



**THE DATASHEET OF
SF-2410SP050W-2**





SingIFuse™ SF-2410SP-W Series Features

- Single blow fuse for overcurrent protection
- 6125 (EIA 2410) footprint
- Time lag fuse
- UL 248-14 compliant
- RoHS compliant* and halogen free**
- Wire core SMD design
- Surface mount packaging for automated assembly
- High AC power one-time protection fuse

SF-2410SP-W Series - Time Lag Wire Core Surface Mount Fuses

Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
125 %	1 hour	—
200 %	—	120 seconds
1000 %	0.001 seconds	0.01 seconds

Additional Information

Click these links for more information:



Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I ² t (A ² s) ****	Certifications	
						cUL: E198545	VDE: 40049803
SF-2410SP050W-2	0.50	0.206	250 VAC	100 A @ 250 VAC	0.11	✓	✓
SF-2410SP063W-2	0.63	0.148			0.20	✓	✓
SF-2410SP080W-2	0.80	0.109			0.35	✓	✓
SF-2410SP100W-2	1.00	0.084			0.62	✓	✓
SF-2410SP125W-2	1.25	0.065			1.00	✓	✓
SF-2410SP160W-2	1.60	0.049			1.80	✓	✓
SF-2410SP200W-2	2.00	0.038			3.00	✓	✓

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

**** Melting I²t calculated at 0.001 second pre-arcing time.



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*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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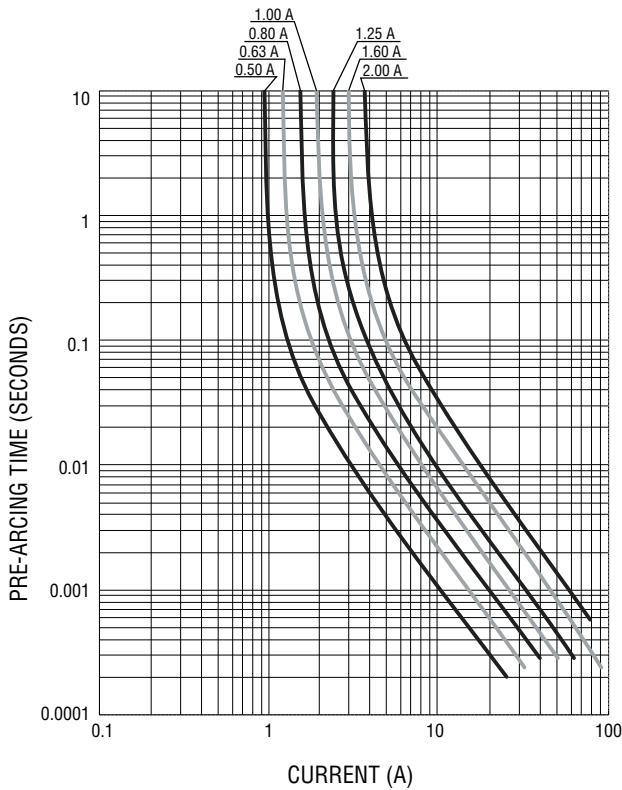
WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

SinglFuse™ SF-2410SP-W Series Applications

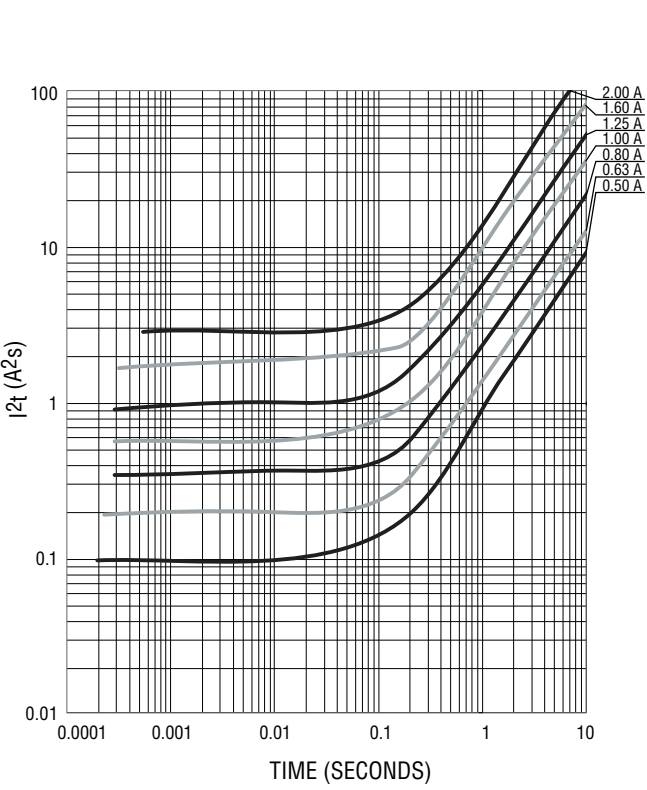
- White goods
- Lighting ballasts
- LED drivers
- Medical equipment (excluding critical life support)
- DC/DC converters
- Power chargers
- Power adapters
- Industrial equipment

SF-2410SP-W Series – Time Lag 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-2410SP-W Series – Time Lag Wire Core Surface Mount Fuses



Typical Part Marking

Represents total content. Layout may vary.



RATED CURRENT (A)
 C = 0.50 F = 1.25
 S = 0.63 T = 1.60
 H = 0.80 I = 2.00
 E = 1.00

How to Order

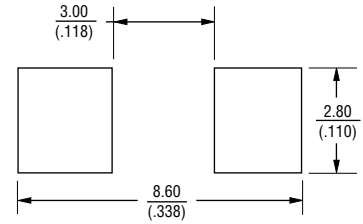
SF - 2410 SP 100 W - 2

SinglFuse™
 Product Designator
 SMD Footprint
 2410 = 6125 (EIA 2410) size
 Fuse Blow Type
 SP = Time Lag
 Rated Current
 050 ~ 200 (0.5 A ~ 2.0 A)
 Structure Type
 W = Wire Core
 Packaging Type
 - 2 = Tape & Reel

Packaging

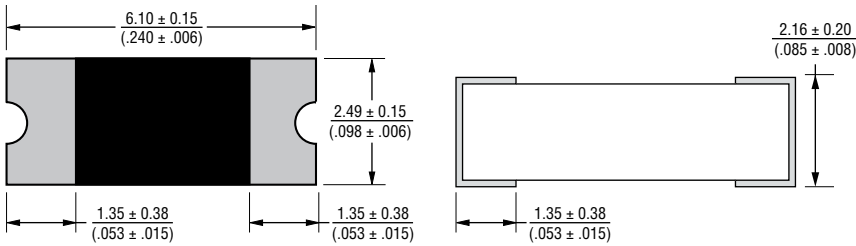
Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	2,000 pieces
Packaging Code	-2

Recommended Pad Layout



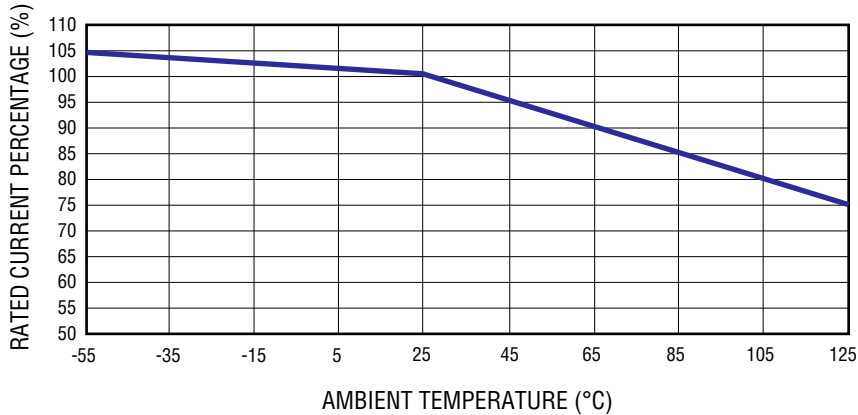
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Product Dimensions



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

Current Rating Thermal Derating Curve

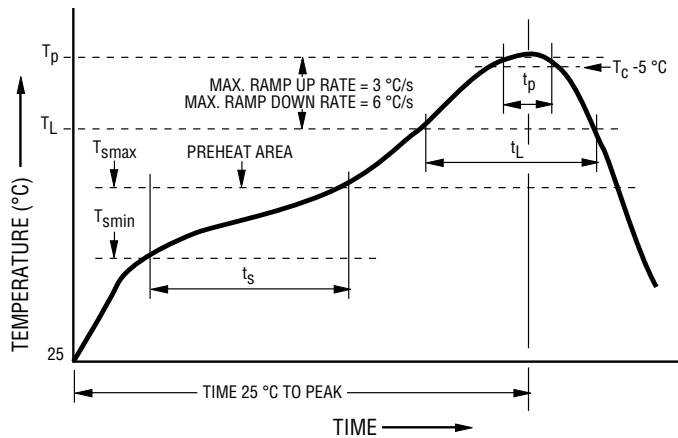


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Solder Reflow Recommendations



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 $\leq 1\text{ A}$) 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 $\leq 1\text{ A}$) 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 $< 1\text{ A}$ fuses) for 2000 hours at ambient temperature +25 °C	Refer to STP document

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