

429 Series 1206 Fast-Acting 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 Halogen-Free, Lead-Free and meets the requirements of the RoHS directive.

Features

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

Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
	E10480	7A
	29862	7A

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

Applications

Secondary protection for space constrained applications such as:

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

Additional Information



Datasheet





Resources



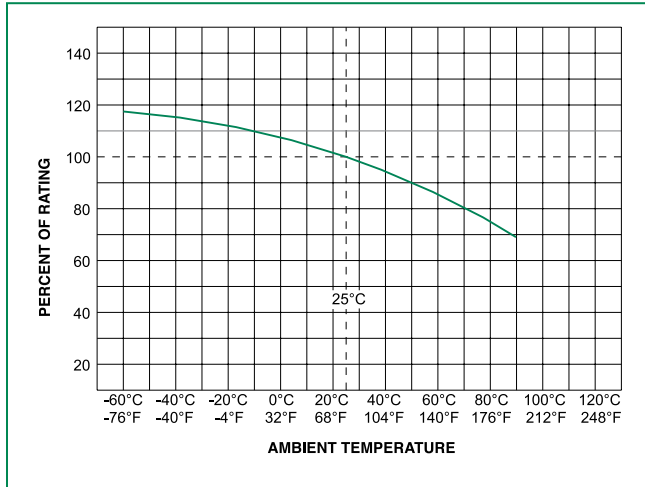
Samples

Electrical Specifications by Item

Ampere Rating (A)	Amp Code	Max Voltage Rating (V)	Interrupting Rating	Nominal Cold Resistance (Ohms)	Nominal Melting I ² t (A ² sec)	Agency Approvals	
							
7.00	007.	24	35A @24VAC/VDC	0.009	4.900	x	x

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

Temperature Re-rating Curve



Note:

1. Re-rating depicted in this curve is in addition to the standard derating of 25% for continuous operation.

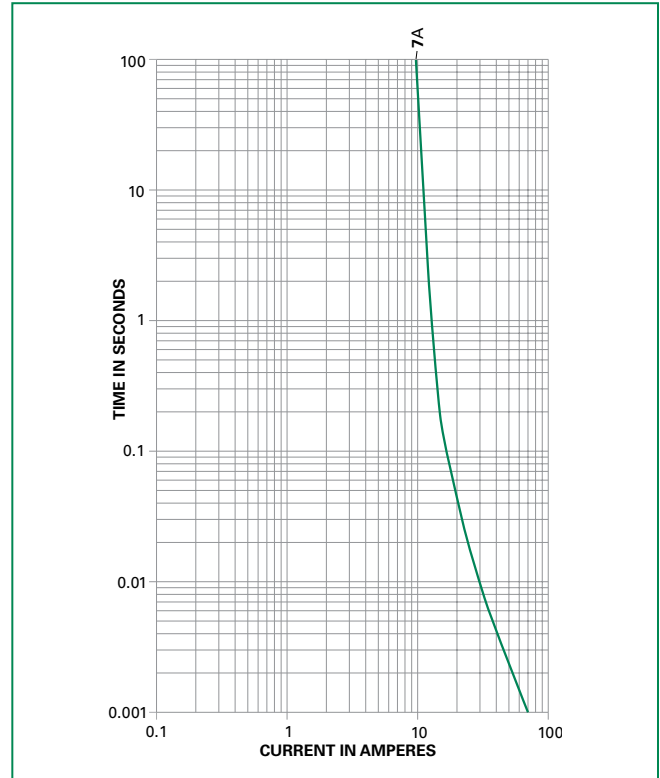
Example:

For continuous operation at 70 degrees celsius, the fuse should be derated as follows:

$$I = (0.75)(0.80)I_{RAT} = (0.60)I_{RAT}$$

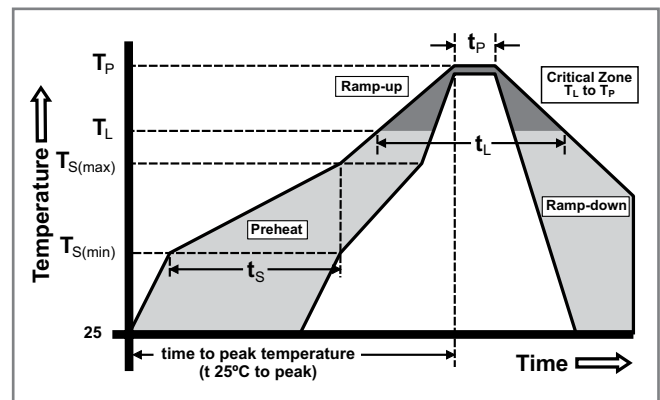
2. The temperature derating curve represents the nominal conditions. For questions about temperature derating curve, please consult Littelfuse technical support for assistance.

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 ^{+0/-5} °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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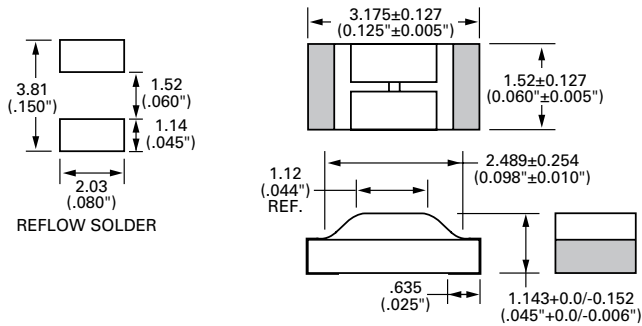
Product Characteristics

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

Humidity	MIL-STD-202, Method 103 Condition D
Vibration	Withstands 10 – 55 Hz per MIL-STD-202, Method 201 and 10-2000 Hz at 20 g's per MIL-STD-202, Method 204, Condition D.
Insulation Resistance (After Opening)	Greater than 10,000 ohms
Resistance to Soldering Heat	MIL-STD-202, Method 210, Condition D

Dimensions

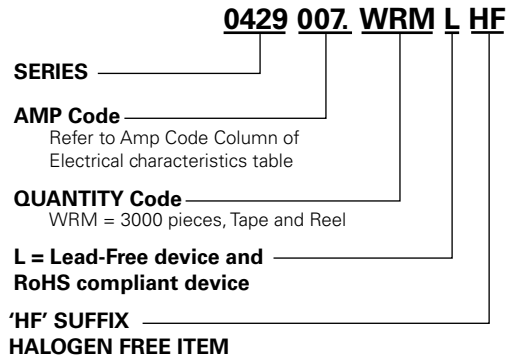
RECOMMENDED PAD LAYOUTS



Part Marking System

Series	Marking Code
429L	7

Part Numbering System



Packaging

Packaging Option	Packaging Specification	Quantity	Quantity & Packaging Code
Tape & Reel – 8mm tape	EIA-481 Rev. D (IEC 60286, part 3)	3000	WRM