
## SingIFuse™ SF-2410FPxxxW Series Features

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

**SF-2410FPxxxW Series - Fast Acting Precision Wire Core Surface Mount Fuses**

### Electrical Characteristics

| Model | Rated Current (Amps) | Fusing Time | Resistance (Ω) Typ.*** | Rated Voltage | Interrupting Rating | Typical $I^2t$ ($A^2s$) **** |
|---|---|---|---|---|---|---|
| SF-2410FP050W-2 | 0.50 | Open within 5 sec. at 200 % rated current | 0.230 | AC 250 V DC 125 V | AC 250 V 100 A DC 125 V 50 A DC 32 V 300 A | 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 | AC 125 V DC 125 V | AC 125 V 50 A DC 125 V 50 A DC 32 V 300 A | 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 | | AC 125 V 35 A DC 125 V 50 A DC 32 V 300 A | 29.49 |

*** Resistance value measured with ≤10 % rated current at 25 °C ambient. Tolerance ±25 %.
**** Melting $I^2t$ 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)<br>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)<br>New solder coverage ≤ 75 % | One dip at 260 °C for 10 seconds | MIL-STD-202 Method 210 |
| 4 | Moisture resistance | DCR change ≤ ±15 %<br>No excessive corrosion | 10 cycles | MIL-STD-202 Method 106 |
| 5 | Salt spray | DCR change ≤ ±10 %<br>No excessive corrosion | 48 hour exposure, 5 % salt solution | MIL-STD-202 Method 101 |
| 6 | Mechanical vibration | DCR change ≤ ±10 %<br>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 %<br>No mechanical damage | 1500 G, 0.5 ms, half-sine shocks | MIL-STD-202 Method 213 |
| 8 | Thermal Shock | DCR change ≤ ±10 %<br>No mechanical damage | 100 cycles between -65 °C and +125 °C | MIL-STD-202 Method 107 |
| 9 | Life | No electrical “opens” during testing<br>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 |

**WARNING Cancer and Reproductive Harm**
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.

## SingIFuse™ SF-2410FPxxxW Series Applications

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

## SF-2410FPxxxW Series - Fast Acting Precision 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)

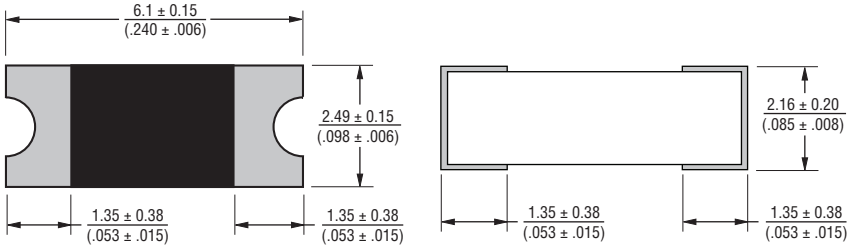
| | |
|---|---|
| C = 0.50 | K = 3.00 |
| S = 0.63 | V = 3.15 |
| D = 0.75 | L = 3.50 |
| E = 1.00 | M = 4.00 |
| F = 1.25 | N = 5.00 |
| G = 1.50 | O = 6.30 |
| I = 2.00 | P = 7.00 |
| J = 2.50 | R = 8.00 |
| | Q = 10.0 |

### How to Order

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

SingIFuse™ 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

### Product Dimensions

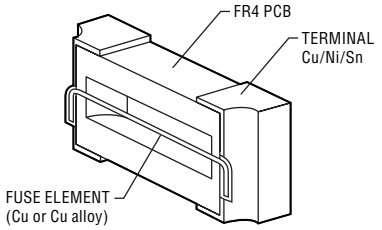



DIMENSIONS: MM / (INCHES)

### Agency Recognition

UL File Number .....E198545

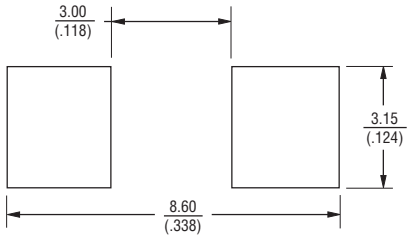
### Construction



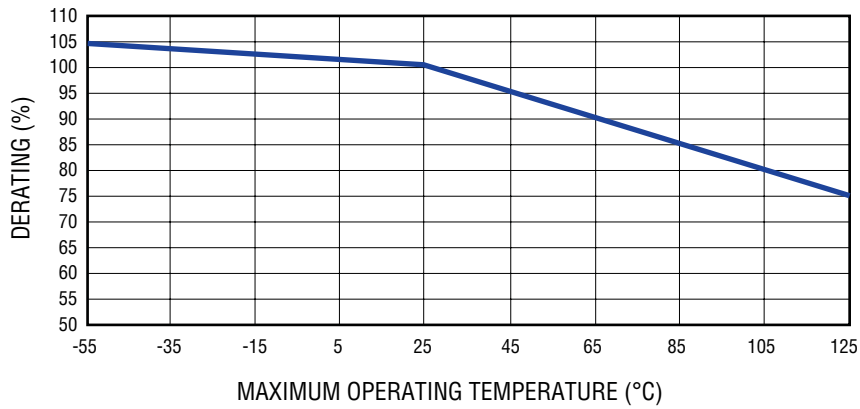

### Packaging Quantity

2,000 pieces per 7-inch reel

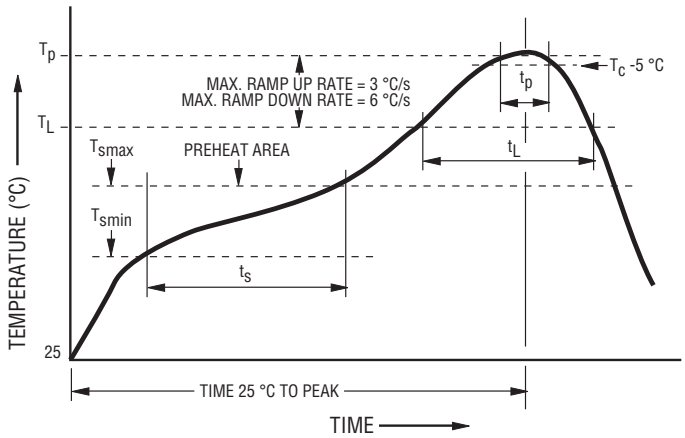
### Recommended Pad Layout



## Current Rating Thermal Derating Curve



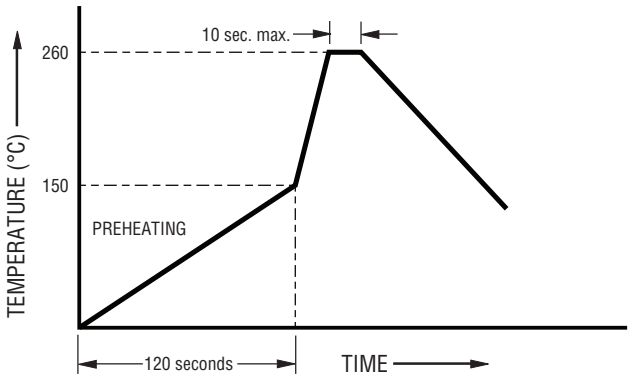

## Solder Reflow Recommendations




| Profile Feature | Pb-Free Assembly |
|---|---|
| Preheat / Soak:<br>Temperature Min. ($T_{smin}$)<br>Temperature Max. ($T_{smax}$)<br>Time ($t_s$) from ($T_{smin}$ to $T_{smax}$) | <br>150 °C<br>200 °C<br>60~120 seconds |
| Ramp Up Rate ($T_L$ to $T_p$) | 3 °C / second max. |
| Liquidous Temperature ($T_L$)<br>Time ($t_L$) maintained above $T_L$ | 217 °C<br>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. |

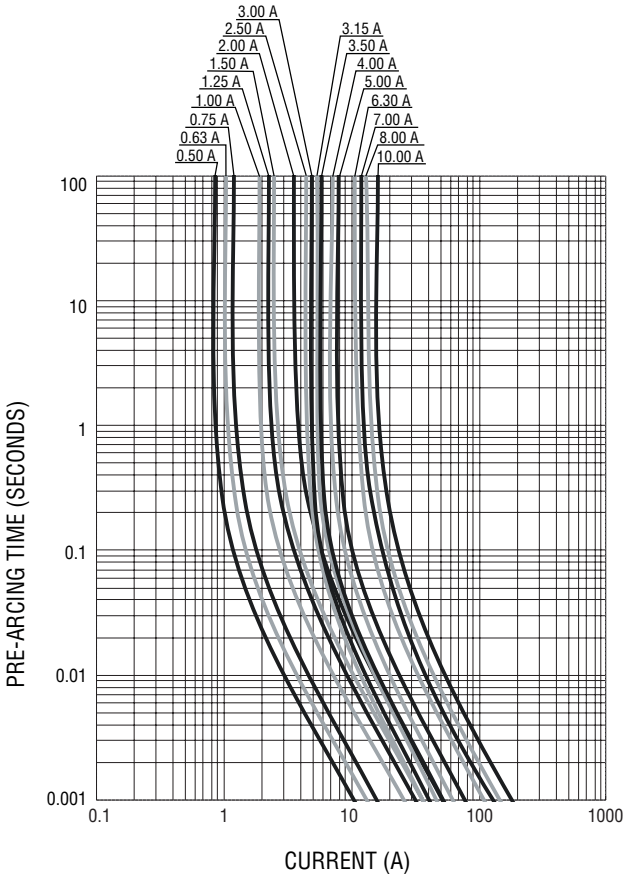
* Tolerance for peak profile temperature (Tp ) is defined as a supplier minimum and a user maximum.

## Recommended Temperature Profile for Wave Soldering

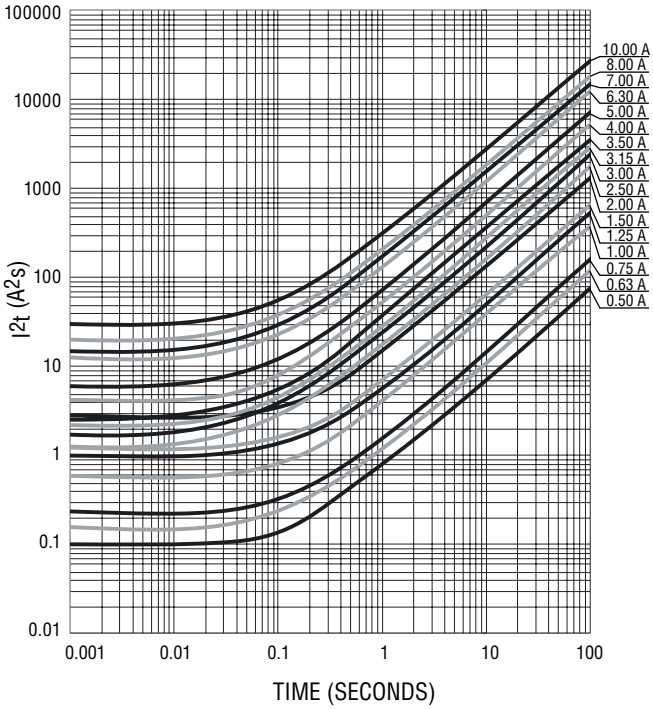



Wave soldering is suitable for 2410 size models.

## Average Pre-Arcing Time vs. Current Curves




## Average $I^2t$ vs. t Curves

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## SF-2410FPxxxW Series Tape and Reel Packaging Specifications

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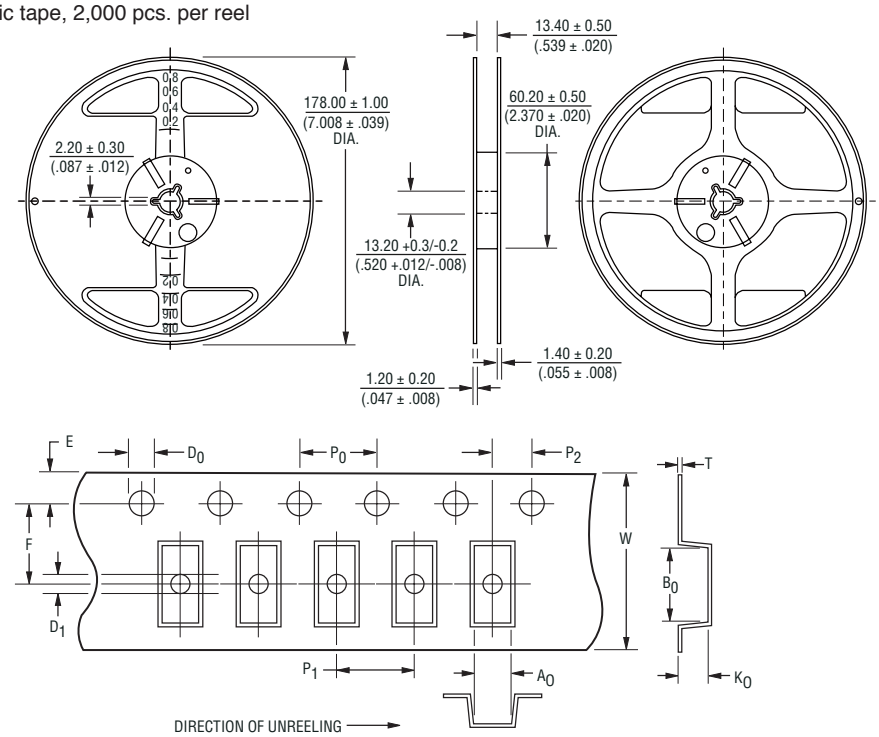
| Tape Dimensions | SF-2410FPxxxW Series per EIA 481-2 |
|---|---|
| W | 12.00 ± 0.10 (.48 ± .004) |
| $P_0$ | 4.0 ± 0.10 (.157 ± .004) |
| $P_1$ | 4.0 ± 0.10 (.157 ± .004) |
| $P_2$ | 2.0 ± 0.05 (.079 ± .002) |
| $A_0$ | 2.85 ± 0.10 (.114 ± .004) |
| $B_0$ | 6.40 ± 0.10 (.256 ± .004) |
| F | 5.50 ± 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




DIMENSIONS: MM / (INCHES)

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