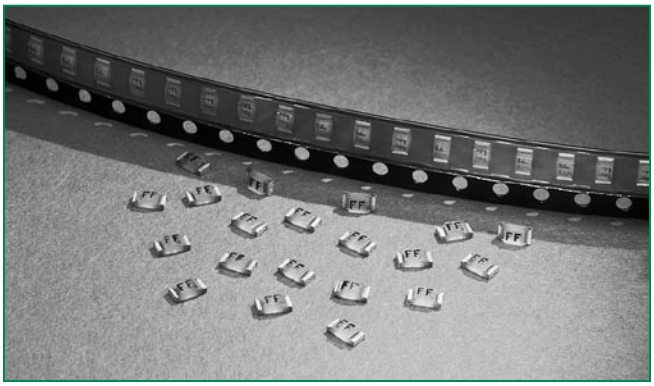
RoHS Pb HF 429 Series Fuse



Agency Approvals

AGENCY	AGENCY FILE NUMBER	AMPERE RANGE
	E10480	7A
	LR29862	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

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**

Applications

Secondary protection for space constrained applications such as:

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

Electrical Specifications by Item

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

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

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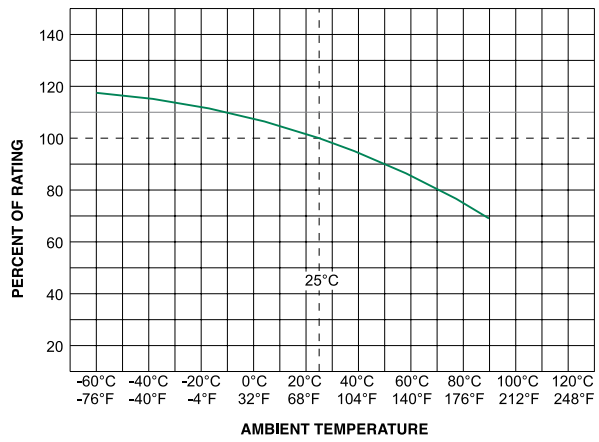
Specifications are subject to change without notice.
Please refer to www.littelfuse.com/series/429.html for current information.

Temperature Rerating Curve



Note:

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

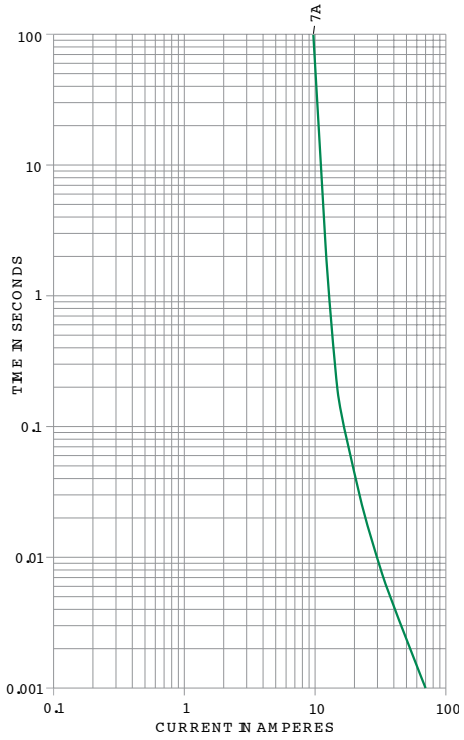
Example:

For continuous operation at 70 degrees celsius, the fuse should be deratedas 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.

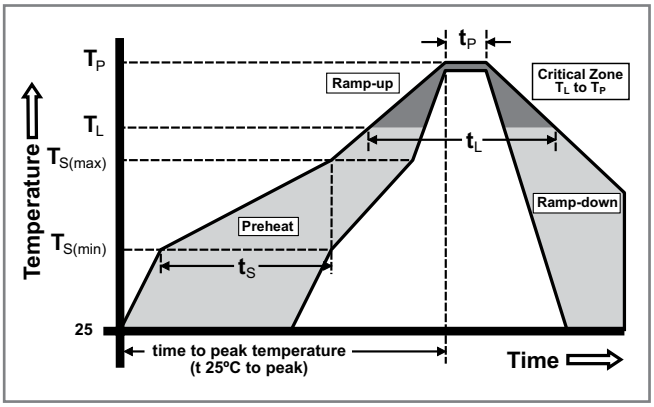
Average Time Current Curves



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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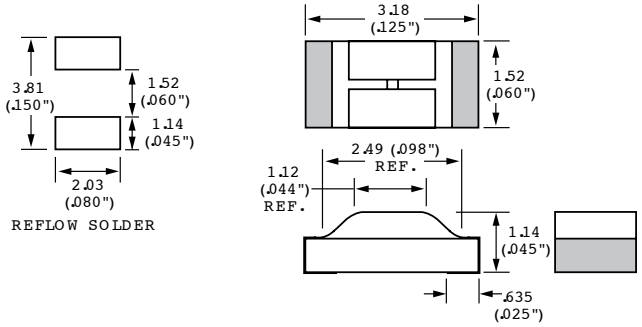
Product Characteristics

Materials	**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.
Operating Temperature	– 55°C to 90°C. Consult temperature rerating chart. For operation above 90°C contact Littelfuse.
Thermal Shock	Withstands 5 cycles of – 55°C to 125°C

Humidity	MIL-STD-202F, Method 103B Condition D
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 10,000 ohms
Resistance to Soldering Heat	MIL-STD-202G, Method 210F, Condition D

Dimensions

RECOMMENDED PAD LAYOUTS



Part Marking System

Series	Marking Code
429L	**7**

Part Numbering System

0429 007. WRM L HF

SERIES

AMP Code
Refer to Amp Code Column of Electrical characteristics table

QUANTITY Code
WRM = 3000 pieces, Tape and Reel

L = Lead-Free device and RoHS compliant device

Halogen-Free item

Packaging

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

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