

# AGC

## 1/4" x 1-1/4" Fast-acting glass tube fuses

RoHS



### Product features

- Fast-acting
- Optional axial leads available
- 1/4" x 1-1/4" (6.3 mm x 32 mm) physical size
- Glass tube, nickel-plated brass end cap construction
- UL Listed product meets standard 248-14

### Applications

Primary circuit protection

- Power supplies
- Battery chargers
- Monitors
- Consumer electronics
- Test equipment

### Agency information

- UL Listed card: File E19180, Guide JDYX (AGC 1/10 A - 10 A)
- UL Recognition card: File E19180, Guide JDYX2 (AGC 11 A - 40 A)
- CSA Component acceptance card (Class No. 1422-30)
- CSA Certification acceptance card (Class No. 1422-01)

### Ordering code

The ordering code is the part number replacing the "/" with a "-" plus adding the packaging prefix and option code.

|                  | <b>BK-</b> | <b>AGC-</b> | <b>V-</b> | <b>1-10-</b> | <b>R</b> |
|------------------|------------|-------------|-----------|--------------|----------|
| Packaging prefix |            |             |           |              |          |
| Product code     |            |             |           |              |          |
| Option code      |            |             |           |              |          |
| Ampere rating    |            |             |           |              |          |
| RoHS compliant   |            |             |           |              |          |

### Packaging prefix

- Blank (5 ferrule/cartridge parts in a 5 inch tin, 4 axial lead parts in a 5 inch tin)
- BK- (100 parts packed into a cardboard carton with flaps folded)

### Option code

- -B- (Board washable - Hermetically sealed to withstand aqueous cleaning)
- -V- (Axial leads - copper tinned wire with nickel-plated brass end caps)



Powering Business Worldwide

## Electrical characteristics

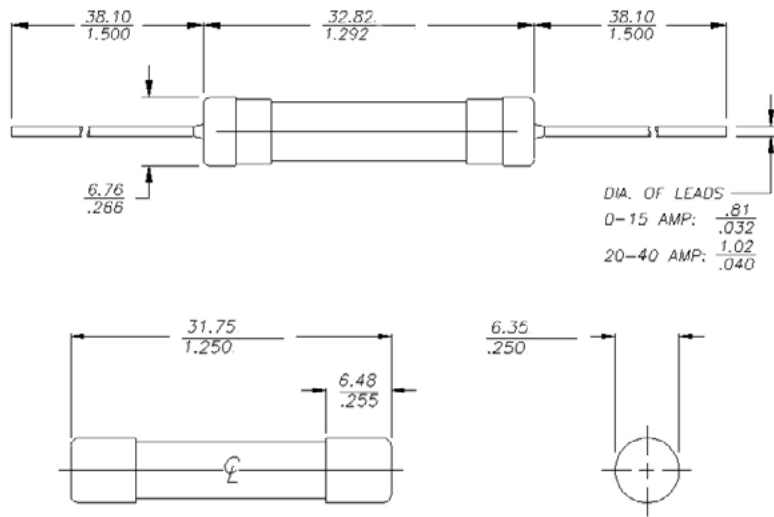
| Amp Rating    | % of Amp Rating | Opening Time        |
|---------------|-----------------|---------------------|
| 1/10 A – 40 A | 100%            | 4 hours minimum     |
| 1/10 A – 40 A | 135%            | 60 minutes maximum  |
| 1/10 A – 40 A | 200%            | 120 seconds maximum |

## Product specifications

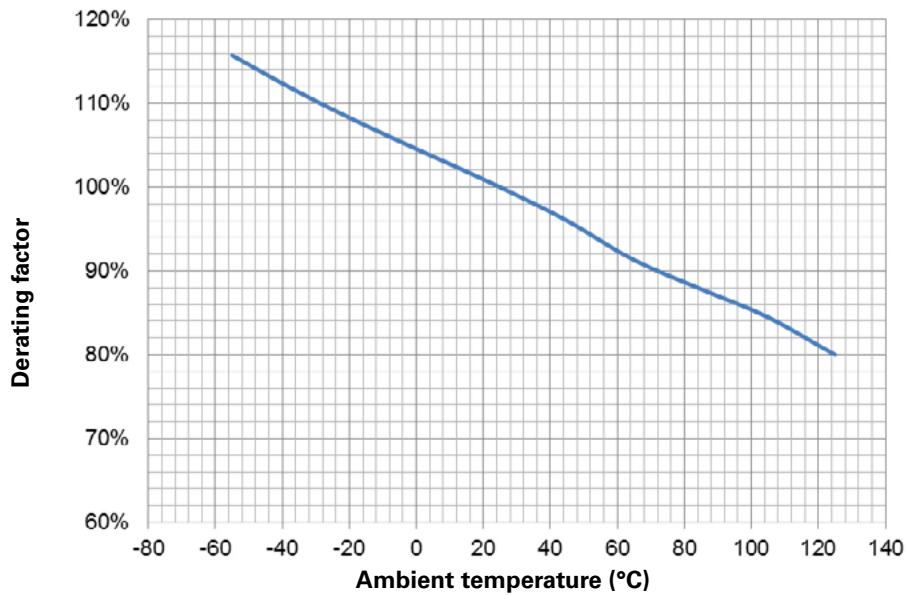
| Part Number | Current rating (A) | Voltage rating (Vac) | AC Interrupting rating (A) |        |      | Typical DC cold resistance <sup>1</sup> (Ω) | Typical melting I <sup>2</sup> t (A <sup>2</sup> s) | Typical voltage drop <sup>3</sup> (V) |
|-------------|--------------------|----------------------|----------------------------|--------|------|---------------------------------------------|-----------------------------------------------------|---------------------------------------|
|             |                    |                      | 250 V                      | 125 V  | 32 V |                                             |                                                     |                                       |
| AGC-1/10-R  | 0.1                | 250                  | 35                         | 10,000 | 1000 | 17.55                                       | 0.0010                                              | 15.168                                |
| AGC-1/8-R   | 0.125              | 250                  | 35                         | 10,000 | 1000 | 10.825                                      | 0.0020                                              | 10.854                                |
| AGC-3/16-R  | 0.1875             | 250                  | 35                         | 10,000 | 1000 | 6.050                                       | 0.0070                                              | 7.652                                 |
| AGC-2/10-R  | 0.5                | 250                  | 35                         | 10,000 | 1000 | 4.800                                       | 0.0080                                              | 6.105                                 |
| AGC-1/4-R   | 0.25               | 250                  | 35                         | 10,000 | 1000 | 1.550                                       | 0.0160                                              | 0.984                                 |
| AGC-3/10-R  | 0.3                | 250                  | 35                         | 10,000 | 1000 | 1.084                                       | 0.0270                                              | 0.886                                 |
| AGC-3/8-R   | 0.375              | 250                  | 35                         | 10,000 | 1000 | 0.703                                       | 0.0900                                              | 0.548                                 |
| AGC-1/2-R   | 0.5                | 250                  | 35                         | 10,000 | 1000 | 0.483                                       | 0.3850                                              | 0.324                                 |
| AGC-3/4-R   | 0.75               | 250                  | 35                         | 10,000 | 1000 | 0.272                                       | 1.7160                                              | 0.309                                 |
| AGC-1-R     | 1.0                | 250                  | 35                         | 10,000 | 1000 | 0.167                                       | 3.2400                                              | 0.256                                 |
| AGC-1-1/4-R | 1.25               | 250                  | 100                        | 10,000 | 1000 | 0.122                                       | 5.0940                                              | 0.222                                 |
| AGC-1-1/2-R | 1.5                | 250                  | 100                        | 10,000 | 1000 | 0.077                                       | 9.0230                                              | 0.218                                 |
| AGC-2-R     | 2.0                | 250                  | 100                        | 10,000 | 1000 | 0.063                                       | 17.520                                              | 0.199                                 |
| AGC-2-1/4-R | 2.25               | 250                  | 100                        | 10,000 | 1000 | 0.052                                       | 22.832                                              | 0.194                                 |
| AGC-2-1/2-R | 2.5                | 250                  | 100                        | 10,000 | 1000 | 0.045                                       | 28.688                                              | 0.193                                 |
| AGC-3-R     | 3.0                | 250                  | 100                        | 10,000 | 1000 | 0.035                                       | 45.900                                              | 0.191                                 |
| AGC-4-R     | 4.0                | 250                  | 200                        | 10,000 | 1000 | 0.024                                       | 86.560                                              | 0.179                                 |
| AGC-5-R     | 5.0                | 250                  | 200                        | 10,000 | 1000 | 0.019                                       | 131.500                                             | 0.170                                 |
| AGC-6-R     | 6.0                | 250                  | 200                        | 10,000 | 1000 | 0.015                                       | 144.360                                             | 0.165                                 |
| AGC-7-R     | 7.0                | 250                  | 200                        | 10,000 | 1000 | 0.012                                       | 195.02                                              | 0.159                                 |
| AGC-7-1/2-R | 7.5                | 250                  | 200                        | 10,000 | 1000 | 0.012                                       | 216.00                                              | 0.155                                 |
| AGC-8-R     | 8.0                | 250                  | 200                        | 10,000 | 1000 | 0.009                                       | 256.00                                              | 0.152                                 |
| AGC-9-R     | 9.0                | 250                  | 200                        | 10,000 | 1000 | 0.009                                       | 395.28                                              | 0.148                                 |
| AGC-10-R    | 10                 | 250                  | 200                        | 10,000 | 1000 | 0.008                                       | 486.00                                              | 0.141                                 |
| AGC-12-R    | 12                 | 32                   | —                          | —      | 1000 | 0.006                                       | 696.96                                              | 0.138                                 |
| AGC-14-R    | 14                 | 32                   | —                          | —      | 1000 | 0.005                                       | 776.16                                              | 0.132                                 |
| AGC-15-R    | 15                 | 32                   | —                          | —      | 1000 | 0.005                                       | 807.75                                              | 0.128                                 |
| AGC-20-R    | 20                 | 32                   | —                          | —      | 1000 | 0.0034                                      | 2440.00                                             | 0.125                                 |
| AGC-25-R    | 25                 | 32                   | —                          | —      | 1000 | 0.0027                                      | 3875.00                                             | 0.120                                 |
| AGC-30-R    | 30                 | 32                   | —                          | —      | 1000 | 0.0024                                      | 4950.00                                             | 0.135                                 |
| AGC-35-R    | 35                 | 32                   | —                          | —      | 1000 | 0.0021                                      | 7350.00                                             | 0.130                                 |
| AGC-40-R    | 40                 | 32                   | —                          | —      | 1000 | 0.0016                                      | 11360.00                                            | 0.125                                 |

1. DC cold resistance measured at <10% of rated current
2. Typical melting I<sup>2</sup>t measured at listed interrupting rating and rated voltage
3. Typical voltage drop measured at +25 °C and rated current

## Dimensions—mm



## Temperature derating curve



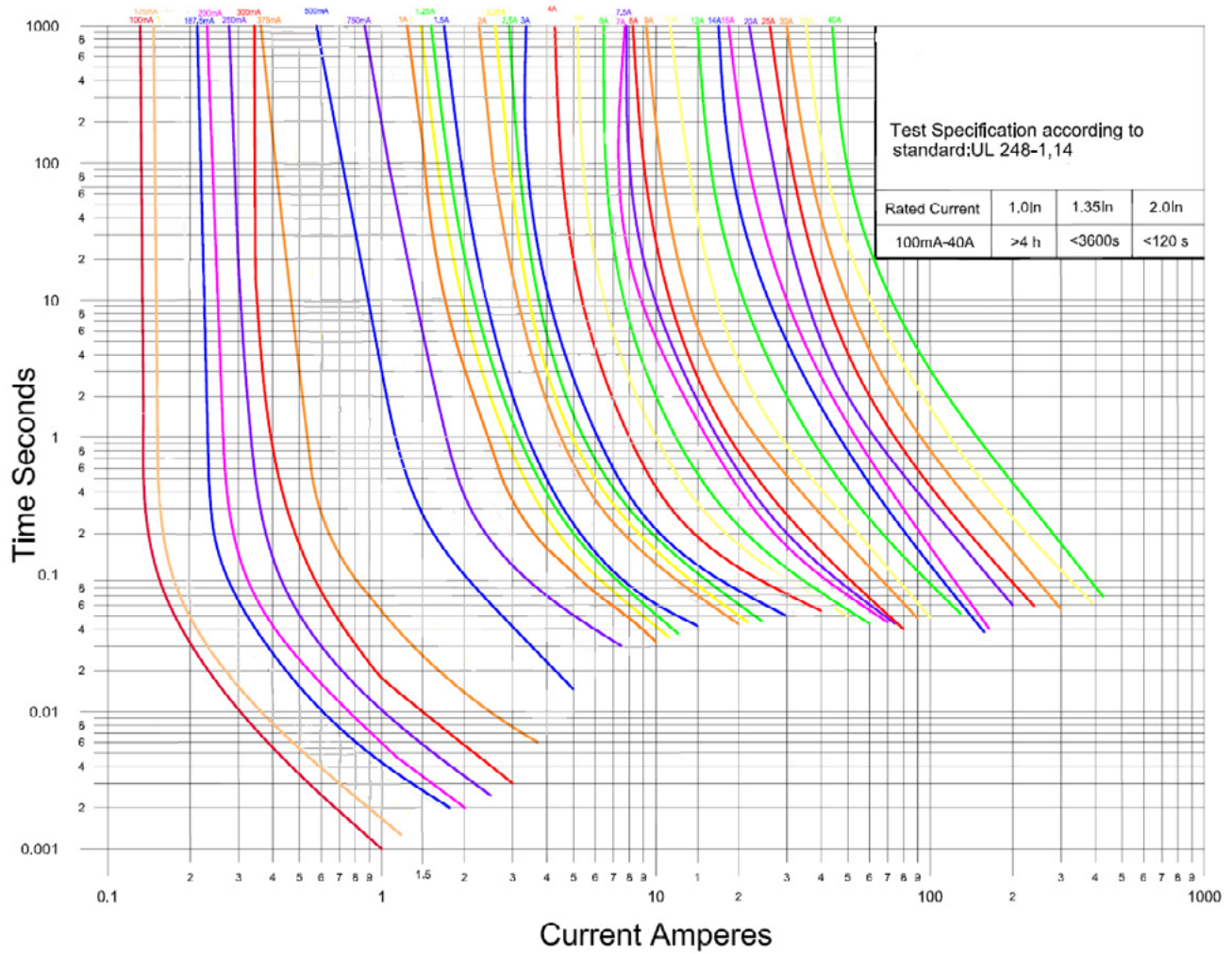
## General specifications

Operating temperature: -55 °C to +125 °C (with derating)

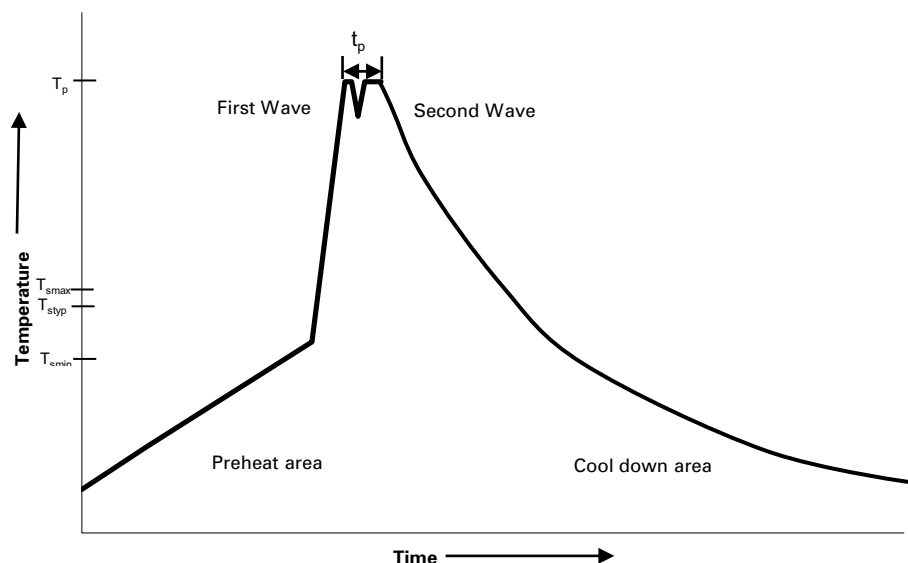
Shock: 1/10 A to 3/4 A, MIL-STD-202, Method 213, Test Condition I  
1 A to 30 A, MIL-STD-202, Method 207, (HI Shock)

Vibration: 1/10 A to 30 A MIL-STD-202, Method 204, Test Condition A (Except 5f, 500HZ)

### Time current curve



## Wave solder profile (Axial lead only)



## Reference EN 61760-1:2006

| Profile feature                               | Standard SnPb solder                      | Lead (Pb) free solder                     |
|-----------------------------------------------|-------------------------------------------|-------------------------------------------|
| Preheat                                       |                                           |                                           |
| • Temperature min. ( $T_{smin}$ )             | 100 °C                                    | 100 °C                                    |
| • Temperature typ. ( $T_{styp}$ )             | 120 °C                                    | 120 °C                                    |
| • Temperature max. ( $T_{smax}$ )             | 130 °C                                    | 130 °C                                    |
| • Time ( $T_{smin}$ to $T_{smax}$ ) ( $t_s$ ) | 70 seconds                                | 70 seconds                                |
| $\Delta$ preheat to max Temperature           | 150 °C max.                               | 150 °C max.                               |
| Peak temperature ( $T_p$ )*                   | 235 °C – 260 °C                           | 250 °C – 260 °C                           |
| Time at peak temperature ( $t_p$ )            | 10 seconds max<br>5 seconds max each wave | 10 seconds max<br>5 seconds max each wave |
| Ramp-down rate                                | ~ 2 K/s min<br>~3.5 K/s typ<br>~5 K/s max | ~ 2 K/s min<br>~3.5 K/s typ<br>~5 K/s max |
| Time 25 °C to 25 °C                           | 4 minutes                                 | 4 minutes                                 |

## Manual solder

+350 °C (4-5 seconds by soldering iron), generally manual/hand soldering is not recommended

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

**Eaton**  
**Electronics Division**  
1000 Eaton Boulevard  
Cleveland, OH 44122  
United States  
Eaton.com/electronics

© 2020 Eaton  
All Rights Reserved  
Printed in USA  
Publication No. 2543 BU-MC20075  
April 2020

Eaton is a registered trademark.

All other trademarks are property  
of their respective owners.

Follow us on social media to get the  
latest product and support information.

