



SinglFuse™ SF-2410SPxxxW Series Features

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

SF-2410SPxxxW Series - Time Lag Wire Core Surface Mount Fuses

Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Voltage Drop Max. (mV)	Typical I ² t (A ² s) ****
SF-2410SP050W-2	0.50	Open within 120 sec. at 200 % rated current	0.206	AC 250 V DC 125 V 50 A	AC 250 V 100 A DC 125 V 50 A	166	0.11
SF-2410SP063W-2	0.63		0.148			144	0.20
SF-2410SP080W-2	0.80		0.109			139	0.35
SF-2410SP100W-2	1.00		0.084			129	0.62
SF-2410SP125W-2	1.25		0.065			128	1.00
SF-2410SP160W-2	1.60		0.049			127	1.80
SF-2410SP200W-2	2.00		0.038			123	3.00

*** Resistance value measured with $\leq 10\%$ rated current at 25 °C ambient. Tolerance $\pm 25\%$.

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

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

Agency Recognition

UL File Number E198545

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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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Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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WARNING Cancer and Reproductive Harm

www.P65Warnings.ca.gov

SinglFuse™ SF-2410SPxxxW Series Applications

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

SF-2410SPxxxW Series - Time Lag Wire Core Surface Mount Fuses

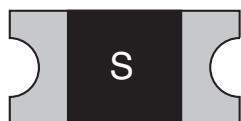
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Environmental Characteristics

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.



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)

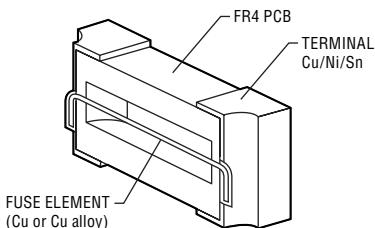
Fuse Blow Type
SP = Time Lag

Rated Current
050 ~ 200 (0.5 A ~ 2.0 A)

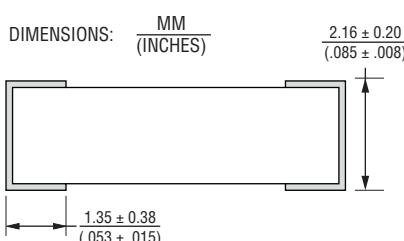
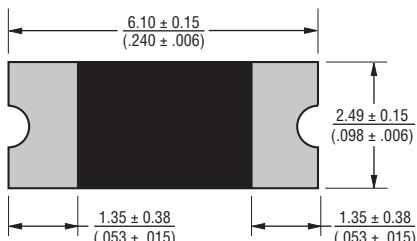
Structure Type
W = Wire Core

Packaging Type
- 2 = Tape & Reel

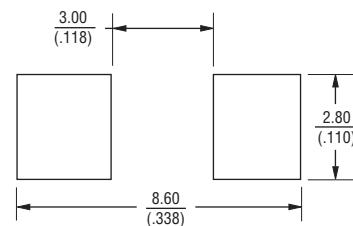
Construction



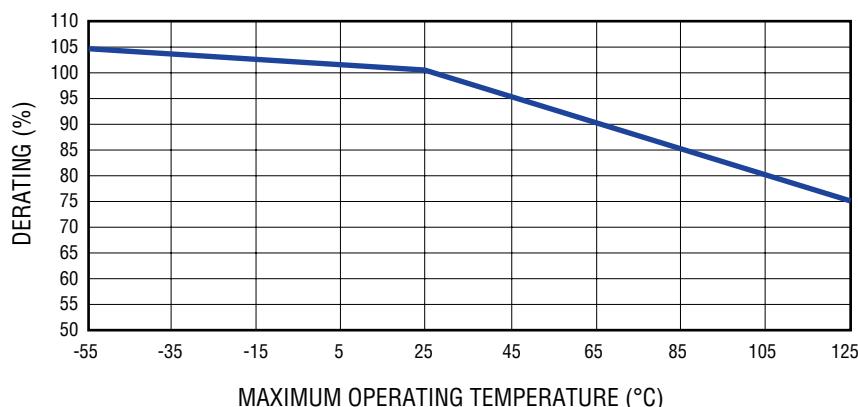
Product Dimensions



Recommended Pad Layout



Current Rating Thermal Derating Curve



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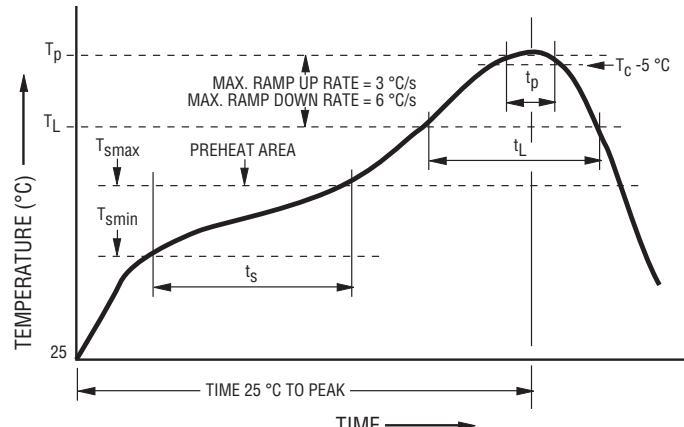
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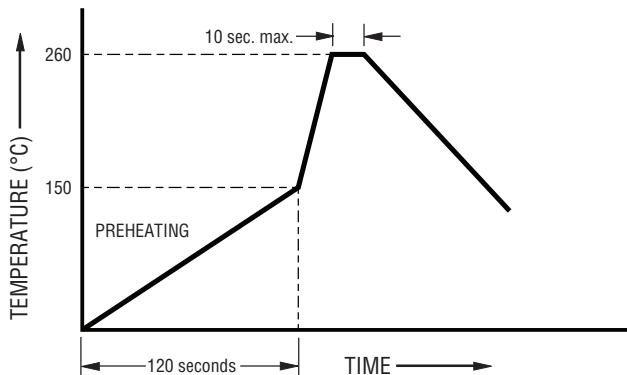
Solder Reflow Recommendations



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.

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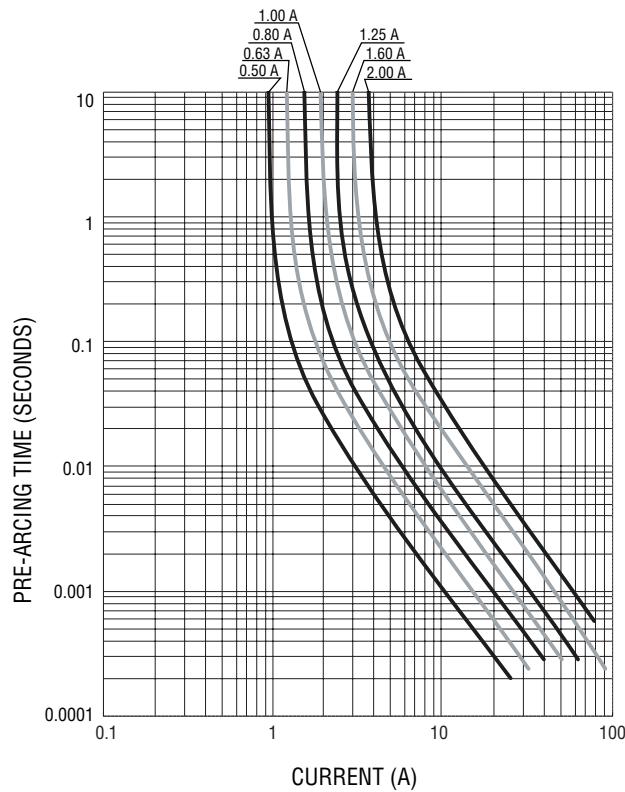
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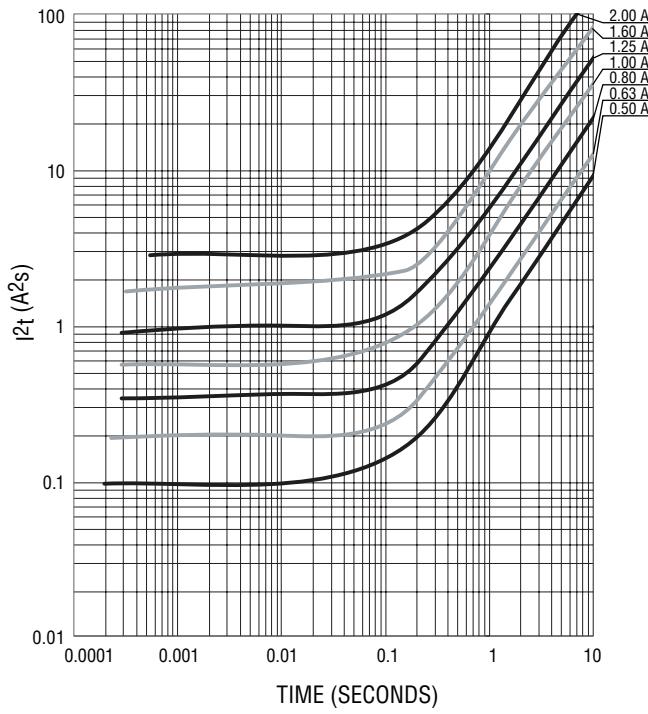
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Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



SF-2410SPxxxW Series Tape and Reel Packaging Specifications

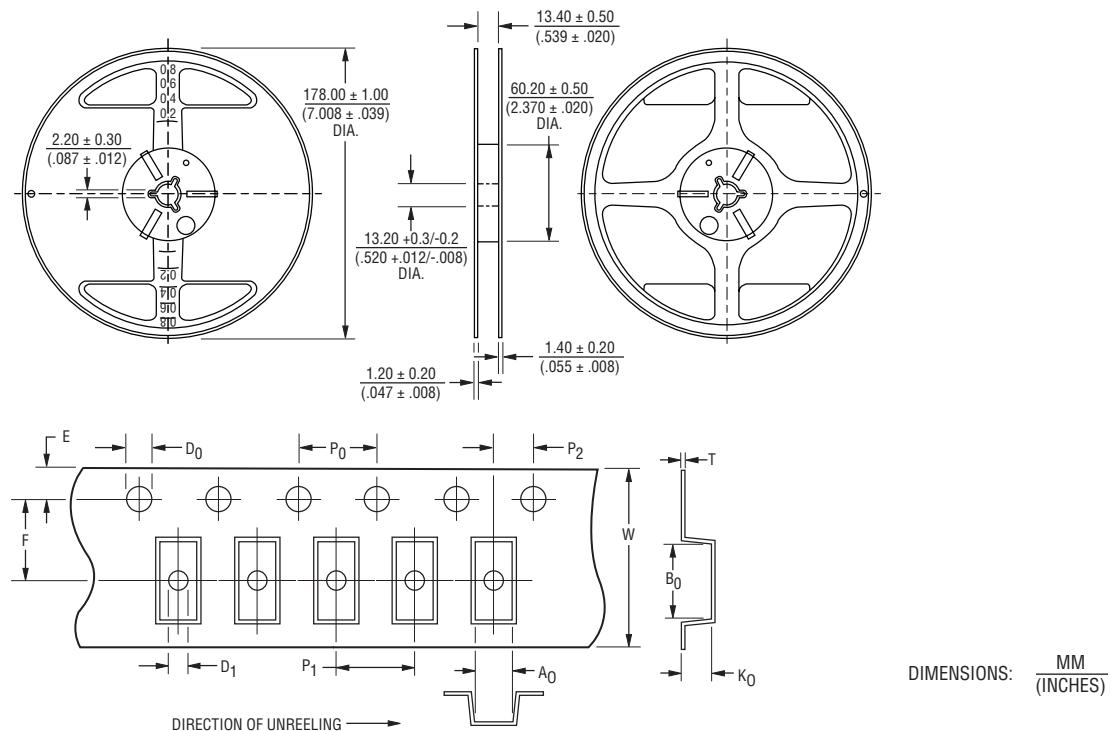
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SF-2410SPxxxW Series per EIA 481-2

Tape Dimensions

W	12.00 ± 0.10 (.48 ± .004)
P ₀	4.0 ± 0.10 (.157 ± .004)
P ₁	4.0 ± 0.10 (.157 ± .004)
P ₂	2.0 ± 0.05 (.079 ± .002)
A ₀	2.85 ± 0.10 (.114 ± .004)
B ₀	6.40 ± 0.10 (.256 ± .004)
F	5.50 ± 0.10 (.220 ± .004)
E	1.75 ± 0.10 (.069 ± .004)
D ₀	1.55 ± 0.10 (.059 ± .004)
D ₁	1.55 ± 0.10 (.059 ± .004)
K ₀	2.35 ± 0.10 (.094 ± .004)
T	0.25 ± 0.05 (.010 ± .002)

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



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