

# ANTREX Electronics

## Electronic Components Sourcing Information

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### Product Reference Information

|                      |                                             |
|----------------------|---------------------------------------------|
| <b>Part Number:</b>  | F0603E1R25FSTR                              |
| <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/f0603e1r25fstr.html>

#### Request a Quote:

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### Contact Information

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### 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.

# Accu-Guard® II

## SMD Thin-Film Fuse



Accu-Guard® II is a version of Accu-Guard® fuses for a wider range of current and voltage ratings. Constructed on alumina substrates, Accu-Guard® II fuses display superior electrical, mechanical and environmental properties. Accu-Guard® II dimensions are standard 0402, 0603, 0805, 1206 and 0612 chip sizes, see page 2.

For F1206B and F0805B at -55°C is 107% of rating, at +25°C 100% of rating, at +85°C 93% of rating, at +125°C 90% of rating. For F0805B 2.50A and 3.00A at +85°C 90% of rating, at +125°C 90% of rating.

Interrupting rating: 50A.

Insulation resistance: >20MΩ guaranteed (after fusing at rated voltage).

## ELECTRICAL SPECIFICATIONS

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

Current carrying capacity:

For F0402E and F0603E at -55°C 107% of rating, at +25°C 100% of rating, at +125°C 80% of rating.

For F0612D at -55°C 107% of rating, at +25°C 100% of rating, at +85°C 80% of rating, at +125°C 75% of rating.

| Type   | Part Number      | Current Rating<br>A | Resistance<br>10% x I rated, 25°C<br>Ω (max.) | Voltage Drop<br>@ 1 x I rated, 25°C<br>mV (max.) | Fusing Current<br>(within 5 sec),<br>25°C<br>A | Pre-Arc<br>I <sup>2</sup> t @ 50A<br>A <sup>2</sup> -sec | Rated<br>Voltage<br>V |
|--------|------------------|---------------------|-----------------------------------------------|--------------------------------------------------|------------------------------------------------|----------------------------------------------------------|-----------------------|
| F0402E | F0402E0R25FSTR   | 0.25                | 0.650                                         | 220                                              | 0.625                                          | 0.00005*                                                 | 32                    |
|        | F0402E0R50FSTR   | 0.50                | 0.250                                         | 180                                              | 1.25                                           | 0.0003                                                   | 32                    |
|        | F0402E0R75FSTR   | 0.75                | 0.200                                         | 180                                              | 1.875                                          | 0.003                                                    | 32                    |
|        | F0402E1R00FSTR   | 1.00                | 0.130                                         | 160                                              | 2.50                                           | 0.008                                                    | 32                    |
|        | F0402E1R50FSTR   | 1.50                | 0.060                                         | 140                                              | 3.75                                           | 0.03                                                     | 32                    |
|        | F0402E2R00FSTR   | 2.00                | 0.040                                         | 120                                              | 5.00                                           | 0.06                                                     | 32                    |
| F0603E | F0603E0R25FSTR   | 0.25                | 0.650                                         | 220                                              | 0.625                                          | 0.00005*                                                 | 32                    |
|        | F0603E0R37FSTR   | 0.375               | 0.450                                         | 220                                              | 0.940                                          | 0.0001                                                   | 32                    |
|        | F0603E0R50FSTR   | 0.50                | 0.250                                         | 180                                              | 1.25                                           | 0.0003                                                   | 32                    |
|        | F0603E0R75FSTR   | 0.75                | 0.200                                         | 180                                              | 1.875                                          | 0.003                                                    | 32                    |
|        | F0603E1R00FSTR   | 1.00                | 0.130                                         | 160                                              | 2.50                                           | 0.008                                                    | 32                    |
|        | F0603E1R25FSTR   | 1.25                | 0.090                                         | 140                                              | 3.125                                          | 0.01                                                     | 32                    |
|        | F0603E1R50FSTR   | 1.50                | 0.060                                         | 140                                              | 3.75                                           | 0.03                                                     | 32                    |
|        | F0603E1R75FSTR   | 1.75                | 0.050                                         | 120                                              | 4.375                                          | 0.04                                                     | 32                    |
|        | F0603E2R00FSTR   | 2.00                | 0.040                                         | 120                                              | 5.00                                           | 0.06                                                     | 32                    |
|        | F0603E2R50FSTR   | 2.50                | 0.035                                         | 100                                              | 6.25                                           | 0.12                                                     | 32                    |
|        | F0603E3R00FSTR   | 3.00                | 0.030                                         | 100                                              | 7.50                                           | 0.25                                                     | 32                    |
|        | F0603E3R00FSTR   | 3.00                | 0.030                                         | 100                                              | 7.50                                           | 0.25                                                     | 32                    |
| F0805B | F0805B0R25FW/STR | 0.25                | 0.750                                         | 280                                              | 0.50                                           | 0.00003*                                                 | 63                    |
|        | F0805B0R50FW/STR | 0.50                | 0.350                                         | 280                                              | 1.00                                           | 0.0002                                                   | 63                    |
|        | F0805B0R75FW/STR | 0.75                | 0.270                                         | 280                                              | 1.50                                           | 0.001                                                    | 63                    |
|        | F0805B1R00FW/STR | 1.00                | 0.220                                         | 280                                              | 2.00                                           | 0.003                                                    | 63                    |
|        | F0805B1R25FW/STR | 1.25                | 0.170                                         | 280                                              | 2.50                                           | 0.007                                                    | 63                    |
|        | F0805B1R50FW/STR | 1.50                | 0.120                                         | 240                                              | 3.00                                           | 0.010                                                    | 63                    |
|        | F0805B2R00FW/STR | 2.00                | 0.080                                         | 220                                              | 4.00                                           | 0.030                                                    | 63                    |
|        | F0805B2R50FW/STR | 2.50                | 0.060                                         | 220                                              | 5.00                                           | 0.050                                                    | 63                    |
|        | F0805B3R00FW/STR | 3.00                | 0.050                                         | 220                                              | 6.00                                           | 0.10                                                     | 63                    |
| F1206B | F1206B0R25FW/STR | 0.25                | 0.750                                         | 280                                              | 0.50                                           | 0.00003                                                  | 63                    |
|        | F1206B0R50FW/STR | 0.50                | 0.350                                         | 280                                              | 1.00                                           | 0.0002                                                   | 63                    |
|        | F1206B1R00FW/STR | 1.00                | 0.180                                         | 240                                              | 2.00                                           | 0.003                                                    | 63                    |
|        | F1206B1R50FW/STR | 1.50                | 0.120                                         | 240                                              | 3.00                                           | 0.010                                                    | 63                    |
|        | F1206B2R00FW/STR | 2.00                | 0.080                                         | 220                                              | 4.00                                           | 0.030                                                    | 63                    |
|        | F1206B3R00FW/STR | 3.00                | 0.050                                         | 220                                              | 6.00                                           | 0.10                                                     | 63                    |
| F0612D | F0612D4R00FWTR   | 4.00                | 0.040                                         | 260                                              | 10                                             | 0.10                                                     | 32                    |
|        | F0612D5R00FWTR   | 5.00                | 0.025                                         | 200                                              | 12.5                                           | 0.25                                                     | 32                    |

\*Current is limited to less than 50A at 32V due to internal fuse resistance.



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TDS-FUSE-0001 | Rev 2

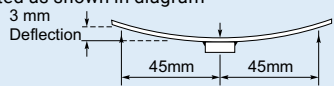
– ACCU-GUARD SERIES LGA/SMD THIN-FILM FUSE –

# Accu-Guard® II

## SMD Thin-Film Fuse



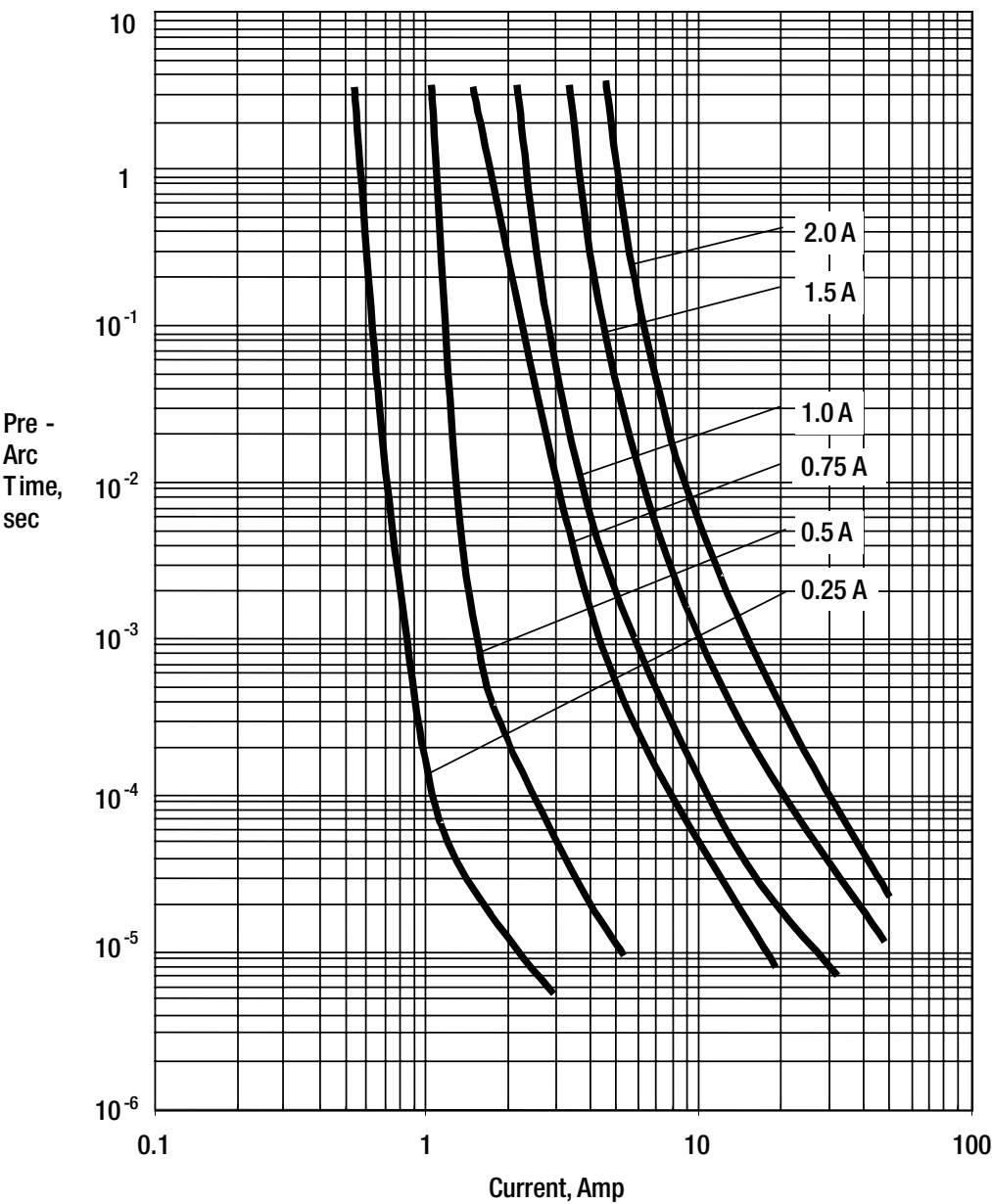
### ENVIRONMENTAL CHARACTERISTICS

| Test                        | Conditions                                                                                                                                      | Required                                                |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Solderability               | Components completely immersed in a solder bath at 235 ±5°C for 2 secs.                                                                         | Terminations to be well tinned No visible damage        |
| Leach Resistance            | Completely immersed in a solder bath at 260 ±5°C for 60 secs                                                                                    | Dissolution of termination<br>≤ 25% of area<br>ΔR/R<10% |
| Storage                     | 12 months minimum with components stored in "as received" packaging.                                                                            | Good solderability                                      |
| Shear                       | Components mounted to a substrate.<br>A force of 5N applied normal to the line joining the terminations and in a line parallel to the substrate | No visible damage                                       |
| Rapid Change of Temperature | Components mounted to a substrate. 50 cycles -55° to +125°C.                                                                                    | No Visible damage<br>ΔR/R<10%                           |
| Temperature Cycling         | Components mounted to substrate. 50 cycles -55°C to +125°C.                                                                                     | No Visible damage<br>ΔR/R<10%                           |
| Vibration                   | Components mounted to substrate. 50 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%                           |
| Load Life<br>F0805B, F1206B | 25°C, rated current, 20,000 hrs.                                                                                                                | No visible damage<br>ΔR/R<10%                           |

Accu-Guard® II  
Lead-Free SMD Thin-Film Fuse



FUSE TIME – CURRENT CHARACTERISTICS FOR TYPE F0402E (TYPICAL)



Accu-Guard® II  
Lead-Free SMD Thin-Film Fuse



FUSE PRE-ARC JOULE INTEGRALS VS CURRENT FOR  
TYPE F0402E (TYPICAL)



Accu-Guard® II

Lead-Free SMD Thin-Film Fuse



FUSE PRE-ARC JOULE INTEGRALS VS PRE-ARC TIME FOR TYPE F0402E (TYPICAL)



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Accu-Guard® II

Lead-Free SMD Thin-Film Fuse



FUSE TIME – CURRENT CHARACTERISTICS FOR  
TYPE F0603E (TYPICAL)



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Accu-Guard® II

Lead-Free SMD Thin-Film Fuse



FUSE PRE-ARC JOULE INTEGRALS VS CURRENT FOR TYPE F0603E (TYPICAL)



Accu-Guard® II

Lead-Free SMD Thin-Film Fuse



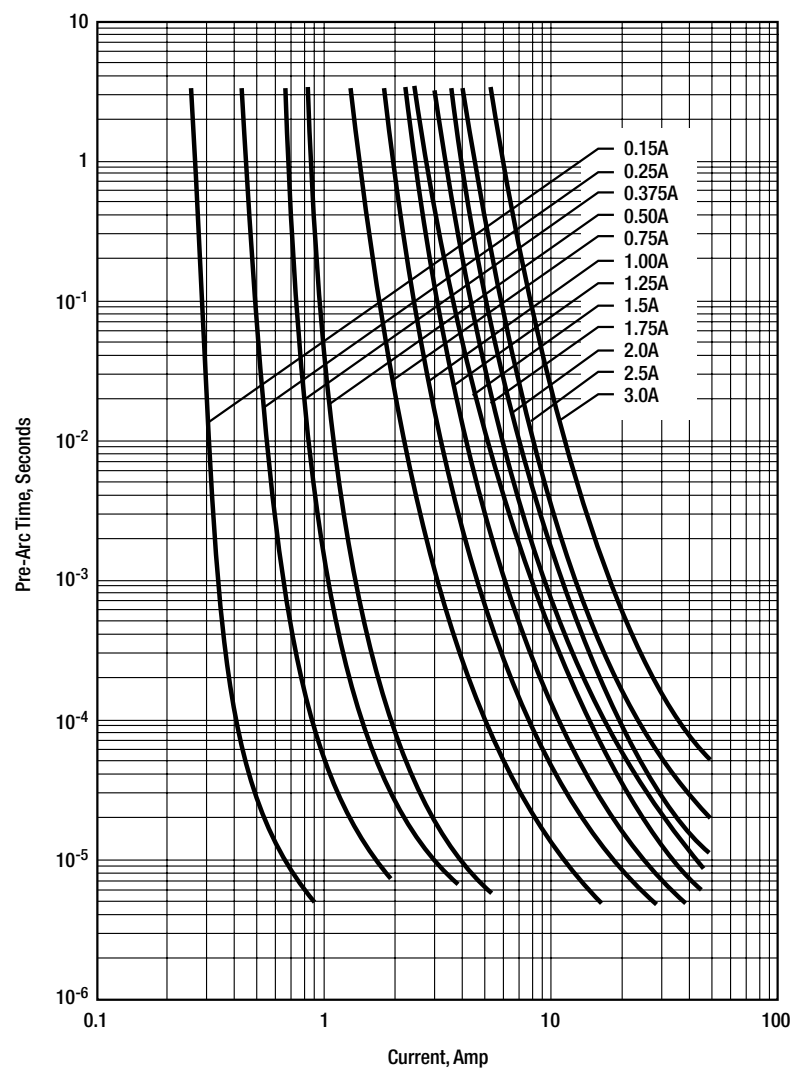
FUSE PRE-ARC JOULE INTEGRALS VS PRE-ARC TIME FOR TYPE F0603E (TYPICAL)



Accu-Guard® II  
SMD Thin-Film Fuse



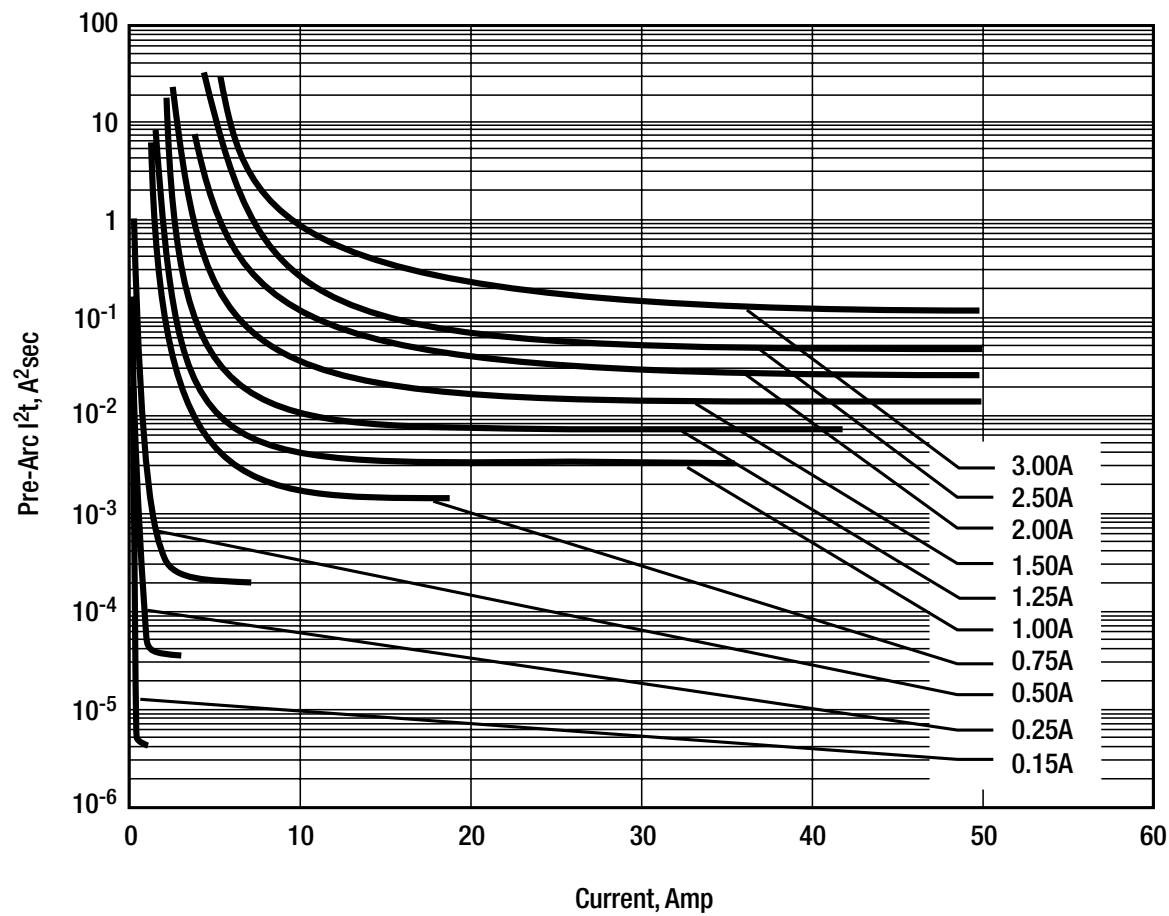
FUSE TIME - CURRENT CHARACTERISTICS FOR  
TYPES F0805B AND F1206B (TYPICAL)



Accu-Guard® II  
SMD Thin-Film Fuse



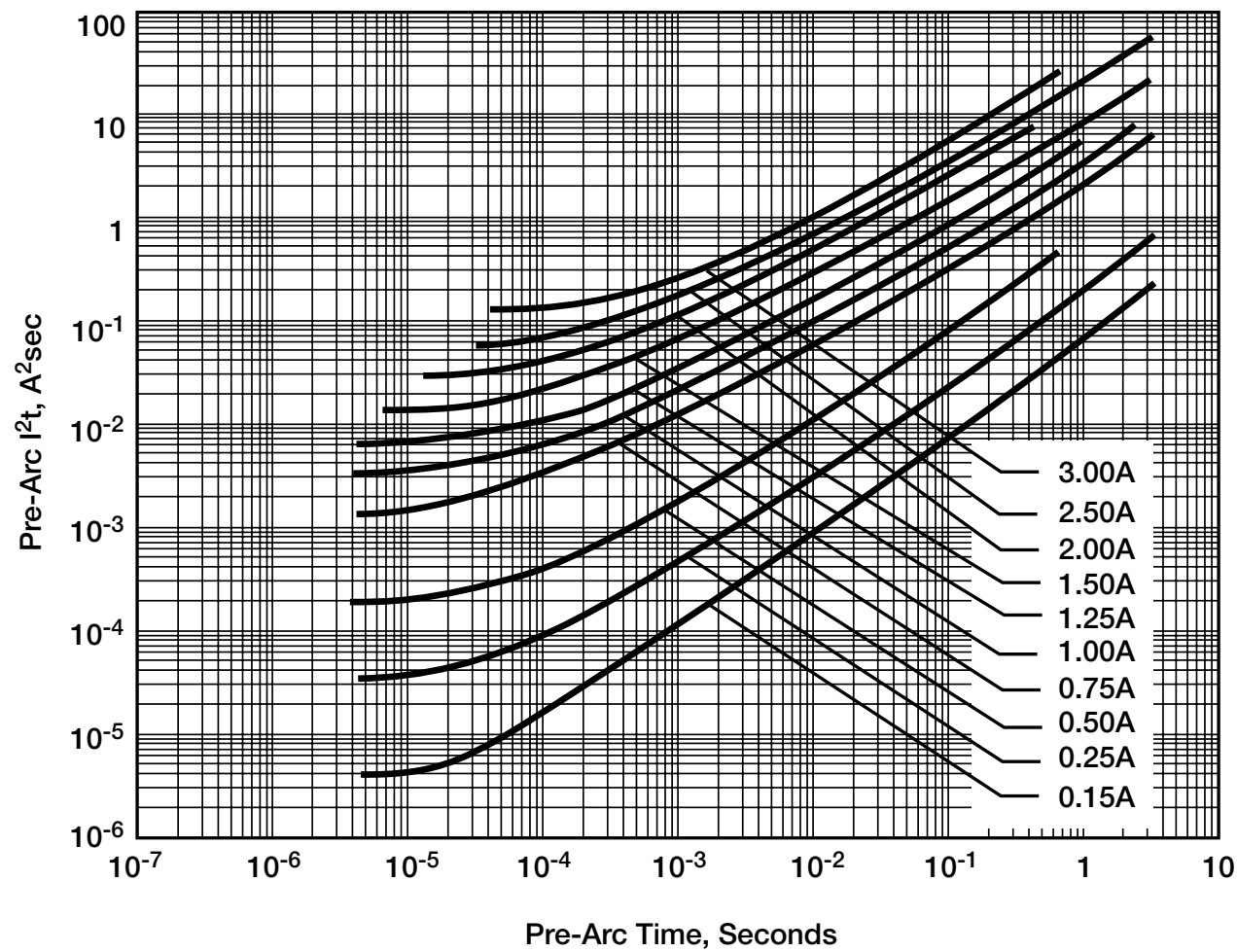
FUSE PRE-ARC JOULE INTEGRALS VS. CURRENT TIME FOR TYPES  
F0805B AND F1206B (TYPICAL)



Accu-Guard® II  
SMD Thin-Film Fuse



FUSE PRE-ARC JOULE INTEGRALS VS. PRE-ARC TIME FOR TYPES  
F0805B AND F1206B (TYPICAL)

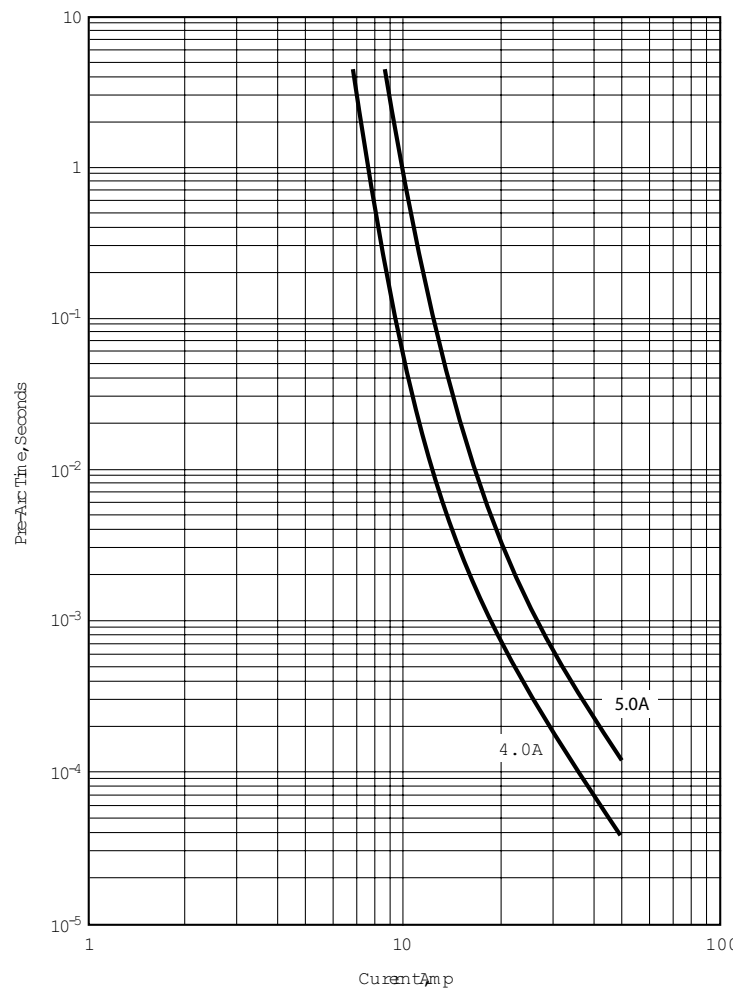


Accu-Guard® II  
SMD Thin-Film Fuse



FUSE TIME - CURRENT CHARACTERISTICS FOR TYPE  
F0612D (TYPICAL)\*

\*Not recommended for new designs,  
please contact factory

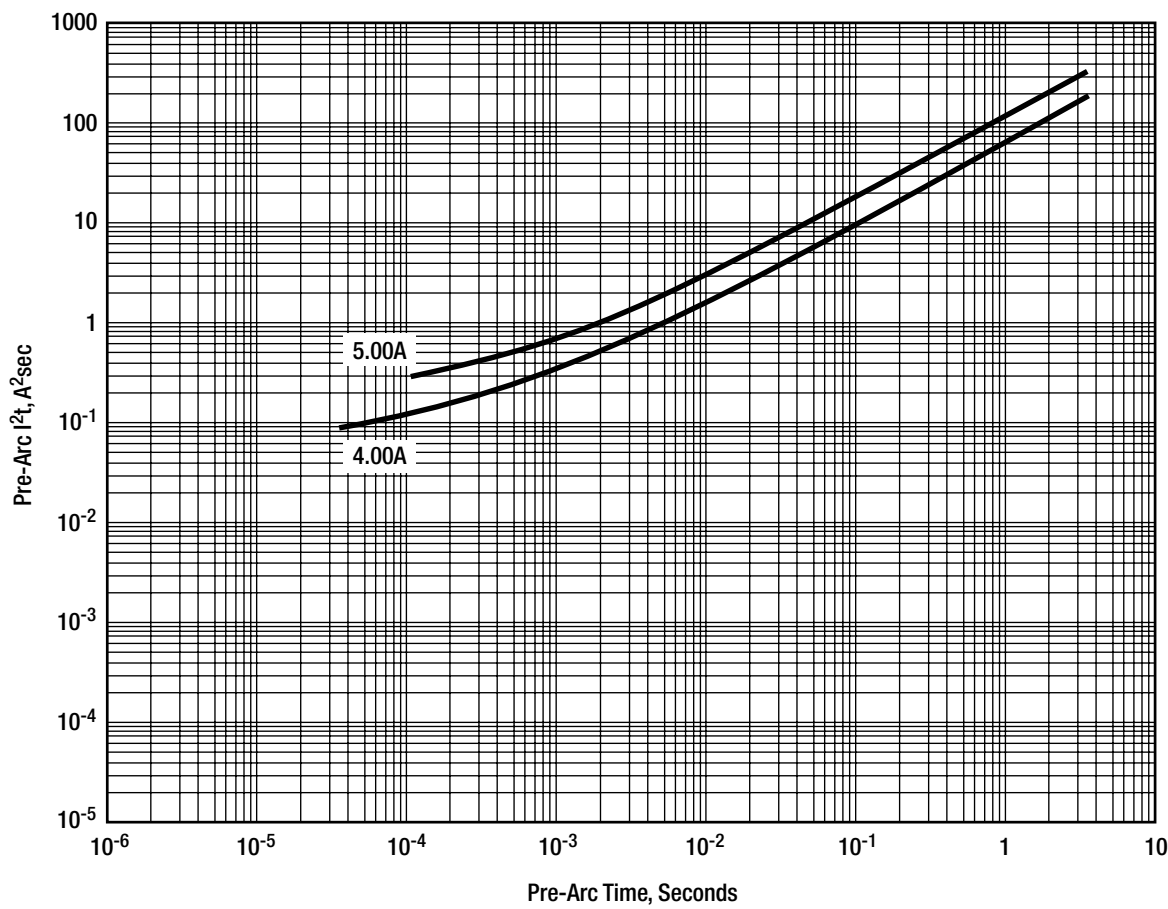


Accu-Guard® II  
SMD Thin-Film Fuse



FUSE PRE-ARC JOULE INTEGRALS VS. PRE-ARC TIME  
FOR TYPE F0612D (TYPICAL)\*

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Accu-Guard® II  
SMD Thin-Film Fuse



FUSE PRE-ARC JOULE INTEGRALS VS. CURRENT FOR  
TYPE F0612D (TYPICAL)

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