

# Axial Lead and Cartridge Fuses

## Subminiature Glass Body

RoHS **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
100%	4 hours, <b>Minimum</b>
135%	1 hour, <b>Maximum</b>
200%	3 seconds, <b>Minimum</b>
	20 seconds, <b>Maximum</b>

**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:

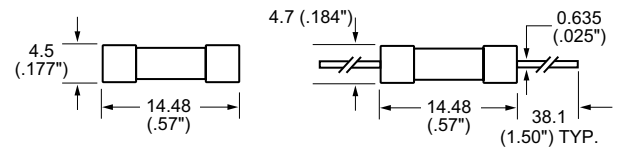
0.25–3.5A	10,000 amperes at 125VAC
4–7A	400 amperes at 125VAC
0.25–1A	35 amperes at 250VAC
1.25–3.5A	100 amperes at 250VAC

**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.

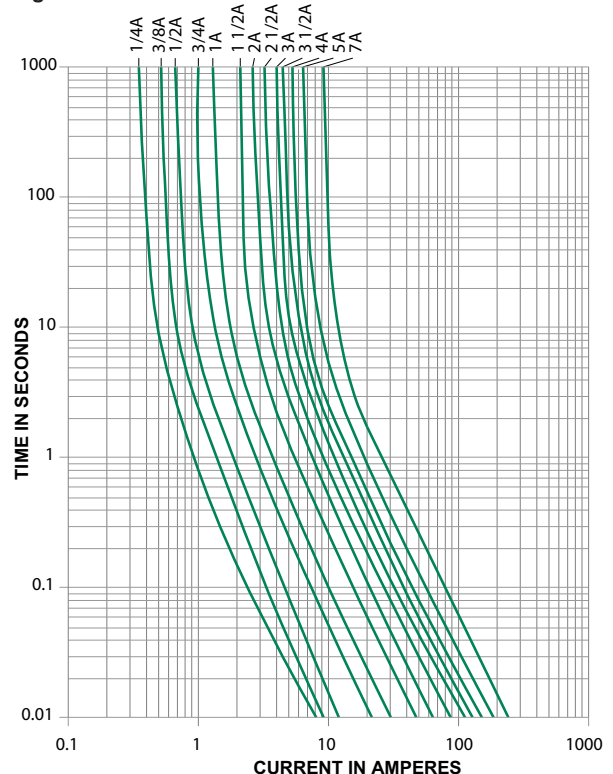
### PHYSICAL SPECIFICATIONS:

**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 <sup>2</sup> t A <sup>2</sup> 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

Notes:

\* Complies with Telcordia GR-1089-CORE and TIA-968-A surge specifications

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## Subminiature Glass Body

RoHS  **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<sub>p</sub>):** These fuses will withstand 50 repetitions of a double exponential impulse wave having peak currents (I<sub>p</sub>) and peak voltages as listed.

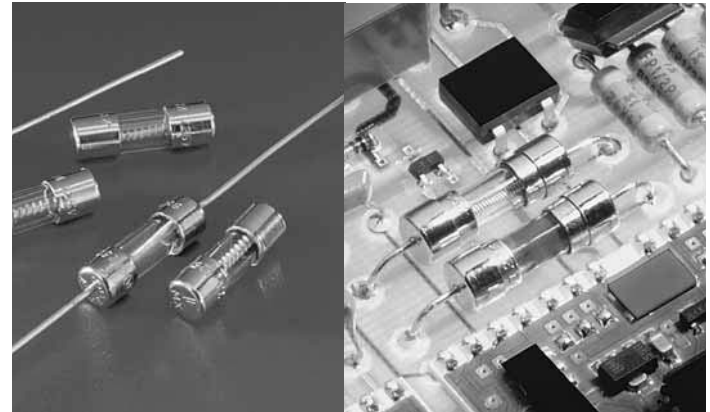
Cartridge Catalog Number	Axial Lead Catalog Number	Ampere Rating	10 x 160 microsec. 1500V	10 x 560 microsec. 800V	10 x 1000 microsec. 1000V
229.250P	230.250P*	1/4	23.0A	16.6A	12.4A
229.350P	230.350P*	.350	34.0A	25.8A	19.3A
229.375P	230.375P*	3/8	40.0A	25.4A	19.0A
229.500P	230.500P*	1/2	60.0A	37.7A	28.2A
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 1/2 <sup>2</sup>	162.0A	118.1A	100.0A

<sup>1</sup> Complies with Telcordia GR-1089-CORE and TIA-968-A surge specifications

<sup>2</sup> 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.