

# Chip™ Fuses

## 0603FA Series, Fast-Acting



### Description

- Fast-acting 0603 surface mount fuse
- Excellent temperature and cycling characteristics
- Compatible with lead free solders and higher temperature profiles

| Electrical Characteristics |                    |
|----------------------------|--------------------|
| % of Amp Rating            | Opening Time       |
| 100%                       | 4 Hours Minimum    |
| 200%                       | 60 Seconds Maximum |

### Agency Information

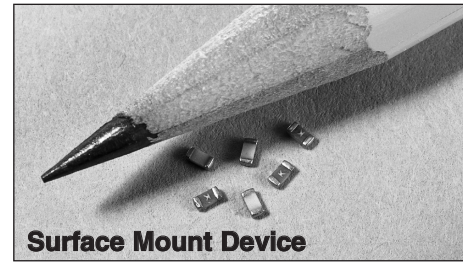
- UL Recognition Guide & File numbers: JDYX2 & E19180
- CSA Component Acceptance: 053787 C 000 & Class Number: 1422 30

### Environmental Data

- Operating temperature: -55°C to 125°C with proper derating
- Load humidity test: MIL-STD-202, Method 103B
- Moisture resistance test: MIL-STD-202, Method 106E
- Thermal shock test: MIL-STD-202, Method 107D
- High frequency vibration test: MIL-STD-202, Method 204D

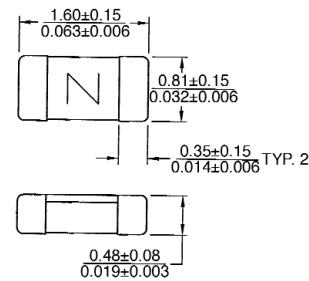
### Ordering

- Specify packaging and product code (i.e., TR/0603FA250-R)

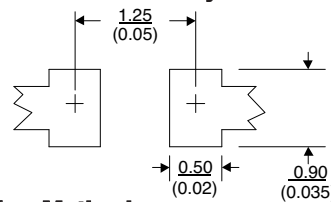


### Dimensions – mm/inches

Drawing Not to Scale



### Recommended Pad Layout – mm/inches



### Soldering Method

- Wave solder: 260°C, 10 sec max.
- Solder reflow: 260°C, 30 sec max.

### Specifications

| Part Number         | Current Rating (amps) | Voltage Rating | Interrupting Rating (amps) at Rated Voltage* | DC Cold Resistance** ( $\Omega$ ) Typical | Typical Melting $I^2t$ *** | Typical Voltage Drop† | Alpha Code Marking‡ |
|---------------------|-----------------------|----------------|--|---|----------------------------|-----------------------|---------------------|
| <b>0603FA250-R</b>  | 250mA                 | 50Vdc          | 50   | 3.100                                     | 0.0004                     | 0.921                 | D                   |
| <b>0603FA375-R</b>  | 375mA                 | 50Vdc          | 50   | 1.250                                     | 0.0009                     | 0.605                 | E                   |
| <b>0603FA500-R</b>  | 500mA                 | 32Vac/50dc     | 50ac/35dc                                    | 1.025                                     | 0.00193                    | 0.600                 | F                   |
| <b>0603FA750-R</b>  | 750mA                 | 32Vac/dc       | 50   | 0.450                                     | 0.0090                     | 0.440                 | G                   |
| <b>0603FA1-R</b>    | 1                     | 32Vac/dc       | 50   | 0.150                                     | 0.0025                     | 0.211                 | H                   |
| <b>0603FA1.25-R</b> | 1.25                  | 32Vac/dc       | 35   | 0.108                                     | 0.0130                     | 0.151                 | J                   |
| <b>0603FA1.5-R</b>  | 1.5                   | 32Vac/dc       | 35   | 0.086                                     | 0.0319                     | 0.138                 | K                   |
| <b>0603FA2-R</b>    | 2                     | 32Vac/dc       | 35   | 0.051                                     | 0.0491                     | 0.116                 | N                   |
| <b>0603FA2.5-R</b>  | 2.5                   | 32Vac/dc       | 35   | 0.037                                     | 0.0625                     | 0.113                 | O                   |
| <b>0603FA3-R</b>    | 3                     | 32Vac/dc       | 35   | 0.028                                     | 0.0699                     | 0.110                 | P                   |
| <b>0603FA3.5-R</b>  | 3.5                   | 32Vac/dc       | 35   | 0.022                                     | 0.1200                     | 0.103                 | R                   |
| <b>0603FA4-R</b>    | 4                     | 32Vac/dc       | 35   | 0.017                                     | 0.2430                     | 0.097                 | S                   |
| <b>0603FA5-R</b>    | 5                     | 32Vac/dc       | 35   | 0.011                                     | 0.6950                     | 0.090                 | T                   |

\* DC Interrupting rating (Measured at designated voltage, time constant of less than 50 microseconds, battery source)

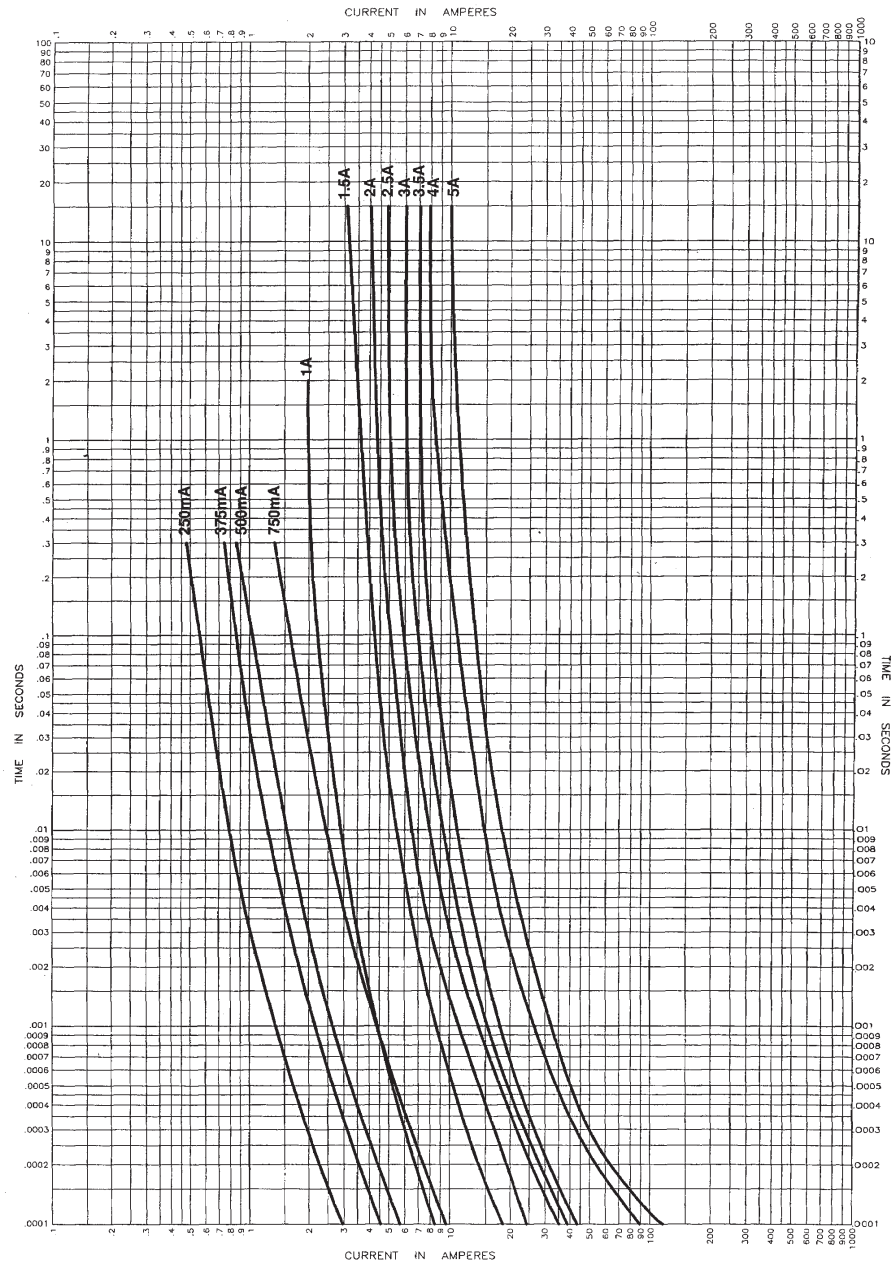
\*\* DC Cold resistance (Measured at  $\leq 10\%$  of rated current)

\*\*\* Typical melting  $I^2t$  (Measured with a battery bank at rated DC voltage, 10x-rated current, not to exceed IR, time constant of calibrated circuit less than 50 microseconds) (0603FA4A and 5A measured at interrupting rating)

† Typical voltage drop (Measured at rated current after temperature stabilizes)

‡ Alpha code to be marked on the top of fuse body for all ratings

## Time Current Curve



### Packaging Code

| Packaging Code Prefix | Description   |
|-----------------------|---|
| TR                    | 5,000 fuses on paper tape and reeled on a 178mm (7 inch) diameter reel per EIA Standard 481-1 |

The only controlled copy of this Data Sheet is the electronic read-only version located on the Cooper Bussmann Network Drive. All other copies of this document are by definition uncontrolled. This bulletin is intended to clearly present comprehensive product data and provide technical information that will help the end user with design applications. Cooper Bussmann reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Cooper Bussmann also reserves the right to change or update, without notice, any technical information contained in this bulletin. Once a product has been selected, it should be tested by the user in all possible applications.

Life Support Policy: Cooper Bussmann does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.