

## THIN-FILM SURFACE MOUNT

### 1206 SMF Very Fast-Acting Thin-Film Type 429 Series



- The 1206 SMF is an extremely small, low profile design (1206 chip size) utilizing thin-film technology to achieve precise control of electrical characteristics.
- New one-piece element/termination design assures extra reliability by eliminating the need for soldering, welding or other joining operations in the manufacture of the fuse.
- Semi-rigid substrate eliminates the potential for thermal shock fractures and decreases the risk of mechanical damage during pick and place operations.

#### ELECTRICAL CHARACTERISTICS:

| % of Ampere Rating | Opening Time at 25°C        |
|--------------------|-----------------------------|
| 100%               | 4 hours, <b>Minimum</b>     |
| 200%               | 5 seconds, <b>Maximum</b>   |
| 300%               | 0.2 seconds, <b>Maximum</b> |

**AGENCY APPROVALS:** Recognized under the Components Program of Underwriters Laboratories and Certified by CSA.

**AGENCY FILE NUMBERS:** UL E10480, CSA LR 29862.

#### INTERRUPTING RATINGS:

0.125 – 3A 50 amperes at rated voltage, VAC/VDC  
4 – 7A 35 amperes at rated voltage, VAC/VDC

#### ENVIRONMENTAL SPECIFICATIONS:

**Operating Temperature:** –55°C to 125°C.

**Vibration:** Withstands 10–55 Hz per MIL-STD-202F, Method 201A and 10-2000 Hz at 20 G's per MIL-STD-202F, Method 204D, Condition D.

**Insulation Resistance (After Opening):** Greater than 10 KOhm.

**Resistance to Soldering Heat:** Withstands 60 seconds above 200°C up to 260°C, maximum.

**Thermal Shock:** Withstands 5 cycles of –55° to 125°C.

#### PHYSICAL SPECIFICATIONS:

**Materials:** Body: Epoxy Substrate  
Terminations: Copper/Nickel/Tin-Lead (95/5)  
Cover Coat: Conformal Coating

#### Soldering Parameters:

Wave Solder — 260°C, 10 seconds maximum  
Reflow Solder — 260°C, 30 seconds maximum

**PACKAGING SPECIFICATIONS:** 8mm Tape and Reel per EIA-RS481-2 (IEC 286, part 3); 3,000 per reel.

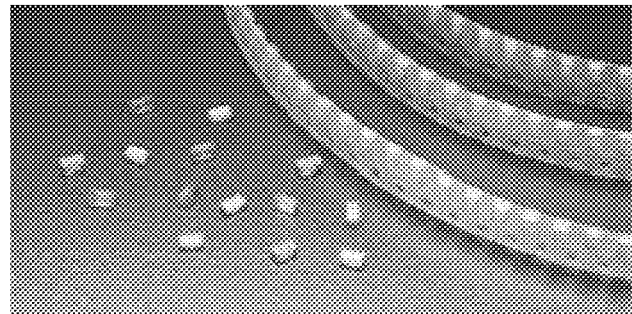
#### PATENTED

#### ORDERING INFORMATION:

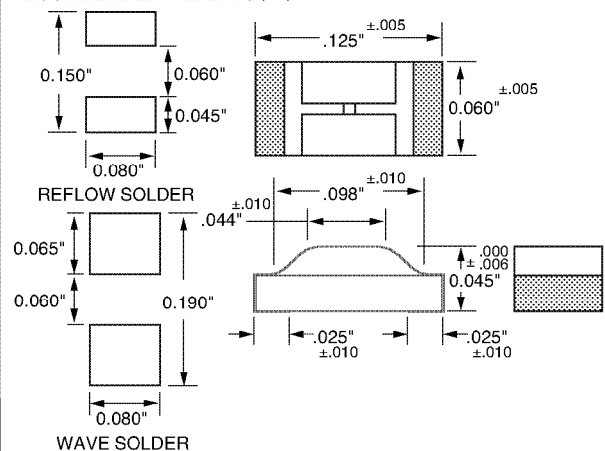
| Catalog Number | Ampere Rating | Marking Code | Nominal Voltage Rating | Nominal Resistance Cold Ohms <sup>1</sup> | Nominal Voltage Drop (V) <sup>2</sup> | Melting I <sup>2</sup> t (A <sup>2</sup> Sec.) <sup>3</sup> |
|----------------|---------------|--------------|------------------------|---|---------------------------------------|---|
| 429.125        | 1/8           | FB           | 125                    | 2.30000                                   | 0.200                                 | 0.00020   |
| 429.200        | 2/10          | FC           | 125                    | 0.93800                                   | 0.175                                 | 0.00055   |
| 429.250        | 1/4           | FD           | 125                    | 0.62500                                   | 0.160                                 | 0.00100   |
| 429.375        | 3/8           | FE           | 125                    | 0.37500                                   | 0.138                                 | 0.00280   |
| 429.500        | 1/2           | FF           | 63                     | 0.24050                                   | 0.130                                 | 0.0060  |
| 429.750        | 3/4           | FG           | 63                     | 0.13700                                   | 0.120                                 | 0.0170  |
| 429.001        | 1             | FH           | 63                     | 0.09950                                   | 0.115                                 | 0.035   |
| 429.1.25       | 1 1/4         | FJ           | 63                     | 0.07475                                   | 0.108                                 | 0.065   |
| 429.01.5       | 1 1/2         | FK           | 63                     | 0.06250                                   | 0.101                                 | 0.125   |
| 429.1.75       | 1 3/4         | FL           | 63                     | 0.05000                                   | 0.096                                 | 0.150   |
| 429.002        | 2             | FN           | 63                     | 0.03975                                   | 0.093                                 | 0.230   |
| 429.02.5       | 2 1/2         | FO           | 32                     | 0.03065                                   | 0.087                                 | 0.50  |
| 429.003        | 3             | FP           | 32                     | 0.02625                                   | 0.080                                 | 0.70  |
| 429.004        | 4             | FS           | 24                     | 0.01926                                   | 0.070                                 | 1.5   |
| 429.005        | 5             | FT           | 24                     | 0.01375                                   | 0.065                                 | 3.0   |
| 429.007        | 7             | FU           | 24                     | 0.00925                                   | 0.060                                 | 3.10  |

<sup>1</sup> Measured at 10% of rated current, 25°C. <sup>2</sup> Measured at 100% of rated current, 25°C.

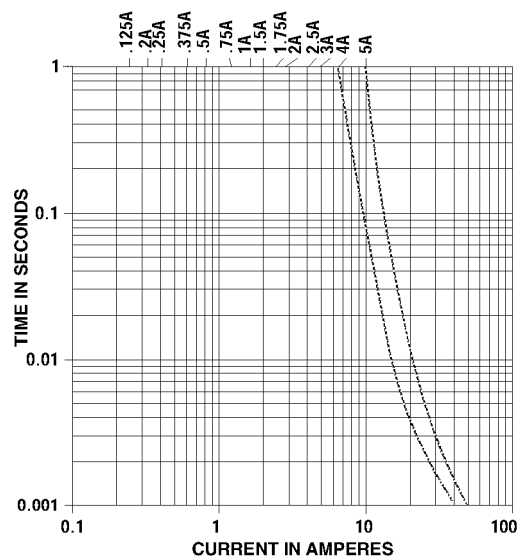
<sup>3</sup> Measured at rated voltage.



#### RECOMMENDED PAD LAYOUTS



#### Average Time Current Curves

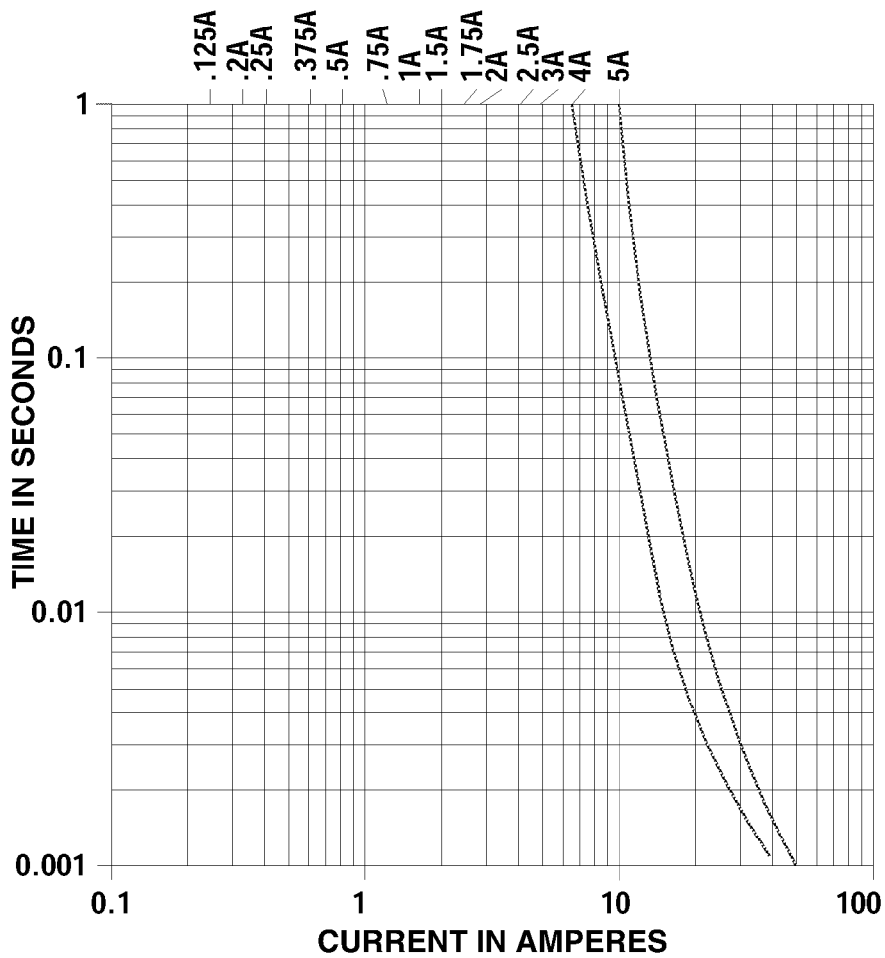




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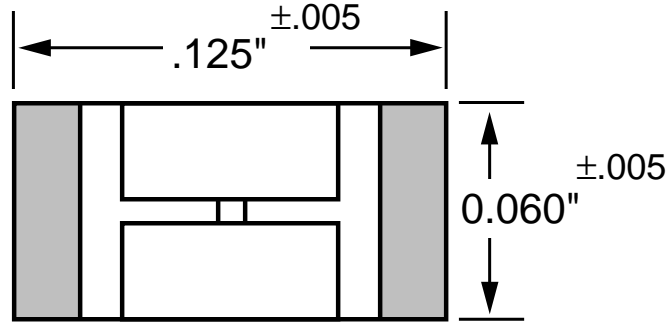
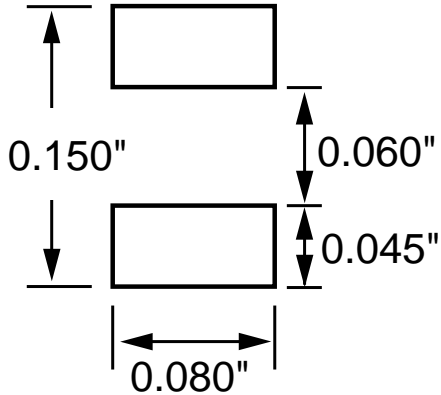
## 1206 SMF Thin-Film Type Fuse

429 Series

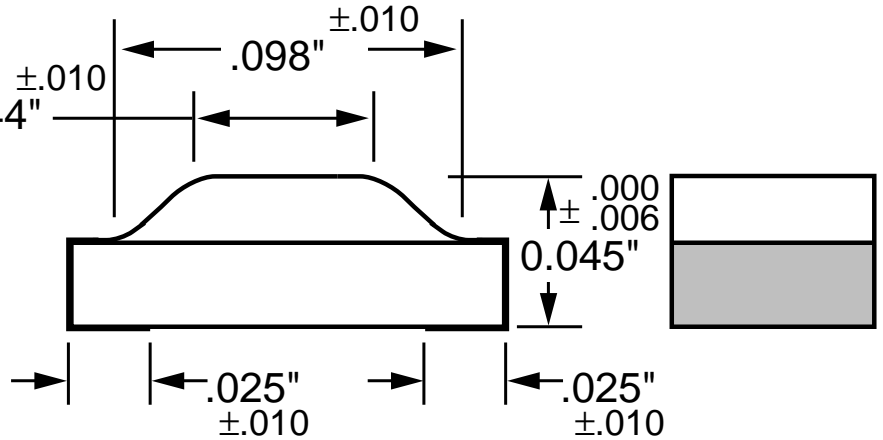
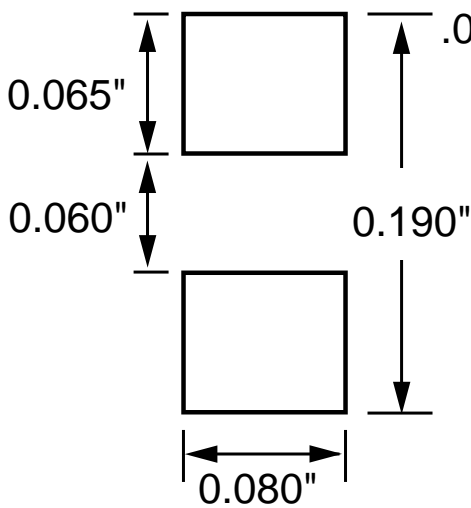




### RECOMMENDED PAD LAYOUTS



### INFRARED



### WAVE SOLDER



# Littelfuse®

## 429 'ALF'® II' Thin Film Fuse

