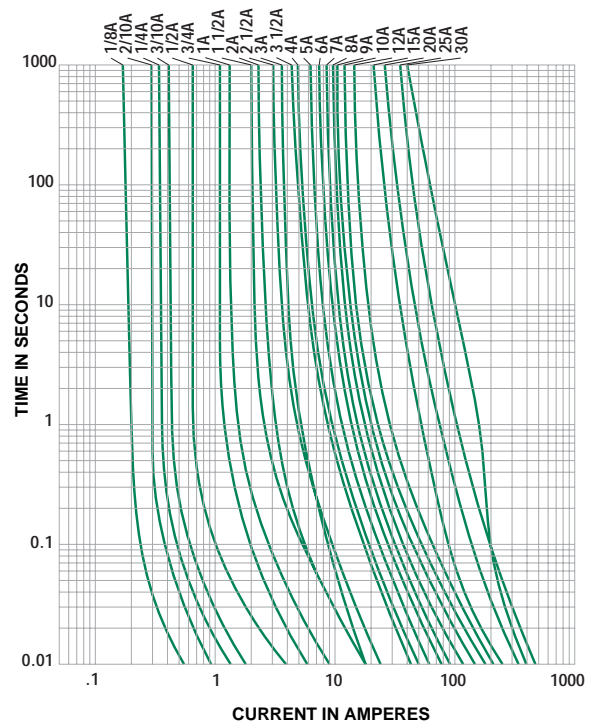
PATENTED

ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	Voltage Rating	Nominal Resistance Cold Ohms
KLK 1/10	.100	600	85.5
KLK 1/8	.125	600	65.0
KLK 2/10	.200	600	30.9
KLK 1/4	.250	600	22.0
KLK 3/10	.300	600	16.2
KLK 1/2	.500	600	7.99
KLK 3/4	.750	600	.398
KLK 1	1	600	.249
KLK 1 1/2	1.5	600	.132
KLK 2	2	600	.129
KLK 2 1/2	2.5	600	.0989
KLK 3	3	600	.0773
KLK 3 1/2	3.5	600	.0613
KLK 4	4	600	.0511
KLK 5	5	600	.0357
KLK 6	6	600	.0261
KLK 7	7	600	.0205
KLK 8	8	600	.0194
KLK 9	9	600	.0166
KLK 10	10	600	.0128
KLK 12	12	600	.0103
KLK 15	15	600	.0073
KLK 20	20	600	.00421
KLK 25	25	600	.00302
KLK 30	30	600	.002816



Average Time Current Curves



Axial Lead and Cartridge Fuses

Midget

DC Fast-Acting Type KLKD Series



Fast-acting fuses designed for use in circuits with DC fault currents up to 10,000 amperes. Same AC interrupting ratings as KLK series.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
135%	1/10–30	1 hour, Maximum
200%	1/10–30	2 minutes, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA from 3/10 through 30 amperes.

INTERRUPTING RATINGS:

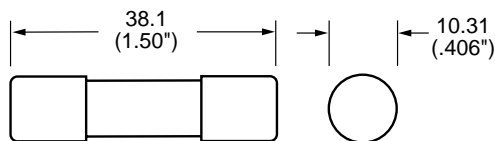
10,000 amperes at 600 VDC.
100,000 amperes (capable of 200,000) at 600VAC.

FUSES TO MIL SPEC: See KLK Series for QPL fuses with DC ratings.

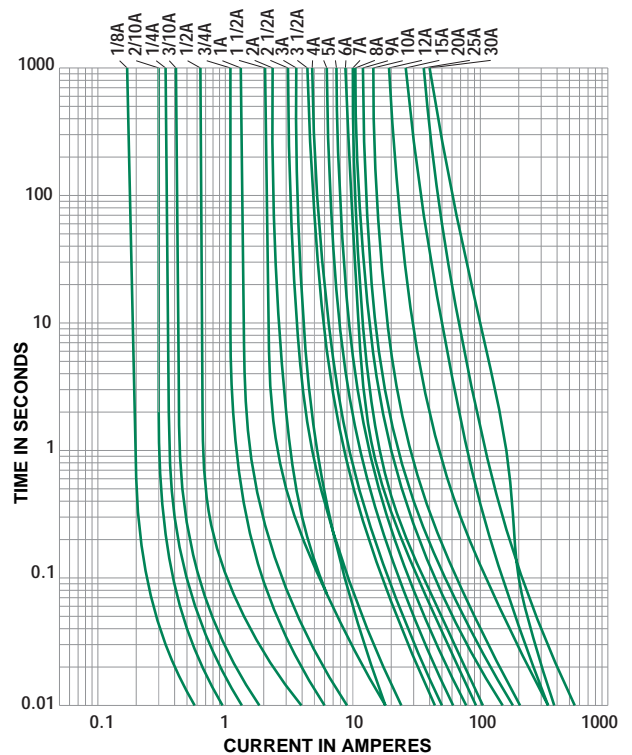
PATENTED

ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	AC Voltage Rating	Nominal Resistance Cold Ohms
KLK D 1/10	.100	600	85.5
KLK D 1/8	.125	600	65.0
KLK D 2/10	.200	600	30.9
KLK D 1/4	.250	600	22.0
KLK D 3/10	.300	600	16.2
KLK D 1/2	.500	600	8.16
KLK D 3/4	.750	600	.402
KLK D 1	1	600	.252
KLK D 1 1/2	1.5	600	.134
KLK D 2	2	600	.124
KLK D 2 1/2	2.5	600	.0989
KLK D 3	3	600	.0773
KLK D 3 1/2	3.5	600	.0613
KLK D 4	4	600	.0511
KLK D 5	5	600	.0363
KLK D 6	6	600	.0261
KLK D 7	7	600	.0205
KLK D 8	8	600	.0194
KLK D 9	9	600	.0166
KLK D 10	10	600	.0128
KLK D 12	12	600	.0103
KLK D 15	15	600	.0078
KLK D 20	20	600	.0045
KLK D 25	25	600	.00329
KLK D 30	30	600	.002816



Average Time Current Curves



11
AXIAL LEAD AND
CARTRIDGE FUSES

Axial Lead and Cartridge Fuses

Midget

250 Volt Slo-Blo® Type Fuse FLM Series

UL SP QPL

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
135%	1/10-30	1 hour, Maximum
	32/10-30	12 seconds, Minimum
200%	0-3	5 seconds, Minimum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA.

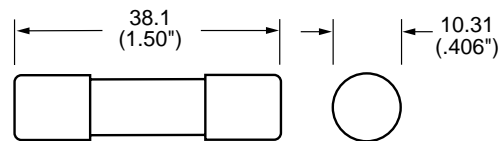
INTERRUPTING RATING: 10,000 amperes at 250 VAC.

FUSES TO MIL SPEC: See F09B type in Military Section.

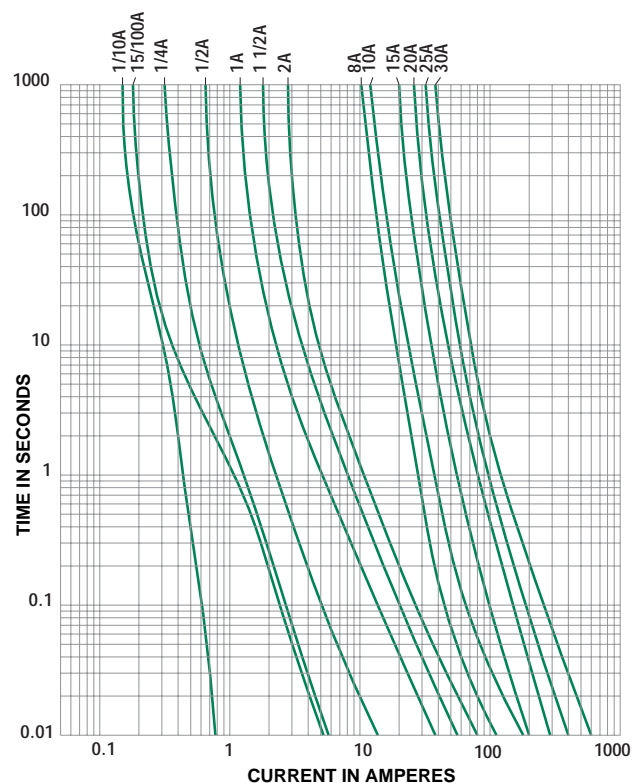
PATENTED

ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	AC Voltage Rating	Nominal Resistance Cold Ohms
FLM 1/10	.100	250	188.0
FLM 15/100	.150	250	87.0
FLM 2/10	.200	250	35.109
FLM 1/4	.250	250	5.413
FLM 3/10	.300	250	3.79
FLM 4/10	.400	250	2.10
FLM 1/2	.500	250	1.54
FLM 6/10	.600	250	1.024
FLM 8/10	.800	250	.623
FLM 1	1	250	.395
FLM 1 1/8	1.125	250	.356
FLM 1 1/4	1.25	250	.286
FLM 1 4/10	1.4	250	.253
FLM 1 1/2	1.5	250	.219
FLM 1 6/10	1.6	250	.184
FLM 1 8/10	1.8	250	.162
FLM 2	2	250	.125
FLM 2 1/4	2.25	250	.102
FLM 2 1/2	2.5	250	.0904
FLM 2 9/10	2.8	250	.0735
FLM 3	3	250	.0700
FLM 3 3/10	3.2	250	.0576
FLM 3 1/2	3.5	250	.0517
FLM 4	4	250	.0426
FLM 4 1/2	4.5	250	.0360
FLM 5	5	250	.0413
FLM 5 9/10	5.6	250	.0326
FLM 6	6	250	.0280
FLM 6 1/4	6.25	250	.0277
FLM 7	7	250	.02133
FLM 8	8	250	.01247
FLM 9	9	250	.01066
FLM 10	10	250	.00903
FLM 12	12	250	.00698
FLM 15	15	250	.00530
FLM 20	20	250	.00385
FLM 25	25	250	.00275
FLM 30	30	250	.00226



Average Time Current Curves



Axial Lead and Cartridge Fuses

Midget

500 Volt Slo-Blo® Type Fuse FLQ Series



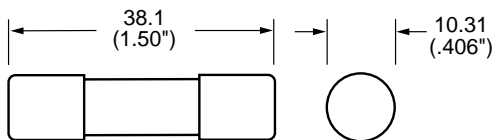
ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
135%	1/10-30	1 hour, Maximum
200%	32/10-30	12 seconds, Minimum
	0-3	5 seconds, Minimum

AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA.

INTERRUPTING RATING: 10,000 amperes at 500 VAC.

PATENTED



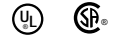
ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	AC Voltage Rating	Nominal Resistance Cold Ohms
FLQ 1/10	.100	500	188.0
FLQ 1/8	.125	500	125.9
FLQ 15/100	.150	500	87.0
FLQ 3/16	.187	500	45.5
FLQ 2/10	.200	500	35.109
FLQ 1/4	.250	500	9.7
FLQ 3/10	.300	500	7.4
FLQ 4/10	.400	500	4.325
FLQ 1/2	.500	500	2.76
FLQ 6/10	.600	500	1.88
FLQ 8/10	.800	500	1.03
FLQ 1	1	500	.7864
FLQ 1 1/8	1.125	500	.652
FLQ 1 1/4	1.25	500	.509
FLQ 1 1/2	1.5	500	.3835
FLQ 1 9/10	1.6	500	.296
FLQ 2	2	500	.2086
FLQ 2 1/4	2.25	500	.1563
FLQ 2 1/2	2.5	500	.1381
FLQ 3	3	500	.0954
FLQ 3 2/10	3.2	500	.0938
FLQ 3 1/2	3.5	500	.0732
FLQ 4	4	500	.0618
FLQ 4 1/2	4.5	500	.0463
FLQ 5	5	500	.0348
FLQ 5 9/10	5.6	500	.0327
FLQ 6	6	500	.0284
FLQ 6 1/4	6.25	500	.0263
FLQ 7	7	500	.0212
FLQ 8	8	500	.01830
FLQ 9	9	500	.01540
FLQ 10	10	500	.01563
FLQ 12	12	500	.01176
FLQ 14	14	500	.00740
FLQ 15	15	500	.00690
FLQ 20	20	500	.004063
FLQ 25	25	500	.002920
FLQ 30	30	500	.002816

Axial Lead and Cartridge Fuses

Special Midget

1 3/8" Long Fast-Acting Type Fuse BLS Series



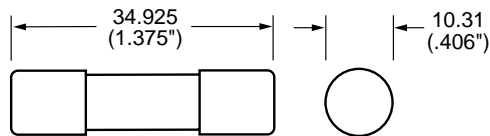
ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
135%	2/10-10	1 hour, Maximum
200%	2/10-10	2 minutes, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories from 1/2 through 5 amperes and Certified by CSA from 1/2 through 5 amperes.

INTERRUPTING RATING: 10,000 amperes at rated VAC.

PATENTED



ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	AC Voltage Rating	Nominal Resistance Cold Ohms
BLS 2/10	.200	600	36
BLS 4/10	.400	600	11.5
BLS 1/2	.500	600	1.25
BLS 3/4	.750	600	.591
BLS 8/10	.800	600	.524
BLS 1	1	600	.944
BLS 1 1/2	1.5	600	.190
BLS 1 5/10	1.6	600	.180
BLS 1 8/10	1.8	600	.143
BLS 2	2	600	.2608
BLS 3	3	600	.10625
BLS 4	4	600	.0464
BLS 5	5	600	.0330
BLS 6	6	250	.0182
BLS 7	7	250	.1045
BLS 8	8	250	.012
BLS 10	10	250	.00881

Slo-Blo® Indicating Type Fuse FLA Series



ELECTRICAL CHARACTERISTICS:

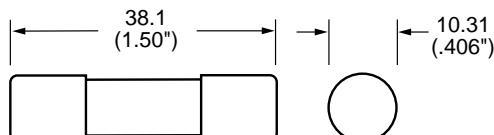
% of Ampere Rating	Opening Time
135%	1 hour, Maximum

AGENCY APPROVALS: Listed by Underwriters Laboratories.

INTERRUPTING RATING: 10,000 amperes at rated VAC.

INDICATING PIN: Extends 0.3" when fuse opens.

NOTE: Fuses rated 12-30 amperes have dual tube construction.



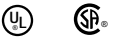
ORDERING INFORMATION:

Catalog Number	Ampere Rating	Nominal Resistance Cold Ohms	Catalog Number	Ampere Rating	Nominal Resistance Cold Ohms	AC Voltage Rating
FLA 1/10	.100	200.0	FLA 5	5	.06304	125
FLA 15/100	.15	88.90	FLA 5 5/10	5.6	.05194	125
FLA 2/10	.200	50.00	FLA 6	6	.04253	125
FLA 1/4	.250	32.00	FLA 6 1/4	6.25	.03794	125
FLA 3/10	.300	22.20	FLA 7	7	.03146	125
FLA 4/10	.400	11.39	FLA 8	8	.01890	125
FLA 1/2	.500	8.00	FLA 10	10	.01387	125
FLA 6/10	.600	5.55	FLA 12	12	.00689	125
FLA 8/10	.800	3.65	FLA 15	15	.00530	125
FLA 1	1	1.9504	FLA 20	20	.00385	125
FLA 1 1/8	1.125	1.7004	FLA 25	25	.00275	125
FLA 1 1/4	1.250	1.4004	FLA 30	30	.00226	125
FLA 1 1/10	1.4	1.1204				125
FLA 1 1/2	1.5	.8204				125
FLA 1 5/10	1.6	.7027				125
FLA 1 8/10	1.8	.5637				125
FLA 2	2	.4627				125
FLA 2 1/4	2.25	.3557				125
FLA 2 1/2	2.5	.2599				125
FLA 2 8/10	2.8	.2048				125
FLA 3	3	.1816				125
FLA 3 2/10	3.2	.1587				125
FLA 3 1/2	3.5	.1195				125
FLA 4	4	.09772				125
FLA 4 1/2	4.5	.07875				125

Axial Lead and Cartridge Fuses

Midget

Laminated Body Fast-Acting Type BLF Series



ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
135%	1 hour, Maximum
200%	2 minutes, Maximum

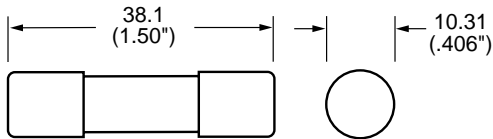
AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA.

INTERRUPTING RATING: 10,000 amperes at rated VAC.

NOTE: Not recommended for applications in humid areas.

ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	AC Voltage Rating	Nominal Resistance Cold Ohms
BLF 1/2	.500	250	1.57
BLF 1	1	250	.395
BLF 1 1/2	1.5	250	.2191
BLF 2	2	250	.125
BLF 2 1/2	2.5	250	.0946
BLF 3	3	250	.0696
BLF 4	4	250	.0432
BLF 5	5	250	.0413
BLF 6	6	260	.02842
BLF 6 1/4	6.25	250	.02741
BLF 7	7	250	.02282
BLF 8	8	250	.01664
BLF 9	9	250	.01364
BLF 10	10	250	.01097
BLF 12	12	250	.00920
BLF 15	15	250	.00684
BLF 20	20	125	.00528
BLF 25	25	125	.00378
BLF 30	30	125	.00289



Fibre Body Fast-Acting Type BLN Series



ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Opening Time
135%	1 hour, Maximum
200%	2 minutes, Maximum

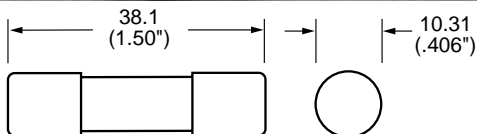
AGENCY APPROVALS: Listed by Underwriters Laboratories and Certified by CSA.

INTERRUPTING RATING: 10,000 amperes at 250 VAC.

FUSES TO MIL SPEC: See F09A type in Military Section.

ORDERING INFORMATION:

Cartridge Catalog Number	Ampere Rating	AC Voltage Rating	Nominal Resistance Cold Ohms
BLN 1	1	250	.395
BLN 1 1/2	1.5	250	.222
BLN 2	2	250	.125
BLN 3	3	250	.071
BLN 4	4	250	.0432
BLN 5	5	250	.0413
BLN 6	6	250	.0284
BLN 8	8	250	.0166
BLN 10	10	250	.011
BLN 12	12	250	.00920
BLN 15	15	250	.00684
BLN 20	20	250	.0036
BLN 25	25	250	.00270
BLN 30	30	250	.00230



Axial Lead and Cartridge Fuses

Midget

KLQ Series Fuse KLQ Series



- The Littelfuse KLQ series is designed to protect gaseous vapor fixtures, HID ballasts, and other electronic and lighting circuits.
- The KLQ is the same physical size as the Littelfuse BLS, but has more time delay to handle transient and inrush currents.

VOLTAGE RATING: 600 VAC.

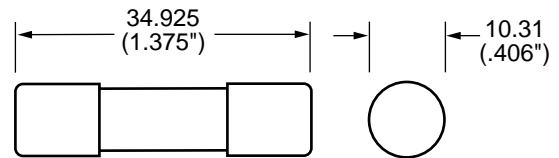
INTERRUPTING RATING: 10,000 amperes at rated VAC.

AMPERE RANGE: 1-6 amperes.

AGENCY APPROVALS: UL Listed per UL 248.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	AC Voltage Rating
KLQ 001	1	600
KLQ 1 ¹⁰ / ₁₀	1.6	600
KLQ 002	2	600
KLQ 003	3	600
KLQ 005	5	600
KLQ 006	6	600



FLU Series Fuse FLU Series



- The Littelfuse FLU series is designed specifically for the protection of multimeters.
- The 1000 VAC/VDC rating also makes the FLU ideal for a variety of other applications.

VOLTAGE RATING: 1000 VAC/VDC.

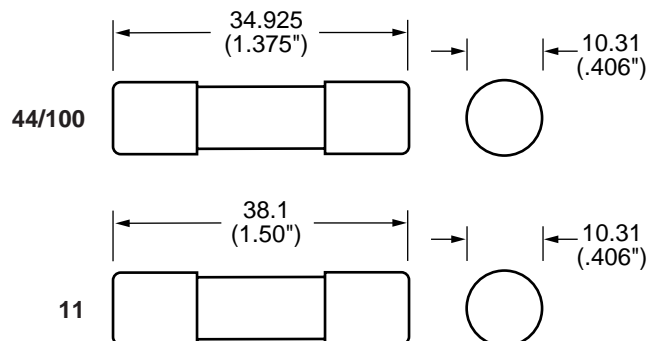
INTERRUPTING RATING: 44/100A: 10kA
15A: 20kA.

AMPERE RATINGS: 1 and 15 amperes.

AGENCY APPROVALS: Recognized under the components program of Underwriters Laboratories.

ORDERING INFORMATION:

Catalog Number	Ampere Rating	AC Voltage Rating
FLU 44/100	1	1000
FLU 011	15	1000



Axial Lead and Cartridge Fuses

Midget

Class CC* Fast-Acting & Slo-Blo® Type Fuses CCMR Series



Fast-acting KLKR fuses provide fast-acting protection to equipment containing surge sensitive components. Use KLKR fuses for non-inductive loads not requiring time delay. CCMR fuses (formerly KLMR) are specifically designed to withstand sustained starting currents of small motors. The CCMR fuses provide short-circuit protection for motor branch-circuits. KLDR fuses are specifically designed to withstand the momentary high magnetizing currents of control transformers, solenoids, and similar inductive loads.

ELECTRICAL CHARACTERISTICS:

% of Ampere Rating	Ampere Rating	Opening Time
110%	1/10–30	15 minutes, Minimum
135%	1/10–30	1 hour, Maximum

AGENCY APPROVALS: DC ratings are self-certified. KLKR Series: UL listed Fast-Acting Class CC per UL 248 and CSA Certified. KLDR, **CCMR Series:** UL listed Time-Delay Class CC per UL 248 and CSA Certified.

*CCMR 35-60A UL Listed Time-Delay Class CD.

INTERRUPTING RATING:

AC: 200,000 ampere
DC: 20,000 amperes

ORDERING INFORMATION:



AGENCY FILE NUMBERS: UL E81895, CSA LR 29862.

VOLTAGE RATINGS: AC: 600 Volts
DC: 250 Volts (CCMR 2/10 – 2A)
(CCMR 4 1/2 – 10A)
(CCMR 35 – 60A)
300 Volts (CCMR 2 1/4 – 4A)
300 Volts (KLDR)
300 Volts (KLKR)

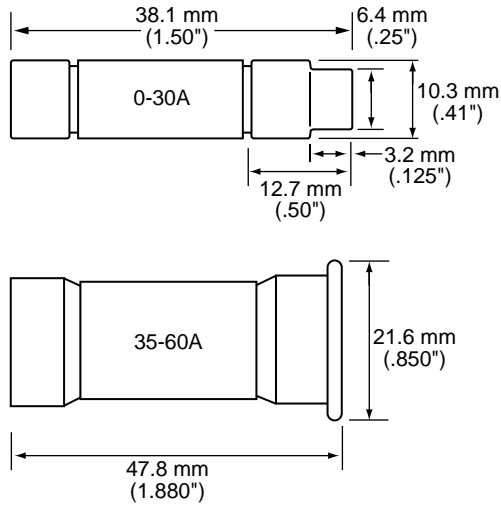
11
AXIAL LEAD AND
CARTRIDGE FUSES

Ampere Rating	Catalog Number	Nominal Resistance Cold Ohms	Catalog Number	Nominal Resistance Cold Ohms	Catalog Number	Nominal Resistance Cold Ohms
1/10	—	—	KLDR.100	246	KLKR.100	79.33
1/8	—	—	KLDR.125	134.9	KLKR.125	56.52
15/100	—	—	KLDR.150	96	—	—
3/16	—	—	KLDR.187	66.4	—	—
2/10	CCMR.200	68.4	KLDR.200	57.8	KLKR.200	28.21
1/4	CCMR.250	43.3	KLDR.250	31.61	KLKR.250	19.22
3/10	CCMR.300	28.6	KLDR.300	25.5	KLKR.300	15.10
4/10	—	—	KLDR.400	13.6	—	—
1/2	CCMR.500	7.62	KLDR.500	15.9	KLKR.500	6.95
6/10	CCMR.600	8.2	KLDR.600	9.99	—	—
3/4	—	—	KLDR.750	6.08	KLKR.750	3.581
8/10	CCMR.800	4.013	KLDR.800	6.2	—	—
1	CCMR.001.	2.59	KLDR.001.	4.0	KLKR.001.	.2342
1 1/8	—	—	KLDR.1.12	2.94	—	—
1 1/4	CCMR.1.25	1.687	KLDR.1.25	2.33	—	—
1 4/10	CCMR.01.4	1.33	KLDR.01.4	1.5	—	—
1 1/2	CCMR.01.5	1.24	KLDR.01.5	.898	KLKR.01.5	.225
1 6/10	CCMR.01.6	.9894	KLDR.01.6	.625	—	—
1 8/10	CCMR.01.8	.7783	KLDR.01.8	.486	—	—
2	CCMR.002.	.485	KLDR.002.	.55	KLKR.002.	.135
2 1/4	CCMR.2.25	.4166	KLDR.2.25	.52	—	—
2 1/2	CCMR.02.5	.3375	KLDR.02.5	.333	KLKR.02.5	.0906
2 8/10	CCMR.02.8	.2400	KLDR.02.8	.26	—	—
3	CCMR.003.	.2188	KLDR.003.	.21	KLKR.003.	.0776
3 2/10	CCMR.03.2	.1855	KLDR.03.2	.171	—	—
3 1/2	CCMR.03.5	.1346	KLDR.03.5	.239	KLKR.03.5	.0562
4	CCMR.004.	.1231	KLDR.004.	.118	KLKR.004.	.0468
4 1/2	CCMR.04.5	.093	KLDR.04.5	.082	—	—
5	CCMR.005.	.0704	KLDR.005.	.0399	KLKR.005.	.0332
5 6/10	CCMR.05.6	.0535	KLDR.05.6	.0334	—	—
6	CCMR.006.	.0517	KLDR.006.	.0315	KLKR.006.	.0238
6 1/4	CCMR.6.25	.0464	KLDR.6.25	.03	—	—
7	CCMR.007.	.0369	KLDR.007.	.0253	KLKR.007.	.0208
7 1/2	CCMR.07.5	.027	KLDR.07.5	.0205	—	—
8	CCMR.008.	.023	KLDR.008.	.0193	KLKR.008.	.0177
9	CCMR.009.	.0193	KLDR.009.	.0155	KLKR.009.	.0151
10	CCMR.010.	.0133	KLDR.010.	.0122	KLKR.010.	.01325
12	CCMR.012.	.0114	KLDR.012.	.0114	KLKR.012.	.00852
15	CCMR.015.	.00708	KLDR.015.	.00708	KLKR.015.	.0074
17 1/2	CCMR.17.5	.00495	KLDR.17.5	.00495	—	—
20	CCMR.020.	.00360	KLDR.020.	.0036	KLKR.020.	.00511
25	CCMR.025.	.00250	KLDR.025.	.0025	KLKR.025.	.003775
30	CCMR.030.	.00240	KLDR.030.	.0024	KLKR.030.	.002954
35	CCMR.035.	.00426	—	—	—	—
40	CCMR.040.	.00286	—	—	—	—
45	CCMR.045.	.00246	—	—	—	—
50	CCMR.050.	.00182	—	—	—	—
60	CCMR.060.	.00118	—	—	—	—

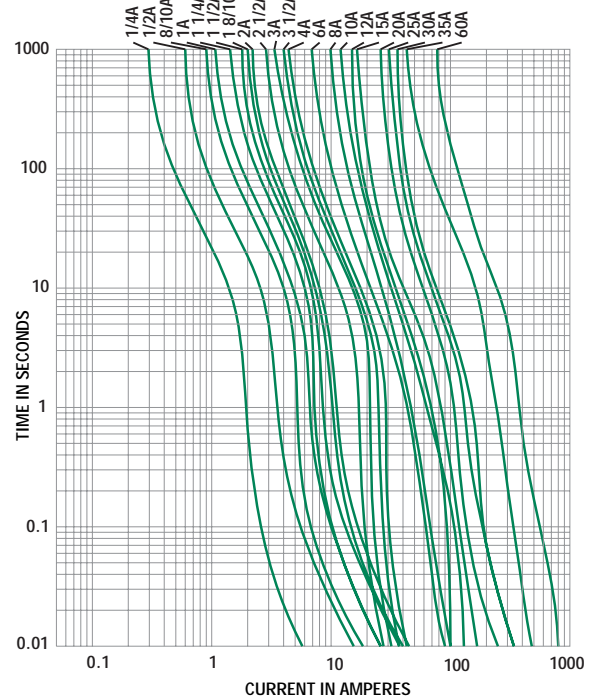
Axial Lead and Cartridge Fuses

Midget

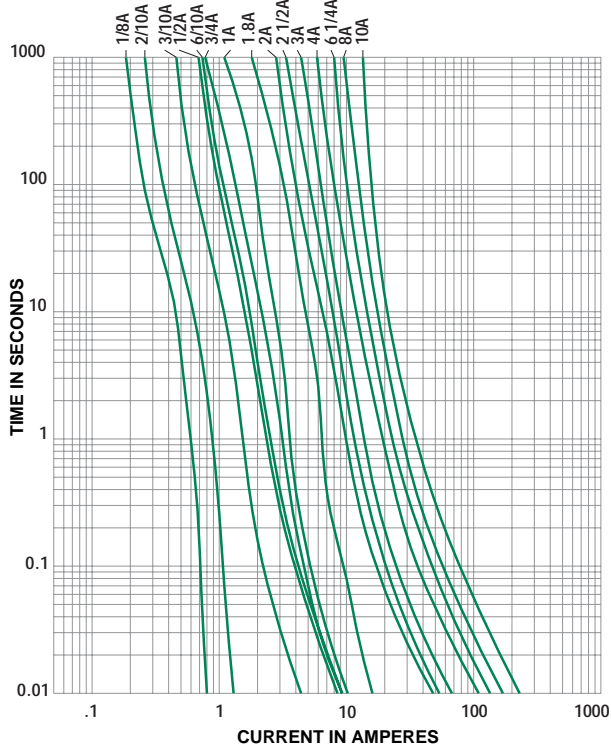
Class CC Fast-Acting & Slo-Blo® Type Fuses



Average Time Current Curve (CCMR)



Average Time Current Curve (KLDR)



Average Time Current Curve (KLKR)

