

# Type 3AG

## Fast Blow Fuse Series

HF  3AG Series, 6x32mm Glass Tube Fast Blow Fuse

RoHS Compliant

### Description

6x32mm Fast Blow, glass tube body cartridge fuse designed, approved and complied with UL standard 248-14.

### Features

- Meet UL standard 248-14
- Wide operating temperature range
- Bulk packing available
- Full compliance with EU Directive 2011/65/EU and amending directive 2015/863
- Halogen Free
- Lead Free

### Applications

Provide individual protection for components or internal circuits.

- Power supplies
- Battery charger
- Monitor
- Adapter

LEAD FREE =   
HALOGEN FREE = 



### Physical Specifications

|           |                                                                                                                                                                                                                                                                                                                             |
|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Materials | Body : Glass                                                                                                                                                                                                                                                                                                                |
|           | Cap : Nickel Plated Brass Caps                                                                                                                                                                                                                                                                                              |
|           | Leads : Matte Tin Plated Copper                                                                                                                                                                                                                                                                                             |
| Marking   | On Fuse :                                                                                                                                                                                                                                                                                                                   |
|           | "bel", "3AG", "Current Rating", "Voltage Rating",<br>"Appropriate Safety Logos", "✓" ( RoHS compliant )                                                                                                                                                                                                                     |
|           | On Label :                                                                                                                                                                                                                                                                                                                  |
|           | "bel", "3AG", "Current Rating", "Voltage Rating", "Interrupting Rating",<br>"Appropriate Safety Logos" and "✓", "  ", "  "(China RoHS compliant). |

### Electrical Characteristics

| Testing Current | Blow Time |         |
|-----------------|-----------|---------|
|                 | Minimum   | Maximum |
| 100%            | 4 hrs.    | N/A     |
| 135%            | N/A       | 1 hr.   |
| 200%            | N/A       | 5 sec   |

### Safety Agency Approvals

| Safety Agency                                                                       | Safety Agency Certificate | Ampere Rating/<br>Voltage Rating             | Ampere Range / Volt<br>@ I.R. ability*              |
|-------------------------------------------------------------------------------------|---------------------------|----------------------------------------------|-----------------------------------------------------|
|  | E506667                   | 500mA-10A/<br>250V AC<br>12A-15A/<br>125V AC | 500mA-10A/250V AC@200A<br>500mA-15A/125V AC@10,000A |
| *I.R.= Interrupting Rating = Short Circuit Rating(Amps)                             |                           |                                              |                                                     |

### Environmental Specifications

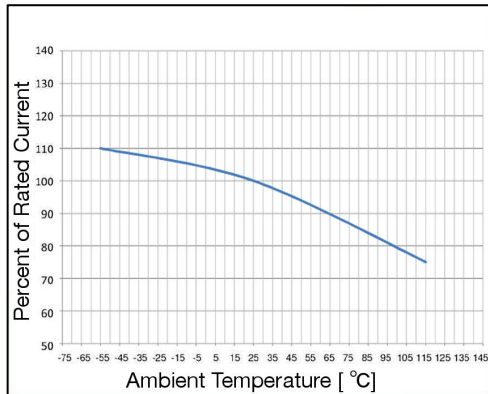
|                           |                                                                                                  |
|---------------------------|--------------------------------------------------------------------------------------------------|
| Shock Resistance          | MIL-STD-202G, Method 213B, Test Condition 1 (100 G's peak for 6 milliseconds; Sawtooth waveform) |
| Vibration Resistance      | MIL-STD-202G, Method 201A (10-55 Hz, 0.06 inch, total excursion).                                |
| Salt Spray Resistance     | MIL-STD-202G, Method 101E, Test Condition B (48 hrs).                                            |
| Insulation Resistance     | MIL-STD-202G, Method 302, Test Condition A (After Opening) 10,000 ohms minimum.                  |
| Solderability             | MIL-STD-202G, Method 208H                                                                        |
| Resistance to solder Heat | MIL-STD-202G, Method 210F, Test Condition B (260+/-5°C, 10+/-1 sec)                              |
| Thermal Shock             | MIL-STD-202G, Method 107G, Test Condition B (-65°C to +125°C).                                   |
| Operating Temperature     | -55°C to +125°C                                                                                  |
| Terminal Strength         | IEC-68-2-21                                                                                      |

### Electrical Specifications

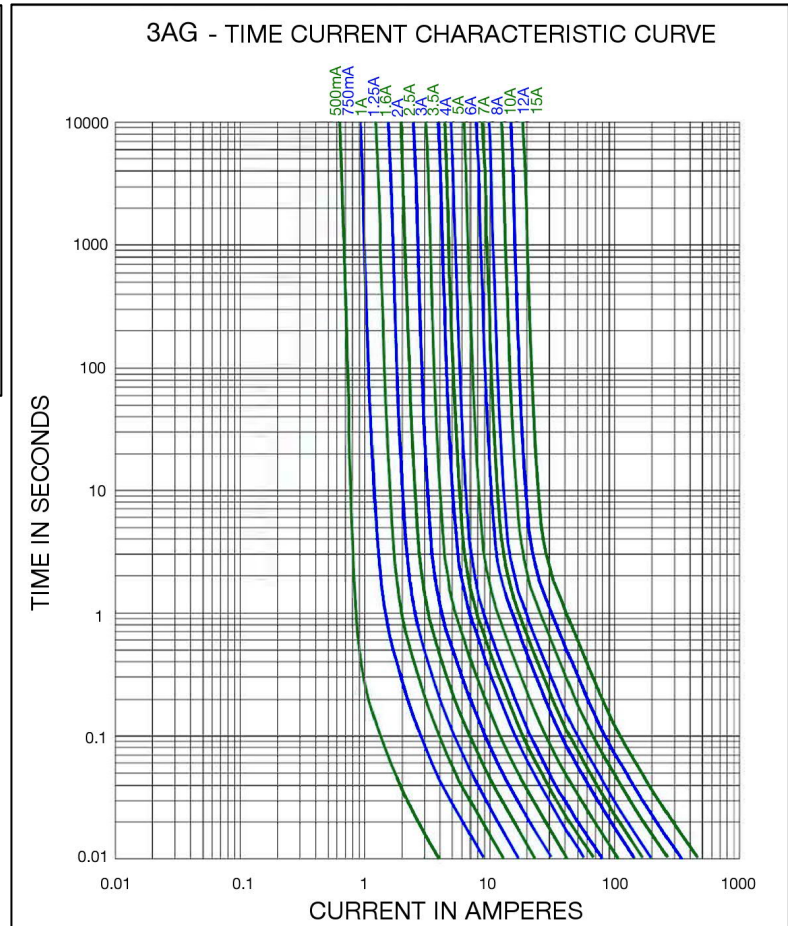
| Catalog Number | Ampere Rating | Typical Cold Resistance (ohms) | Volt-drop @100%In (Volt) max. | Voltage and Interrupting Ratings                                                        | Melting I <sup>2</sup> T <10 mSec (A <sup>2</sup> Sec) | Melting I <sup>2</sup> T @10 In (A <sup>2</sup> Sec) | Maximum Power Dissipation (W) | Agency Approvals |
|----------------|---------------|--------------------------------|-------------------------------|-----------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------|-------------------------------|------------------|
| 3AG 500-R      | 500mA         | 1.19                           | 3.17                          | See Table of Safety Approvals on Page 1 for Voltage and associated Interrupting Ratings | 0.14                                                   | 0.11                                                 | 1.88                          | Y                |
| 3AG 750-R      | 750mA         | 0.66                           | 2.54                          |                                                                                         | 0.19                                                   | 0.17                                                 | 2.15                          | Y                |
| 3AG 1-R        | 1A            | 0.155                          | 0.28                          |                                                                                         | 1.4                                                    | 1.4                                                  | 0.37                          | Y                |
| 3AG 1.25-R     | 1.25A         | 0.114                          | 0.27                          |                                                                                         | 2.4                                                    | 2.5                                                  | 0.44                          | Y                |
| 3AG 1.6-R      | 1.6A          | 0.085                          | 0.27                          |                                                                                         | 4.2                                                    | 4.4                                                  | 0.51                          | Y                |
| 3AG 2-R        | 2A            | 0.057                          | 0.22                          |                                                                                         | 7.2                                                    | 7.6                                                  | 0.59                          | Y                |
| 3AG 2.5-R      | 2.5A          | 0.043                          | 0.21                          |                                                                                         | 12                                                     | 13                                                   | 0.70                          | Y                |
| 3AG 3-R        | 3A            | 0.033                          | 0.17                          |                                                                                         | 21                                                     | 23                                                   | 0.83                          | Y                |
| 3AG 3.5-R      | 3.5A          | 0.027                          | 0.18                          |                                                                                         | 28                                                     | 31                                                   | 0.91                          | Y                |
| 3AG 4-R        | 4A            | 0.024                          | 0.17                          |                                                                                         | 36                                                     | 40                                                   | 1.00                          | Y                |
| 3AG 5-R        | 5A            | 0.018                          | 0.16                          |                                                                                         | 63                                                     | 70                                                   | 1.20                          | Y                |
| 3AG 6-R        | 6A            | 0.014                          | 0.15                          |                                                                                         | 107                                                    | 123                                                  | 1.40                          | Y                |
| 3AG 7-R        | 7A            | 0.012                          | 0.16                          |                                                                                         | 141                                                    | 162                                                  | 1.60                          | Y                |
| 3AG 8-R        | 8A            | 0.010                          | 0.15                          |                                                                                         | 184                                                    | 214                                                  | 1.70                          | Y                |
| 3AG 10-R       | 10A           | 0.008                          | 0.13                          |                                                                                         | 316                                                    | 372                                                  | 2.00                          | Y                |
| 3AG 12-R       | 12A           | 0.006                          | 0.13                          |                                                                                         | 501                                                    | 597                                                  | 2.40                          | Y                |
| 3AG 15-R       | 15A           | 0.005                          | 0.13                          |                                                                                         | 1400                                                   | 1500                                                 | 1.80                          | Y                |

Consult manufacturer for other ratings

## Temperature Derating Curve

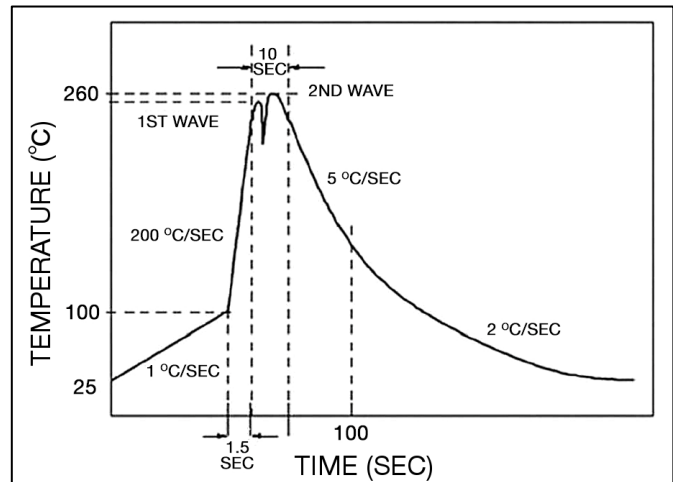


## Average Time Current Curve



## Soldering Parameters

| Lead-free Wave Soldering Profile                   |                                              |
|----------------------------------------------------|----------------------------------------------|
| Wave Soldering Parameter                           |                                              |
| Average ramp-up rate                               | 200°C / second                               |
| Heating rate during preheat                        | typical 1 - 2°C / second<br>Max 4°C / second |
| Final preheat temperature                          | within 125°C of soldering temperature        |
| Peak temperature T <sub>p</sub>                    | 260°C                                        |
| Time within +0°C / -5°C of actual peak temperature | 10 seconds                                   |
| Ramp-down rate                                     | 5°C / second max.                            |



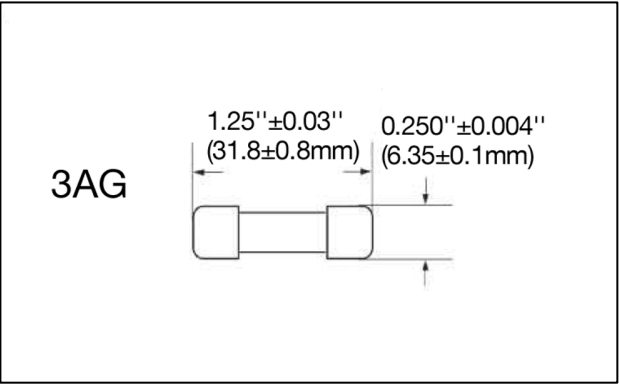
# Type 3AG

**Fuse FGNO Explanation**  
**06X1 R [XXXX] -XX**  
**0601R=3AG; [XXXX]=Ampere Rating; XX=See Ordering Information as below**

| Fraction | Decimal | Milliamps | Bel FGNO[XXXX] |
|----------|---------|-----------|----------------|
| 1/2      | .500    | 500       | 0500           |
| 3/4      | .750    | 750       | 0750           |

| Fraction | Decimal | Amps | Bel FGNO[XXXX] |
|----------|---------|------|----------------|
|          | 1.0     | 1    | 1000           |
| 1-1/4    | 1.25    | 1.25 | 1250           |
|          | 1.60    | 1.6  | 1600           |
|          | 2.0     | 2    | 2000           |
| 2-1/2    | 2.5     | 2.5  | 2500           |
|          | 3.0     | 3    | 3000           |
| 3-1/2    | 3.5     | 3.5  | 3500           |
|          | 4.0     | 4    | 4000           |
|          | 5.0     | 5    | 5000           |
|          | 6.0     | 6    | 6000           |
|          | 7.0     | 7    | 7000           |
|          | 8.0     | 8    | 8000           |
|          |         | 10   | 9100           |
|          |         | 12   | 9120           |
|          |         | 15   | 9150           |

## Mechanical Dimensions



## Ordering Information

06X1 R XXXX - X X

FUSE TYPE \_\_\_\_\_

0601R = 3AG Series

R = RoHS Compliant \_\_\_\_\_

AMPERE RATING \_\_\_\_\_

Refer to fuse FGNO explanation table

PACKAGING CODE \_\_\_\_\_

3 = 3AG, Cartridge, 1K / Box

VOLTAGE CODE \_\_\_\_\_

2 = 125V, for 12A-15A

3 = 250V, for 500mA-10A

## Packaging

| Packaging Option | Packaging Specification | Quantity | Packaging Code | Inside Tape Spacing |
|------------------|-------------------------|----------|----------------|---------------------|
| Bulk             | N/A                     | 1000     | 33 / 32        | N/A                 |