

# ANTREX Electronics

Electronic Components Sourcing Information

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## Product Reference Information

|                      |                                             |
|----------------------|---------------------------------------------|
| <b>Part Number:</b>  | F0402G0R06FNTR                              |
| <b>Manufacturer:</b> | KYOCERA AVX                                 |
| <b>Package:</b>      | Tape & Reel (TR), Cut Tape (CT), Digi-Reel® |
| <b>Availability:</b> | Please confirm with sales                   |

### Product Page:

<https://antrexco.com/product/details/kyocera-avx/f0402g0r06fntr.html>

### Request a Quote:

[Submit RFQ for this part](#)



Scan for product page

## Contact Information

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Website: <https://antrexco.com>

## Quality & Trust

New & Original Components

Supplier verification and packaging condition review

CoC / RoHS / REACH documents available on request

Secure sourcing support for OEM / EMS projects

### Note:

This PDF includes an ANTREX product reference cover page.

The original manufacturer datasheet follows from the next page.

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### ACCUGUARD® TECHNOLOGY

The Accu-Guard® series of fuses is based on thin-film techniques. This technology provides a level of control on the component electrical and physical characteristics that is generally not possible with standard fuse technologies. This has allowed KYOCERA AVX to offer a series of devices which are designed for modern surface mount circuit boards which require protection.

### FEATURES

- Accurate current rating
- Fast acting
- Small-standard 0402, 0805, 1206 and 0612 chip sizes
- Taped and reeled
- Completely compatible with all soldering systems used for SMT
- Lead Free Series (F0201G, F0402G, F0603G, F0402E, F0603E, F0805B, F1206B)

### APPLICATIONS

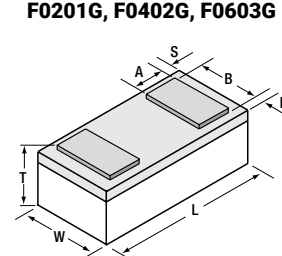
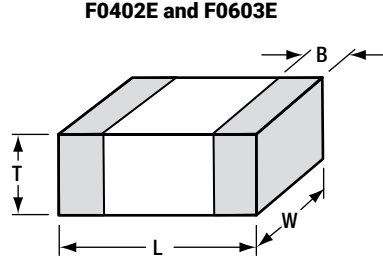
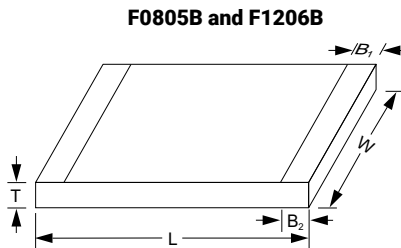
- Two-Way Radios
- Home Appliances
- Battery Management Systems
- Battery Chargers
- Rechargeable Battery Packs
- Computers
- Hard Disk Drives
- PDA's
- LCD Screens
- SCSI Interface
- Digital Cameras
- Video Cameras



### APPROVAL FILE NUMBERS

- UL, cUL: RCD#E143842

### DIMENSIONS mm (inches)



|             | F0201G                           | F0402G                         | F0603G                         | F0402E                         | F0603E                         | F0805B                         | F1206B                         |
|-------------|----------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| <b>L</b>    | 0.60 ± 0.05<br>(0.023 ± 0.002)   | 1.00 ± 0.05<br>(0.039 ± 0.002) | 1.60 ± 0.10<br>(0.063 ± 0.004) | 1.00 ± 0.10<br>(0.039 ± 0.004) | 1.60 ± 0.10<br>(0.063 ± 0.004) | 2.10 ± 0.20<br>(0.083 ± 0.008) | 3.10 ± 0.20<br>(0.122 ± 0.008) |
| <b>W</b>    | 0.325 ± 0.05<br>(0.0128 ± 0.002) | 0.58 ± 0.04<br>(0.023 ± 0.002) | 0.81 ± 0.10<br>(0.032 ± 0.004) | 0.55 ± 0.07<br>(0.022 ± 0.003) | 0.81 ± 0.10<br>(0.032 ± 0.004) | 1.27 ± 0.10<br>(0.050 ± 0.004) | 1.60 ± 0.10<br>(0.063 ± 0.004) |
| <b>T</b>    | 0.225 ± 0.05<br>(0.009 ± 0.002)  | 0.35 ± 0.05<br>(0.014 ± 0.002) | 0.61 ± 0.10<br>(0.024 ± 0.004) | 0.40 ± 0.10<br>(0.016 ± 0.004) | 0.63 ± 0.10<br>(0.025 ± 0.004) | 0.90 ± 0.2<br>(0.035 ± 0.008)  | 1.20 ± 0.20<br>(0.047 ± 0.008) |
| <b>B</b>    | 0.275 ± 0.025<br>(0.011 ± 0.001) | 0.48 ± 0.05<br>(0.019 ± 0.002) | 0.71 ± 0.05<br>(0.028 ± 0.002) | 0.20 ± 0.10<br>(0.008 ± 0.004) | 0.35 ± 0.15<br>(0.014 ± 0.006) | 0.30 ± 0.15<br>(0.012 ± 0.006) | 0.43 ± 0.25<br>(0.017 ± 0.010) |
| <b>A</b>    | 0.10 ± 0.025<br>(0.004 ± 0.001)  | 0.20 ± 0.05<br>(0.008 ± 0.002) | 0.28 ± 0.05<br>(0.011 ± 0.002) |                                |                                |                                |                                |
| <b>S, H</b> | 0.025 ± 0.025<br>(0.001 ± 0.001) | 0.05 ± 0.05<br>(0.002 ± 0.002) | 0.05 ± 0.05<br>(0.002 ± 0.002) |                                |                                |                                |                                |

### HOW TO ORDER

|                     |                              |                                                                                                        |                                                                                            |                   |                                                                                                                                                                      |                    |
|---------------------|------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| <b>F</b>            | <b>0603</b>                  | <b>A</b>                                                                                               | <b>0R20</b>                                                                                | <b>F</b>          | <b>W</b>                                                                                                                                                             | <b>TR</b>          |
| <b>Product Fuse</b> | <b>Size</b>                  | <b>Fuse Version</b>                                                                                    | <b>Rated Current</b>                                                                       | <b>Fuse Speed</b> | <b>Termination</b>                                                                                                                                                   | <b>Packaging</b>   |
|                     | See table for standard sizes | B= Accu-Guard® II<br>E= Accu-Guard® II 0402, 0603<br>G= Accu-Guard® II Low Current<br>0201, 0402, 0603 | Current expressed in Amps. Letter R denotes decimal point<br>e.g. 0.20A=0R20<br>1.75A=1R75 | F = Fast          | S = Nickel/Lead-Free Solder coated (Sn 100), SMD<br>W = Nickel/solder coated (Sn 63, Pb 37) Solder Coated (Sn100)<br>N = Nickel/Lead-Free Solder Coated (Sn100), LGA | TR = Tape and reel |

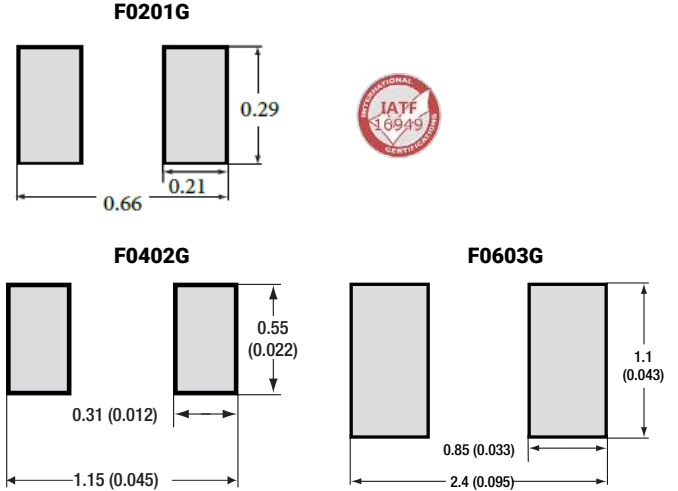
# Accu-Guard® II Low Current

## LGA Miniature 0201, 0402 and 0603 Size Thin-Film Fuses



The new 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 compact 0402 and 0603 packages and features LGA terminations.

### RECOMMENDED PAD LAYOUT mm (inches)



### 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 (0201), 63V (F0603G), 32V (F0402G)

Post-fusing resistance: >1MΩ

Interrupt rating: 50A

Termination: Nickel/Solder

| Part Number                                       | Current Rating<br>A | Resistance<br>@0.1 x I rated<br>Ω (max.) | Voltage Drop<br>@ I rated<br>mV (max.) | Fusing Current<br>(within 5 sec)<br>A | Pre-Arc I <sup>2</sup> t<br>@10x I rated A <sup>2</sup> -<br>sec (typ) | Color<br>Code |
|---------------------------------------------------|---------------------|------------------------------------------|----------------------------------------|---------------------------------------|------------------------------------------------------------------------|---------------|
| F0201G0R02FNTR / F0402G0R02FNTR / F0603G0R02FNTR  | 0.028               | 7.5                                      | 290                                    | 0.070                                 | 6 x 10 <sup>-7</sup>                                                   | Green         |
| F0201G0R03FNTR / F0402G0R03FNTR / F0603G0R03FNTR  | 0.0375              | 4.8                                      | 230                                    | 0.094                                 | 8 x 10 <sup>-7</sup>                                                   | Red           |
| F0201G0R05FNTR / F0402G0R05FNTR / F0603G0R05FNTR  | 0.050               | 3.4                                      | 250                                    | 0.125                                 | 2 x 10 <sup>-6</sup>                                                   | Blue          |
| F0201G0R06FNTR / F0402G0R06FNTR / F0603G0R06FNTR  | 0.062               | 2.5                                      | 280                                    | 0.155                                 | 2 x 10 <sup>-6</sup>                                                   | Yellow        |
| F0201G0R07FNTR / F0402G0R07FNTR / F0603G0R07FNTR  | 0.075               | 2.0                                      | 280                                    | 0.188                                 | 4 x 10 <sup>-6</sup>                                                   | Brown         |
| F0201G0R10FNTR / F0402G0R10FNTR / F0603G0R10FNTR  | 0.100               | 2.4                                      | 300                                    | 0.250                                 | 7 x 10 <sup>-6</sup>                                                   | Red           |
| F0201G0R12FNTR / F0402G0R12FNTR / F0603G0R12FNTR  | 0.125               | 1.6                                      | 250                                    | 0.312                                 | 1 x 10 <sup>-5</sup>                                                   | White         |
| F0201G0R15FNTR / F0402G0R15FNTR / F0603G0R15FNTR  | 0.150               | 1.2                                      | 220                                    | 0.375                                 | 2 x 10 <sup>-5</sup>                                                   | Green         |
| F0201G0R20FNTR* / F0402G0R20FNTR / F0603G0R20FNTR | 0.200               | 0.8                                      | 210                                    | 0.500                                 | 4 x 10 <sup>-5</sup>                                                   | Pink          |
| F0402G0R25FNTR / F0603G0R25FNTR                   | 0.25                | 0.55                                     | 180                                    | 0.625                                 | 2 x 10 <sup>-4</sup>                                                   | Blue          |
| F0402G0R37FNTR / F0603G0R37FNTR                   | 0.375               | 0.30                                     | 150                                    | 0.938                                 | 3 x 10 <sup>-4</sup>                                                   | Red           |
| F0402G0R50FNTR / F0603G0R50FNTR                   | 0.5                 | 0.20                                     | 140                                    | 1.25                                  | 7 x 10 <sup>-4</sup>                                                   | Green         |

\*Blue Color Code

### ENVIRONMENTAL CHARACTERISTICS

| Test                | Conditions                                                                                                        | Required                                                                    |
|---------------------|-------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| Solderability       | Components completely immersed in a solder bath at 245 ±5°C for 3 secs.                                           | Total area of imperfections in solder coatup 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 ≤ 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 force:<br>• 5N for 0402 and 0603 size<br>• 2N for 0201 size     |
| 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%                                               |

Accu-Guard® II Low Current  
LGA Miniature 0201, 0402 and 0603 Size Thin-Film Fuses



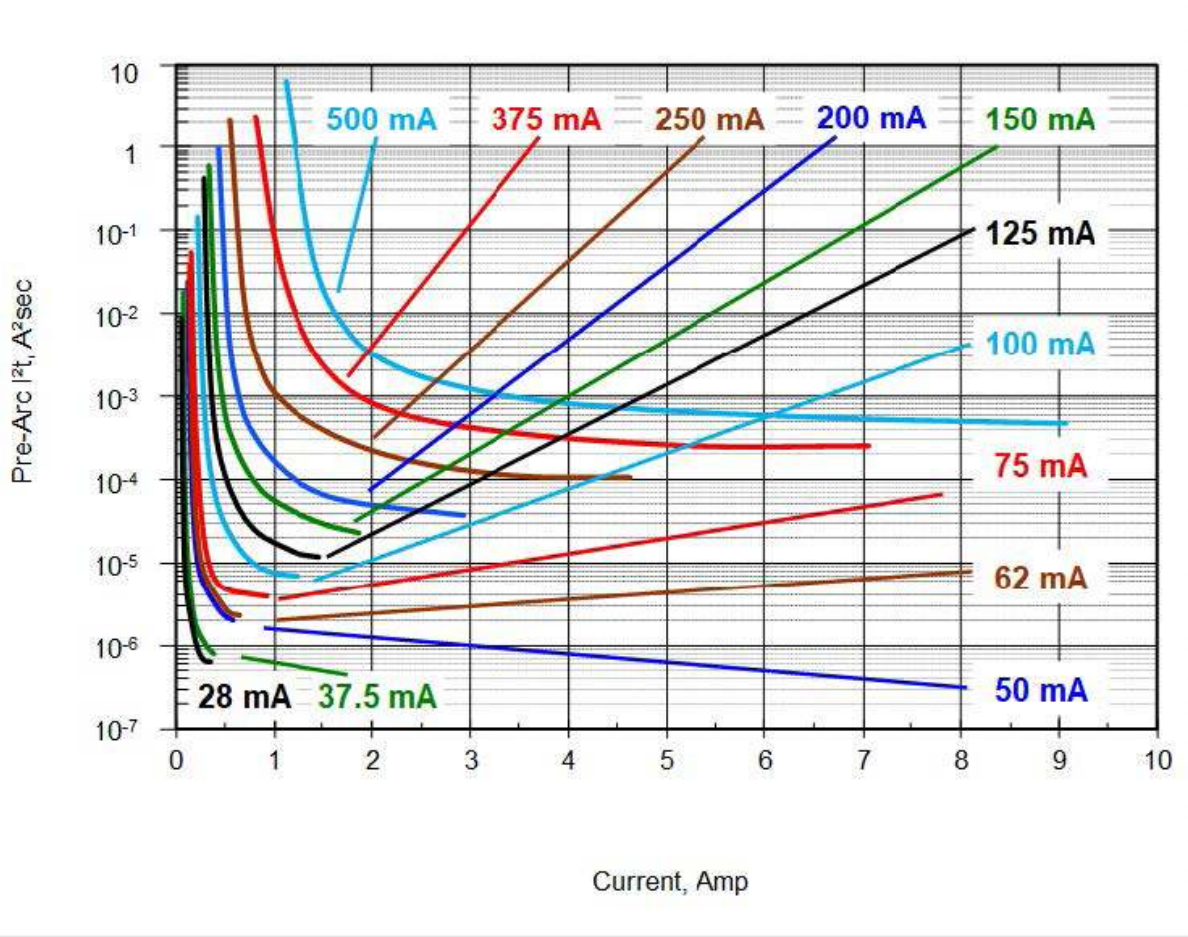
FUSE TIME-CURRENT CHARACTERISTICS



Accu-Guard® II Low Current  
LGA Miniature 0201, 0402 and 0603 Size Thin-Film Fuses



FUSE PRE-ARC JOULE INTEGRALS VS CURRENT



Accu-Guard® II Low Current  
LGA Miniature 0201, 0402 and 0603 Size Thin-Film Fuses



FUSE PRE-ARC JOULE INTEGRALS VS PRE-ARC TIME

