

# 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.

|                  | <u>BK-</u> | <u>AGC-</u> | <u>V-</u> | <u>1-10-</u> | <u>R</u> |
|------------------|------------|-------------|-----------|--------------|----------|
| 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

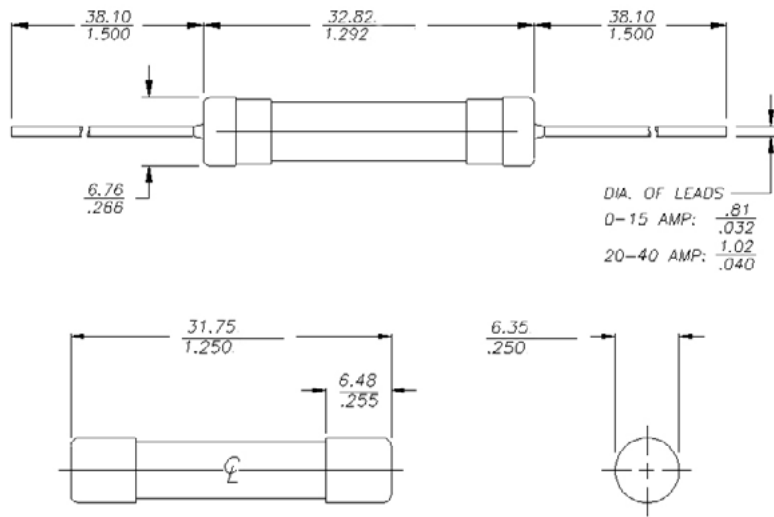
| Part Number | Current rating (A) | Voltage rating (Vac) | AC Interrupting rating (A) |        |      | Typical DC cold resistance <sup>1</sup> (Ω) | Typical melting I <sup>2</sup> t (A <sup>2</sup> s) | Typical voltage drop <sup>3</sup> (V) |
|-------------|--------------------|----------------------|----------------------------|--------|------|---------------------------------------------|-----------------------------------------------------|---------------------------------------|
|             |                    |                      | 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

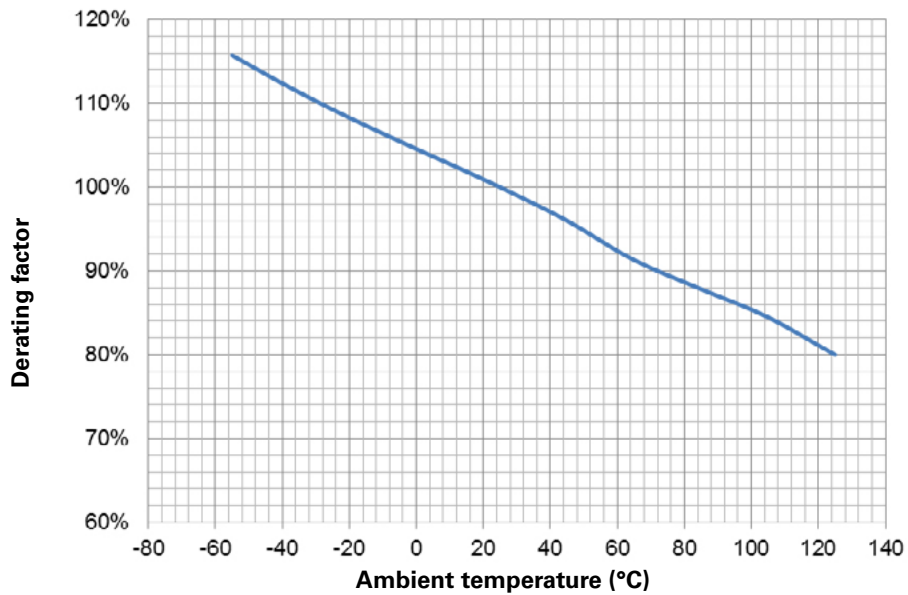
2. Typical melting I<sup>2</sup>t measured at listed interrupting rating and rated voltage

3. Typical voltage drop measured at +25 °C and rated current

## Dimensions—mm



## Temperature derating curve



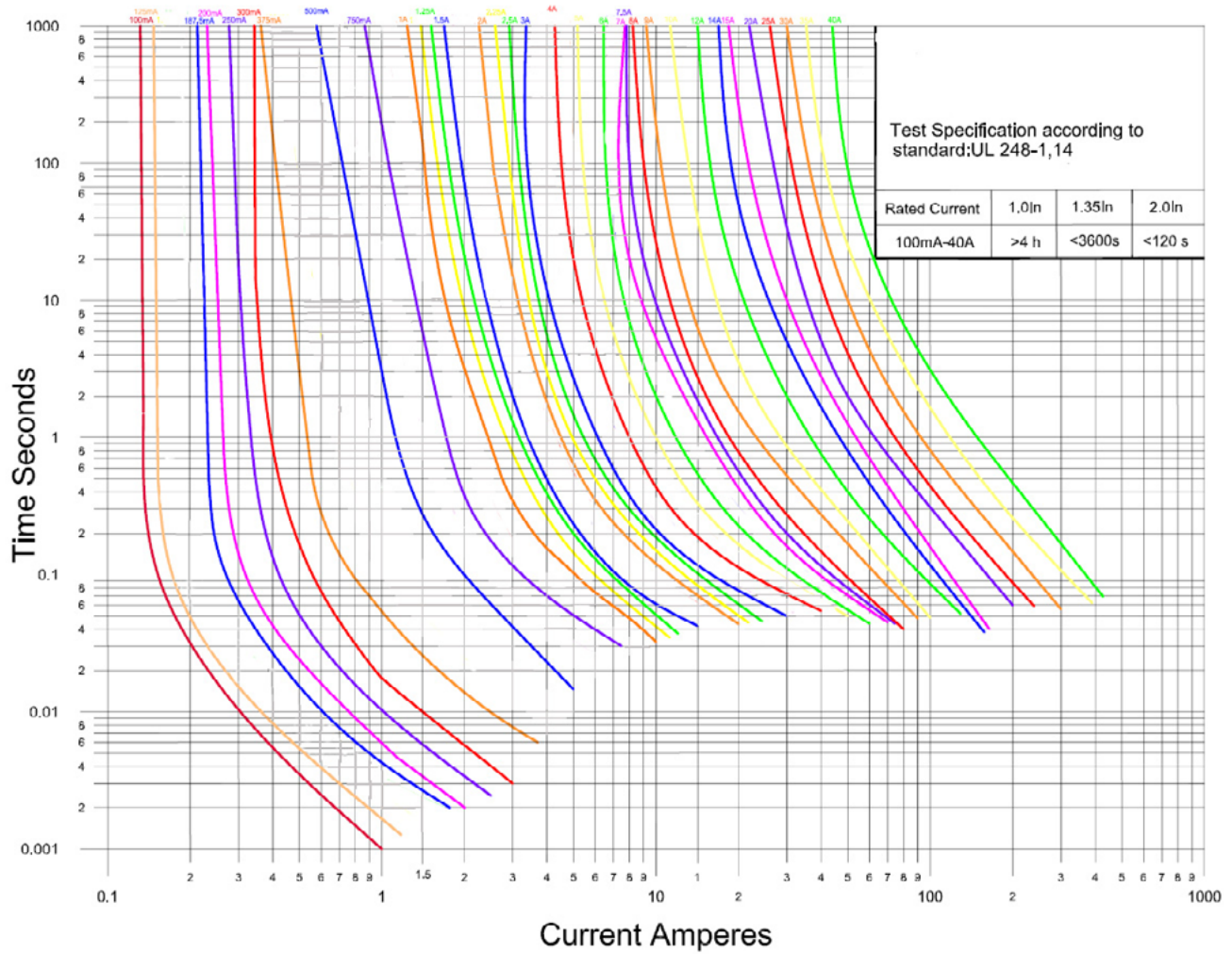
## General specifications

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

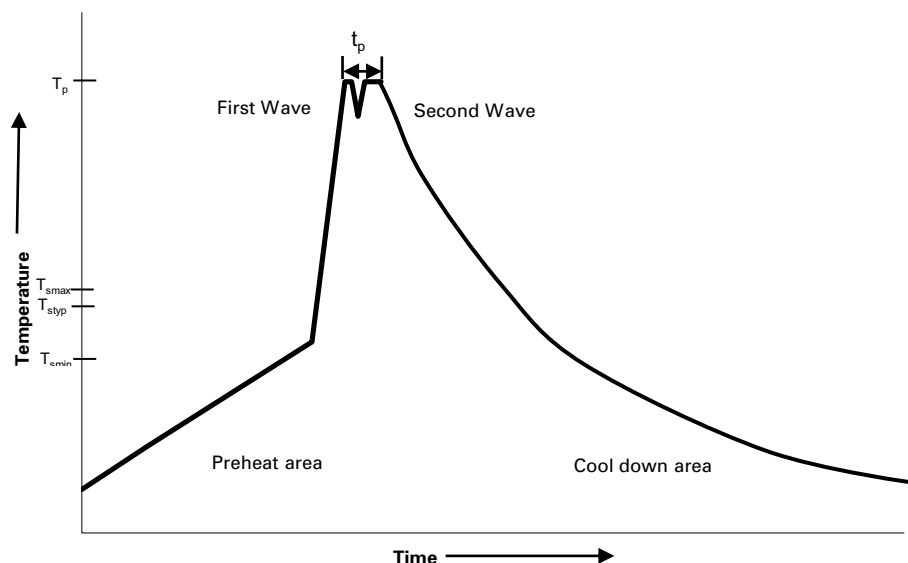
Shock: 1/10 A to 3/4 A, MIL-STD-202, Method 213, Test Condition I  
1 A to 30 A, MIL-STD-202, Method 207, (HI Shock)

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

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Publication No. 2543 BU-MC20075  
April 2020

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