



Part Number: **0429007.L**

Technology: **Fuses**

Series: **429**

**429 Series - 1206 Very Fast-Acting Thin-Film Fuse**

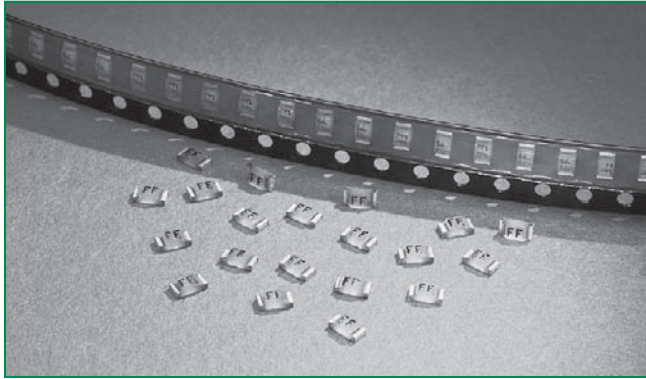
OBSOLETE with the exception of the 7A RoHS device.

### Electrical Characteristics

Property	Value
Opening	Very Fast-Acting
Size	1206 (3216)
Amp Rating (A)	7
Voltage Rating (V)	24
Resistance (Ohms)	0.0092
$I^2t$ (A <sup>2</sup> Sec)	3.6

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RoHS  **429 Series Fuse**



### Description



The 429 Series Fast-Acting SMF is a small (1206 size) thin-film device designed for secondary protection of circuits used in space constrained applications such as hand-held portable electronic devices.

This series is 100% lead-free and meets the requirements of the RoHS directive.

### Features

- RoHS compliant and Lead-Free 7A device available-add 'L' suffix to catalog number
- **For new designs up to 5A please consult the 433 or 466 Series**

### Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
	E10480	125MA - 7A
	LR29862	125MA - 7A

### Applications



Secondary protection for space constrained applications such as:

- Cell phones
- Battery packs
- Digital cameras
- DVD players
- Hard disk drives.

### Electrical Characteristics for Series

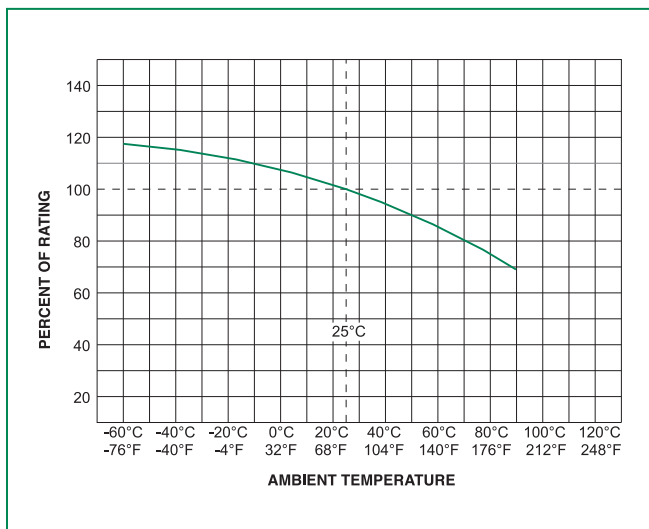
% of Ampere Rating	Opening Time at 25°C
100%	4 hours, Minimum
200%	5 sec., Maximum
300%	0.2 sec., Maximum

### Electrical Specifications by Item

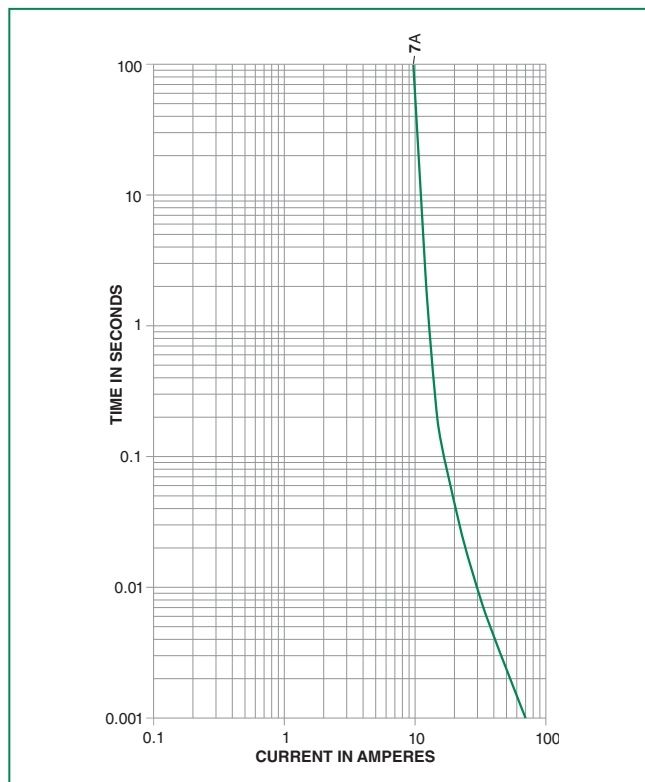
Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I <sup>2</sup> t (A <sup>2</sup> sec)	Agency Approvals	
							
7.00	007.	24	35 amperes @ voltage, VAC/VDC	0.00925	3.6000	x	x
7.00	007.	24		0.00925	3.6000	x	x

1. Measured at 10% of rated current, 25°C.  
 2. Measured at rated voltage.

## Temperature Derating Curve

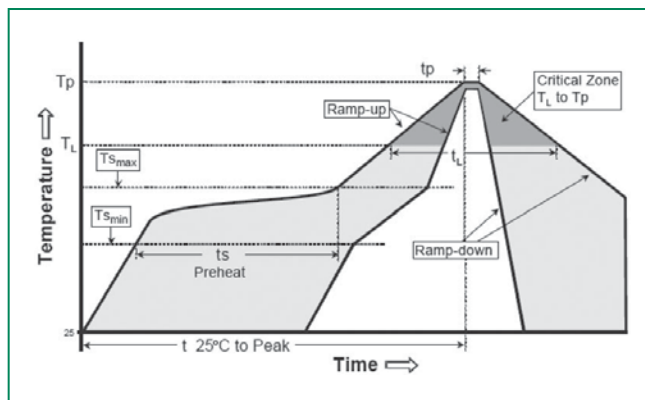


## Average Time Current Curves



## Soldering Parameters

Reflow Condition	Pb – Free assembly	
Pre Heat	- Temperature Min ( $T_{s(min)}$ )	150°C
	- Temperature Max ( $T_{s(max)}$ )	200°C
	- Time (Min to Max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)	5°C/second max	
$T_{s(max)}$ to $T_L$ - Ramp-up Rate	5°C/second max	
Reflow	- Temperature ( $T_L$ ) (Liquidus)	217°C
	- Temperature ( $t_L$ )	60 – 150 seconds
Peak Temperature ( $T_p$ )	250 <sup>+0/-5</sup> °C	
Time within 5°C of actual peak Temperature ( $t_p$ )	20 – 40 seconds	
Ramp-down Rate	5°C/second max	
Time 25°C to peak Temperature ( $T_p$ )	8 minutes Max.	
Do not exceed	260°C	



Wave Soldering	260°C, 10 seconds max.
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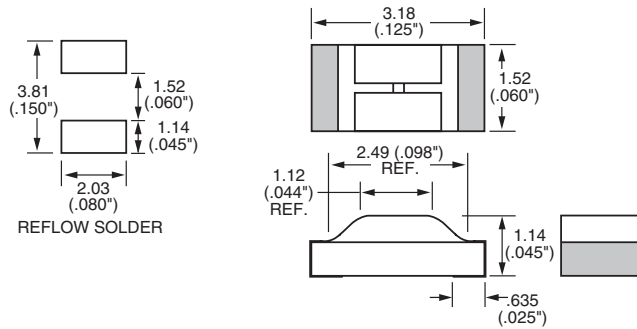
## Product Characteristics

<b>Materials</b>	<b>Body:</b> Epoxy Substrate <b>Terminations - Standard Device (429):</b> 95% Tin / 5% Lead over Nickel over Copper <b>Terminations, RoHS Compliant Device (429L):</b> 100% Tin over Nickel over Copper <b>Element Cover Coat:</b> Conformal Coating NOTE: Do not use alcohol-based cleaners or solvents with 429 Series Thin-Film Fuses as it may damage the coating.
<b>Operating Temperature</b>	- 55°C to 90°C. Consult temperature derating chart. For operation above 90°C contact Littelfuse.
<b>Thermal Shock</b>	Withstands 5 cycles of - 55°C to 125°C

<b>Humidity</b>	MIL-STD-202F, Method 103B Condition D
<b>Vibration</b>	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.
<b>Insulation Resistance (After Opening)</b>	Greater than 10,000 ohms
<b>Resistance to Soldering Heat</b>	MIL-STD-202G, Method 210F, Condition D

## Dimensions

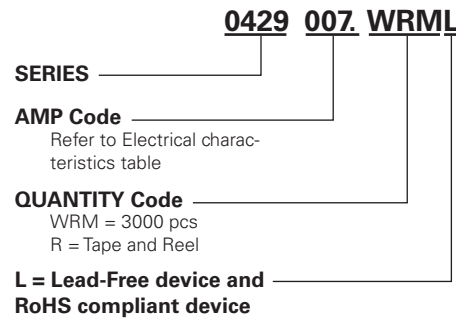
### RECOMMENDED PAD LAYOUTS



## Part Marking System

Series	Marking Code
429	<b>FU</b>
429L	<b>7</b>

## Part Numbering System



**Example:**  
 1.5 amp product is 0429 **01.5** WRML  
 (7 amp product shown above).

## Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
Tape & Reel – 8mm tape	EIA RS-481-1 (IEC 286, part 3)	3000	WRM