

# Accu-Guard® II Low Current



## Miniature 0402 Size Thin-Film Fuses

The new F0402G Accu-Guard® series of fuses is based on thin-film technology which allows precise control of the component electrical and physical characteristics that is not possible with standard fuse technologies. The Accu-Guard Low Current series encompasses the lowest current ratings in a compact 0402 package and features LGA terminations.

### ELECTRICAL SPECIFICATIONS

Operating temperature: -55°C to +125°C

Current carrying capacity:

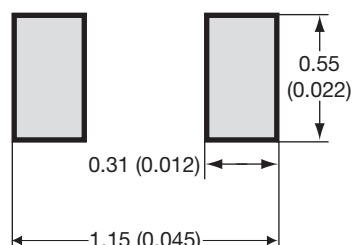
- 55°C to -11°C 107% of rating
- 10°C to +60°C 100% of rating
- +61°C to +100°C 85% of rating
- +101°C to +125°C 80% of rating

Rated voltage: 32V

Post-fusing resistance: >1MΩ

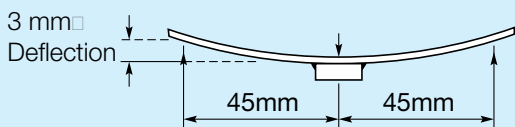
### RECOMMEND PAD LAYOUT

millimeters (inches)



| Part Number    | Current Rating<br>A | Resistance<br>@0.1 x I <sub>RATED</sub><br>Ω (max.) | Voltage Drop<br>@I <sub>RATED</sub><br>mV (max.) | Fusing Current<br>(within 5 sec)<br>A | Pre-Arc I²t<br>@10xI <sub>RATED</sub><br>A²-sec (typ) | Color Code |
|----------------|---------------------|-----------------------------------------------------|--------------------------------------------------|---------------------------------------|-------------------------------------------------------|------------|
| F0402G0R05FNTR | 0.050               | 3.4                                                 | 250                                              | 0.125                                 | 2 x 10 <sup>-6</sup>                                  | Blue       |
| F0402G0R06FNTR | 0.062               | 2.5                                                 | 280                                              | 0.155                                 | 2 x 10 <sup>-6</sup>                                  | Yellow     |
| F0402G0R07FNTR | 0.075               | 2.0                                                 | 280                                              | 0.1875                                | 4 x 10 <sup>-6</sup>                                  | Brown      |
| F0402G0R10FNTR | 0.100               | 2.4                                                 | 300                                              | 0.250                                 | 7 x 10 <sup>-6</sup>                                  | Red        |
| F0402G0R12FNTR | 0.125               | 1.6                                                 | 250                                              | 0.312                                 | 1 x 10 <sup>-5</sup>                                  | White      |
| F0402G0R15FNTR | 0.150               | 1.2                                                 | 220                                              | 0.375                                 | 2 x 10 <sup>-5</sup>                                  | Green      |
| F0402G0R20FNTR | 0.200               | 0.8                                                 | 210                                              | 0.500                                 | 4 x 10 <sup>-5</sup>                                  | Pink       |

### ENVIRONMENTAL CHARACTERISTICS

| Test                | Conditions                                                                                                        | Requirement                                                                     |
|---------------------|-------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| Solderability       | Components completely immersed in a solder bath at 245 ±5°C for 3 secs.                                           | Total area of imperfections in solder coating up to 5% of the land surface area |
| Leach Resistance    | Components completely immersed in a solder bath at 255 ±5°C for 60 secs.                                          | Dissolution of termination<br>≤ 15% of the land surface area                    |
| Storage             | 12 months minimum with components stored in “as received” packaging.                                              | Good solderability                                                              |
| Shear               | Components mounted to a substrate. Increasing shearing force applied parallel to the substrate till destruction.  | Destruction at 5N force minimum                                                 |
| Temperature Cycling | Components mounted to a flexible substrate (e.g. FR - 4). 1000 cycles -55°C to +125°C.                            | No Visible damage<br>ΔR/R<10%                                                   |
| Bend                | Tested as shown in diagram<br> | No visible damage<br>ΔR/R<10%                                                   |

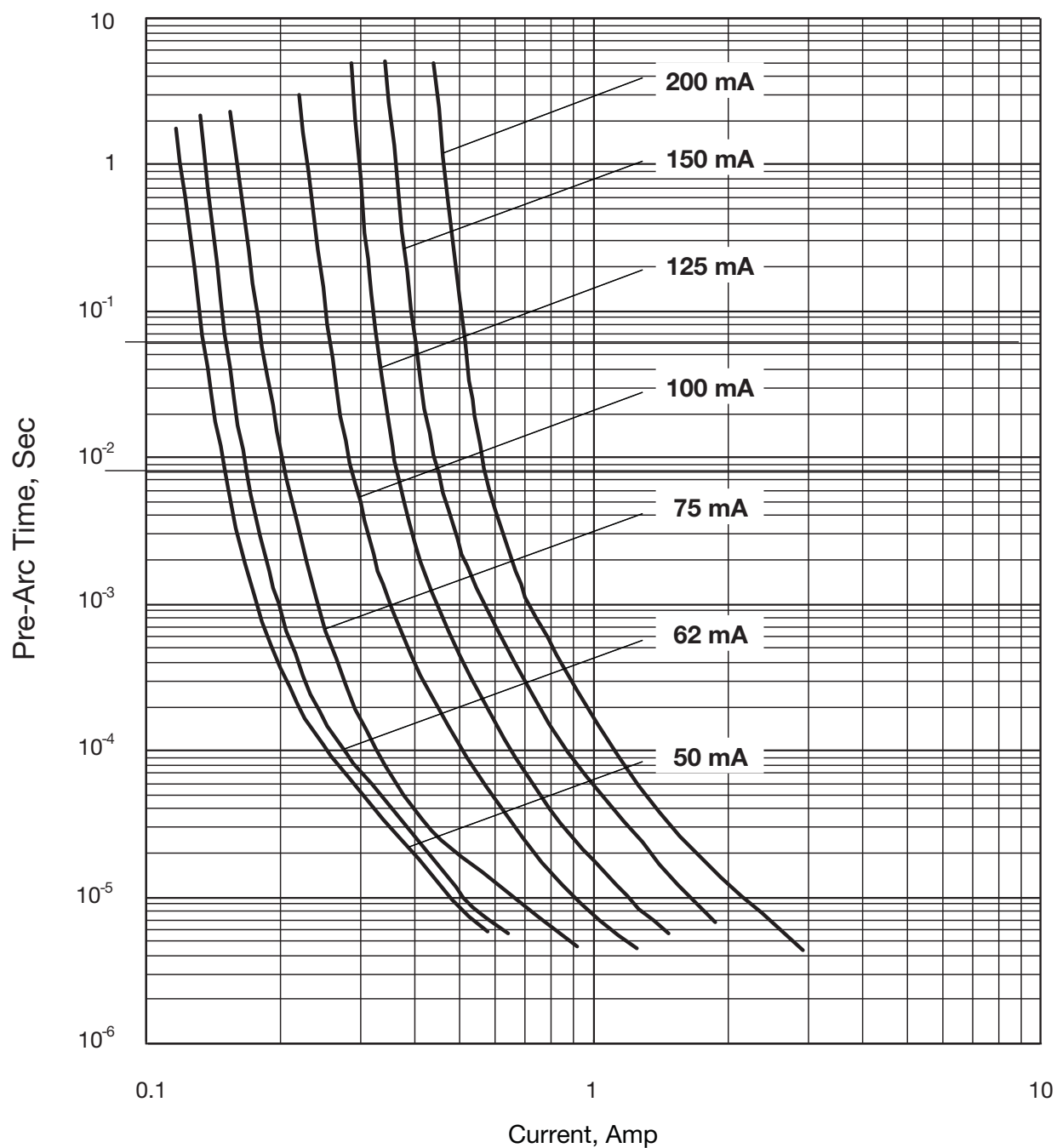


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### FUSE TIME – CURRENT CHARACTERISTICS

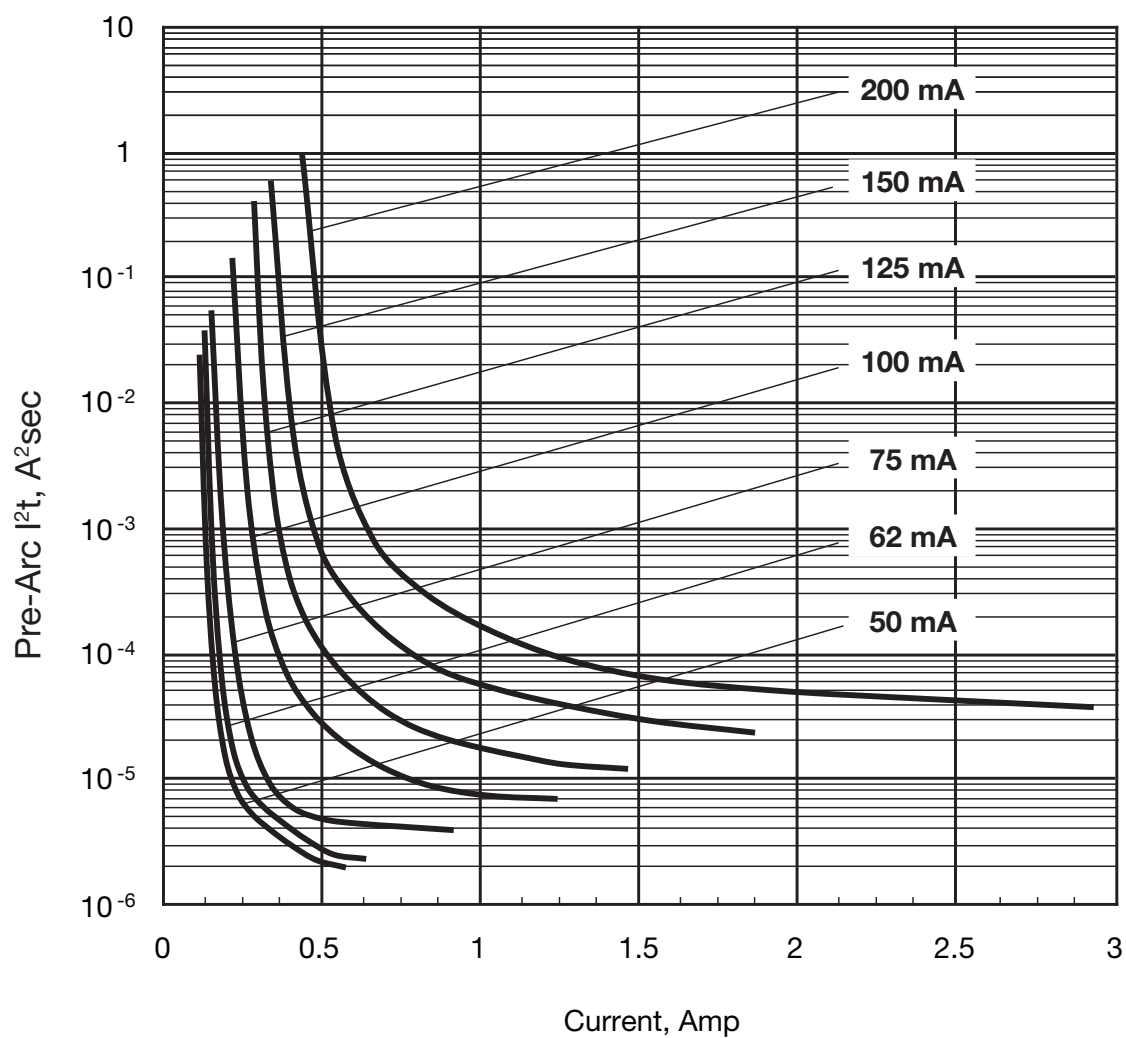


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## Miniature 0402 Size Thin-Film Fuses

### FUSE PRE-ARC JOULE INTEGRALS VS CURRENT



# Accu-Guard® II Low Current



## Miniature 0402 Size Thin-Film Fuses

### FUSE PRE-ARC JOULE INTEGRALS VS PRE-ARC TIME

