



## SinglFuse™ SF-2410FxxxW Series Features

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

## SF-2410FxxxW Series - Fast Acting Wire Core Surface Mount Fuses

### Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I <sup>2</sup> t (A <sup>2</sup> s) ****
SF-2410F1200W-2	12.0	Open within 20 sec. at 200 % rated current	0.0053	AC 65 V DC 65 V	AC 65 V 50 A DC 65 V 50 A DC 32 V 300 A	49.2
SF-2410F1500W-2	15.0		0.0038			102.5
SF-2410F2000W-2	20.0		0.0034		126.2	

\*\*\* 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.

### Reliability Testing

No.	Test	Requirement	Test Condition	Test Reference
1	Reflow and bend	DCR change ≤ 20 % (≤ 10 % for ≤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 ≤ 20 % (≤ 10 % for ≤1 A) New solder coverage ≤ 75 %	One dip at 260 °C for 10 seconds	MIL-STD-202 Method 210
4	Moisture resistance	DCR change ≤ ±15 % No excessive corrosion	10 cycles	MIL-STD-202 Method 106
5	Salt spray	DCR change ≤ ±10 % No excessive corrosion	48 hour exposure, 5 % salt solution	MIL-STD-202 Method 101
6	Mechanical vibration	DCR change ≤ ±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 ≤ ±10 % No mechanical damage	1500 G, 0.5 ms, half-sine shocks	MIL-STD-202 Method 213
8	Thermal Shock	DCR change ≤ ±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 ±20 % of initial value	80 % rated current (75 % for < 1 A fuses) for 2000 hours at ambient temperature +25 °C	Refer to STP document

### Agency Recognition

UL File Number ..... E198545

## **BOURNS®**

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\* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

\*\* 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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**WARNING Cancer and Reproductive Harm**

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SingIFuse™ SF-2410FxxxW Series Applications

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

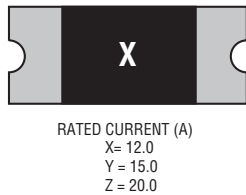
**SF-2410FxxxW Series - Fast Acting Wire Core Surface Mount Fuses** **BOURNS®**

**Environmental Characteristics**

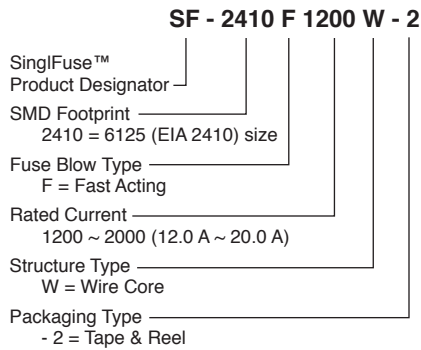
Operating Temperature.....	-55 °C to +125 °C
Storage Conditions	
Temperature .....	+5 °C to +35 °C
Humidity.....	40 % to 75 %
Shelf Life.....	2 years from manufacturing date
Moisture Sensitivity Level.....	1
ESD Classification (HBM).....	Class 6

**Typical Part Marking**

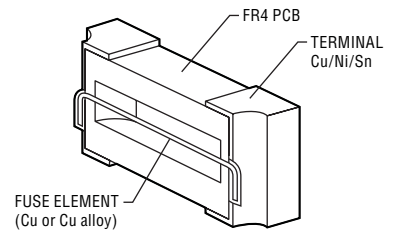
Represents total content. Layout may vary.



**How to Order**



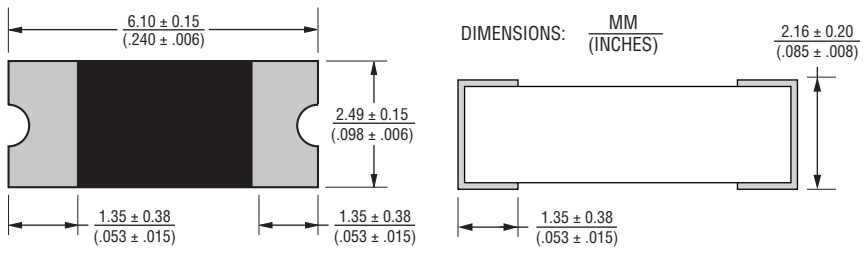
**Construction**



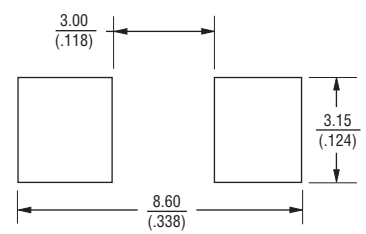
**Packaging Quantity**

2,000 pieces per 7-inch reel

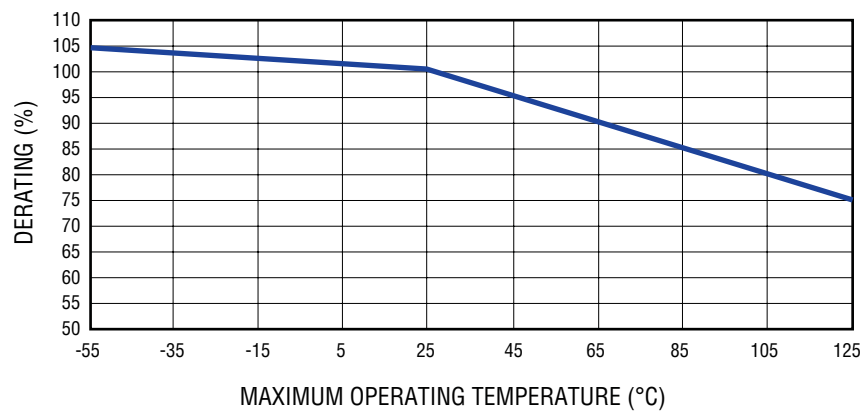
**Product Dimensions**



**Recommended Pad Layout**



**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.

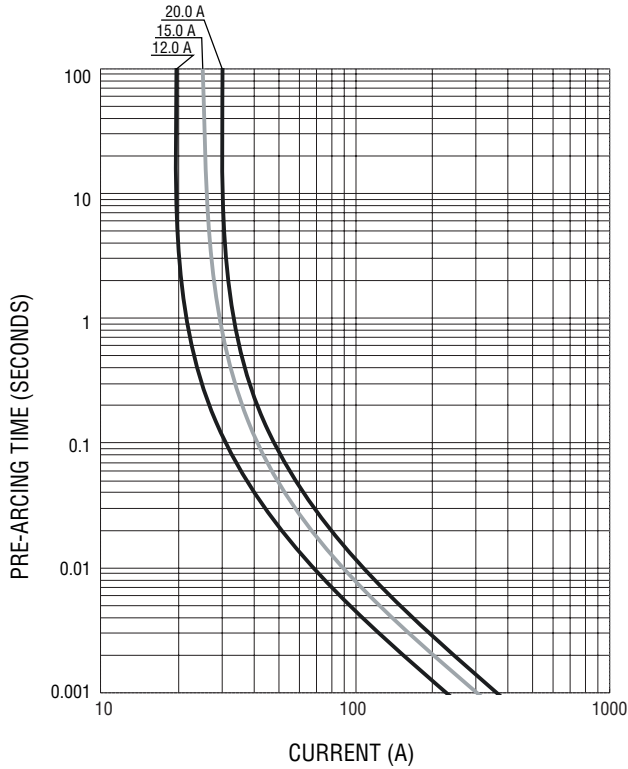
\* Tolerance for peak profile temperature ( $T_p$ ) is defined as a supplier minimum and a user maximum.

**Recommended Temperature Profile for Wave Soldering**

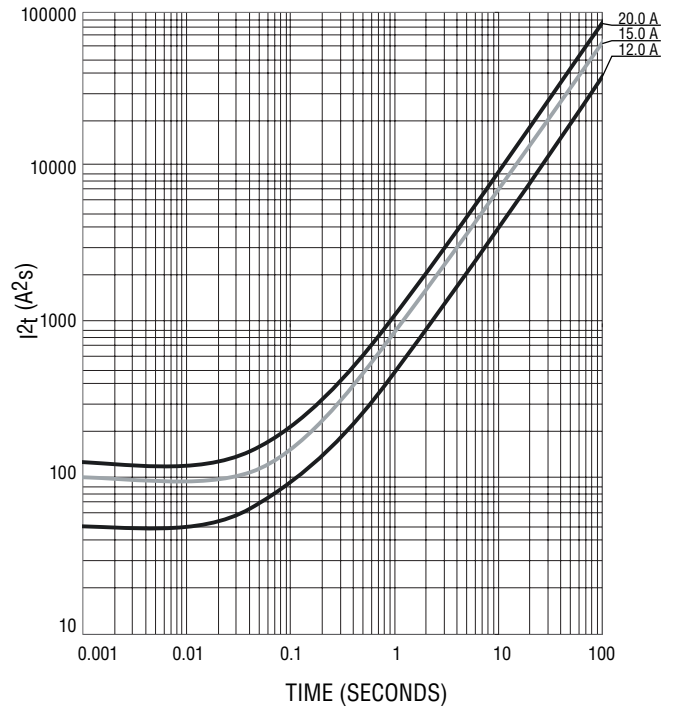


Wave soldering is suitable for 2410 size models.

Average Pre-Arcing Time vs. Current Curves



Average I<sup>2</sup>t vs. t Curves



# SF-2410FxxxW Series Tape and Reel Packaging Specifications

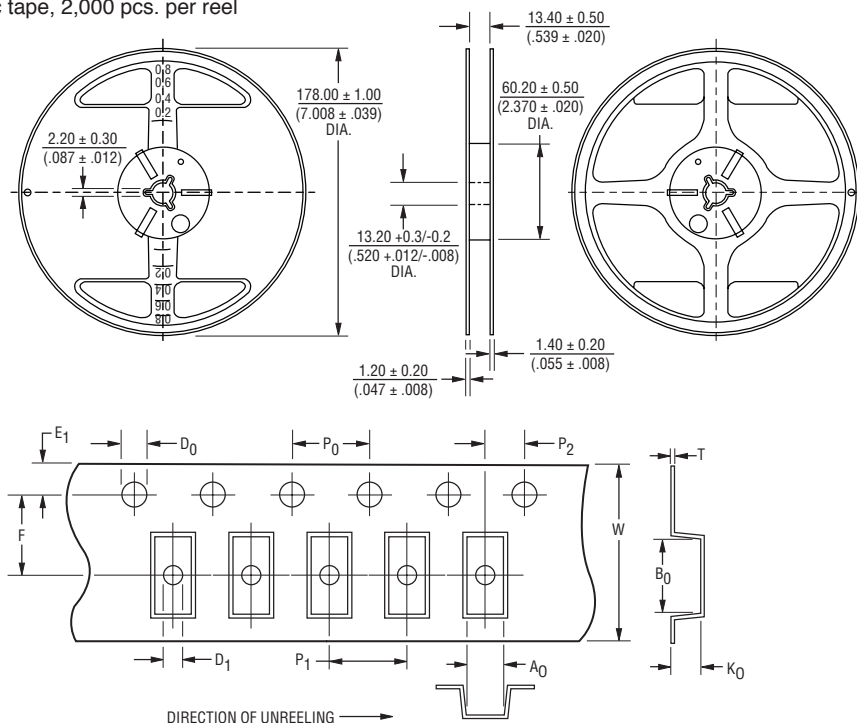


## SF-2410FxxxW Series per EIA 481-2

### Tape Dimensions

W	$\frac{12.00 \pm 0.10}{(.48 \pm .004)}$
P <sub>0</sub>	$\frac{4.0 \pm 0.10}{(.157 \pm .004)}$
P <sub>1</sub>	$\frac{4.0 \pm 0.10}{(.157 \pm .004)}$
P <sub>2</sub>	$\frac{2.0 \pm 0.05}{(.079 \pm .002)}$
A <sub>0</sub>	$\frac{2.85 \pm 0.10}{(.114 \pm .004)}$
B <sub>0</sub>	$\frac{6.40 \pm 0.10}{(.256 \pm .004)}$
F	$\frac{5.50 \pm 0.10}{(.220 \pm .004)}$
E	$\frac{1.75 \pm 0.10}{(.069 \pm .004)}$
D <sub>0</sub>	$\frac{1.55 \pm 0.10}{(.059 \pm .004)}$
D <sub>1</sub>	$\frac{1.55 \pm 0.10}{(.059 \pm .004)}$
K <sub>0</sub>	$\frac{2.35 \pm 0.10}{(.094 \pm .004)}$
T	$\frac{0.25 \pm 0.05}{(.010 \pm .002)}$

PACKAGING: Plastic tape, 2,000 pcs. per reel



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

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