



**THE DATASHEET OF  
SF-2410FP500W-2**





## SingIFuse™ SF-2410FP-W Series Features

- Single blow fuse for overcurrent protection
- 6125 (EIA 2410) footprint
- Fast acting precision
- UL 248-14 compliant
- RoHS compliant\* and halogen free\*\*
- Wire core SMD design
- Surface mount packaging for automated assembly

### SF-2410FP-W Series - Fast Acting Precision Wire Core Surface Mount Fuses

#### Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
200 %	0.01 seconds	5 seconds

#### Additional Information

Click these links for more information:



#### Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I <sup>2</sup> t (A <sup>2</sup> s)****	Certifications	
						cUL: <a href="#">E198545</a>	TUV <a href="#">R 50432918</a>
SF-2410FP050W-2	0.50	0.230	250 VAC 125 VDC	100 A @ 250 VAC 50 A @ 125 VDC	0.101	✓	✓
SF-2410FP063W-2	0.63	0.173			0.162	✓	✓
SF-2410FP075W-2	0.75	0.147			0.232	✓	
SF-2410FP100W-2	1.00	0.0925			0.596	✓	✓
SF-2410FP125W-2	1.25	0.0697			0.970	✓	✓
SF-2410FP150W-2	1.50	0.0617			1.202	✓	
SF-2410FP200W-2	2.00	0.0418			2.778	✓	✓
SF-2410FP250W-2	2.50	0.0308	125 VAC 125 VDC	50 A @ 125 VAC 50 A @ 125 VDC	1.222	✓	
SF-2410FP300W-2	3.00	0.0248			1.747	✓	
SF-2410FP315W-2	3.15	0.0231			2.22	✓	
SF-2410FP350W-2	3.50	0.0219			2.53	✓	
SF-2410FP400W-2	4.00	0.0171			4.14	✓	
SF-2410FP500W-2	5.00	0.0143			5.96	✓	
SF-2410FP630W-2	6.30	0.0100			12.63	✓	
SF-2410FP700W-2	7.00	0.0094			14.34	✓	
SF-2410FP800W-2	8.00	0.0086			20.50	✓	
SF-2410FP1000W-2	10.00	0.0066			29.49	✓	

\*\*\* Resistance value measured with ≤10 % rated current at 25 °C ambient. Tolerance ±25 %.

\*\*\*\* Melting I<sup>2</sup>t calculated at 0.001 second pre-arcing time.



**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\*Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

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Users should verify actual device performance in their specific applications.

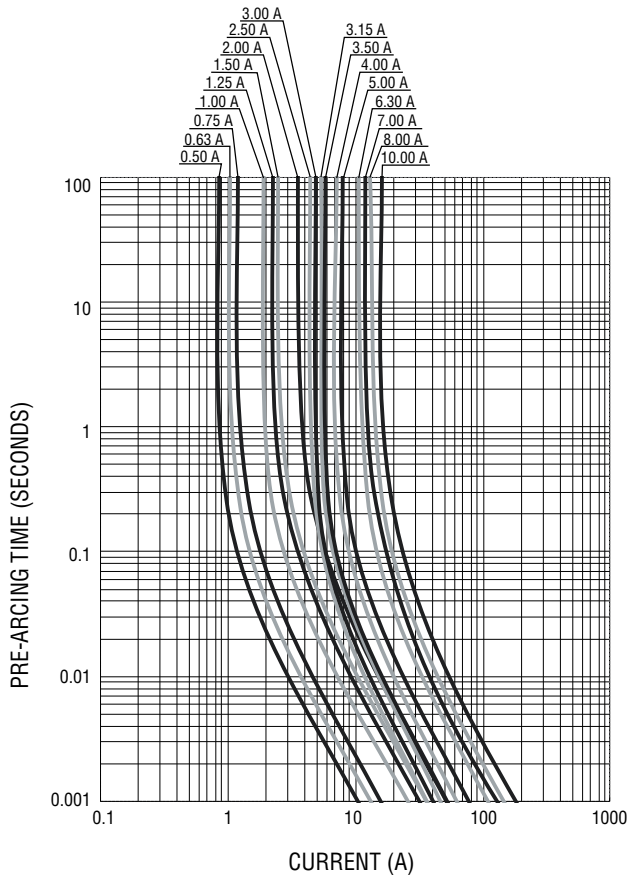
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# SinglFuse™ SF-2410FP-W Series Applications

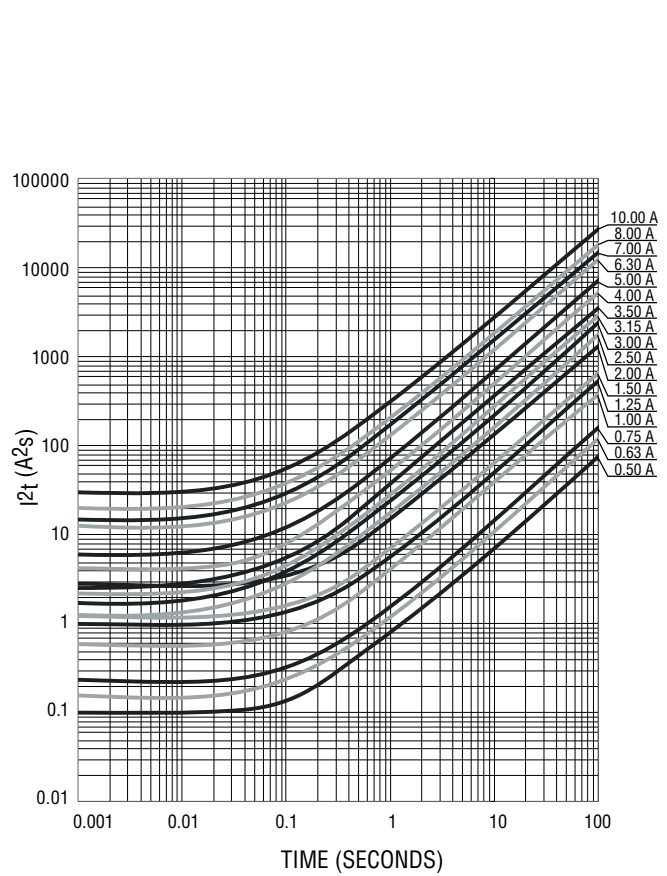
- LCD / LED TVs
- White goods
- PC servers
- LCD monitors
- DC/DC converters
- DC/AC inverters
- Notebooks / ultrabooks
- Telecom systems
- Chargers

**SF-2410FP-W Series – Fast Acting Precision Wire Core Surface Mount Fuses** **BOURNS®**

**Average Pre-Arcing Time vs. Current Curves**



**Average I²t vs. t Curves**



**Environmental Characteristics**

Operating Temperature.....	-55 °C to +125 °C
Storage Conditions	
Temperature .....	+5 °C to +35 °C
Humidity.....	40 % to 75 %
Shelf Life.....	2 years from manufacturing date
Moisture Sensitivity Level.....	1
ESD Classification (HBM).....	Class 6

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# SF-2410FP-W Series – Fast Acting Precision Wire Core Surface Mount Fuses



## Typical Part Marking

Represents total content. Layout may vary.



RATED CURRENT (A)

C = 0.50	K = 3.00
S = 0.63	V = 3.15
D = 0.75	L = 3.50
E = 1.00	M = 4.00
F = 1.25	N = 5.00
G = 1.50	O = 6.30
I = 2.00	P = 7.00
J = 2.50	R = 8.00
	Q = 10.0

## How to Order

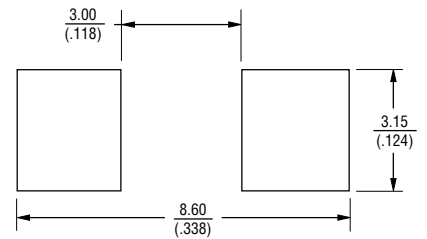
**SF - 2410 FP 100 W - 2**

SinglFuse™  
 Product Designator  
 SMD Footprint  
 2410 = 6125 (EIA 2410) size  
 Fuse Blow Type  
 FP = Fast Acting Precision  
 Rated Current  
 050 ~ 1000 (0.50 A ~ 10.00 A)  
 Structure Type  
 W = Wire Core  
 Packaging Type  
 - 2 = Tape & Reel

## Packaging

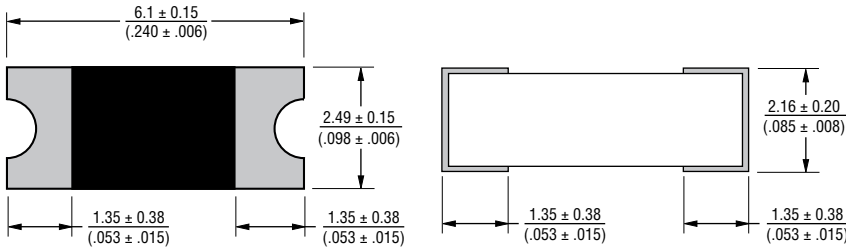
Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	2,000 pieces
Packaging Code	-2

## Recommended Pad Layout



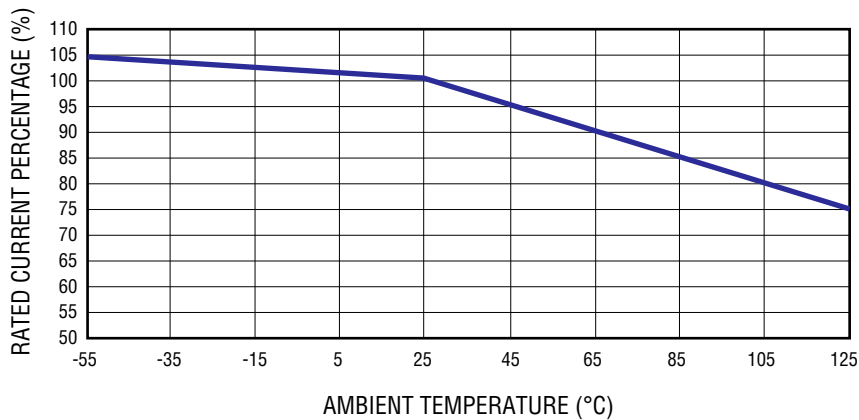
DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Product Dimensions



DIMENSIONS:  $\frac{\text{MM}}{\text{(INCHES)}}$

## Current Rating Thermal Derating Curve

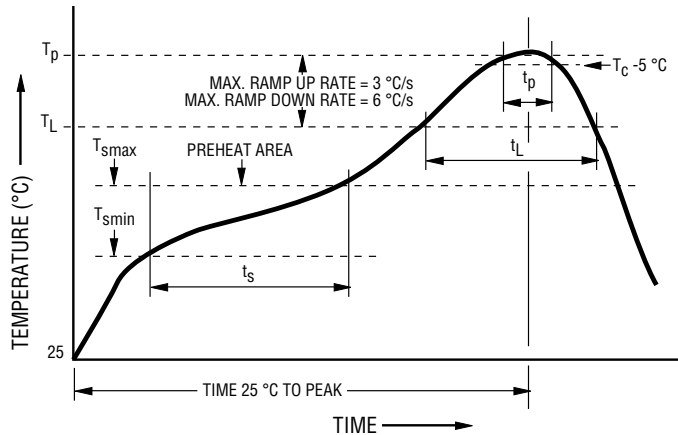


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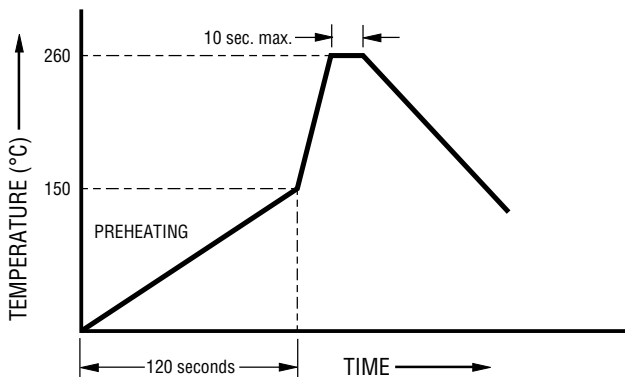
**Solder Reflow Recommendations**



Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. ( $T_{smin}$ ) Temperature Max. ( $T_{smax}$ ) Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	150 °C 200 °C 60-120 seconds
Ramp Up Rate ( $T_L$ to $T_p$ )	3 °C / second max.
Liquidous Temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60-150 seconds
Peak Package Body Temperature ( $T_p$ )	260 °C
Time ( $t_p$ )* within 5 °C of the specified classification temperature ( $T_c$ )	30 seconds*
Ramp Down Rate ( $T_p$ to $T_L$ )	6 °C / second max.
Time 25 °C to Peak Temperature	8 minutes max.

\* Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

**Recommended Temperature Profile for Wave Soldering**



Wave soldering is suitable for 2410 size models.

**Reliability Testing**

No.	Test	Requirement	Test Condition	Test Reference
1	Reflow and bend	DCR change $\leq 20\%$ ( $\leq 10\%$ for $\leq 1$ A) No mechanical damage	3 reflows at 245 °C followed by a 2 mm bend	Refer to STP document
2	Solderability	Minimum 90 % coverage	One dip at 245 °C for 5 seconds	MIL-STD-202 Method 208
3	Soldering heat resistance	DCR change $\leq 20\%$ ( $\leq 10\%$ for $\leq 1$ A) New solder coverage $\leq 75\%$	One dip at 260 °C for 10 seconds	MIL-STD-202 Method 210
4	Moisture resistance	DCR change $\leq \pm 15\%$ No excessive corrosion	10 cycles	MIL-STD-202 Method 106
5	Salt spray	DCR change $\leq \pm 10\%$ No excessive corrosion	48 hour exposure, 5 % salt solution	MIL-STD-202 Method 101
6	Mechanical vibration	DCR change $\leq \pm 10\%$ No mechanical damage	0.4 inch D.A. or 30 G between 5-3000 Hz	MIL-STD-202 Method 204
7	Mechanical shock	DCR change $\leq \pm 10\%$ No mechanical damage	1500 G, 0.5 ms, half-sine shocks	MIL-STD-202 Method 213
8	Thermal Shock	DCR change $\leq \pm 10\%$ No mechanical damage	100 cycles between -65 °C and +125 °C	MIL-STD-202 Method 107
9	Life	No electrical “opens” during testing Voltage drop change shall be less than $\pm 20\%$ of initial value	80 % rated current (75 % for $< 1$ A fuses) for 2000 hours at ambient temperature +25 °C	Refer to STP document

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