
## 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:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

### Electrical Characteristics

| Model | Rated Current (A) | Resistance (Ω) Typ.*** | Rated Voltage | Interrupting Rating | Typical $I^2t$ ($A^2s$) **** | 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 $I^2t$ calculated at 0.001 second pre-arcing time.

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**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-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

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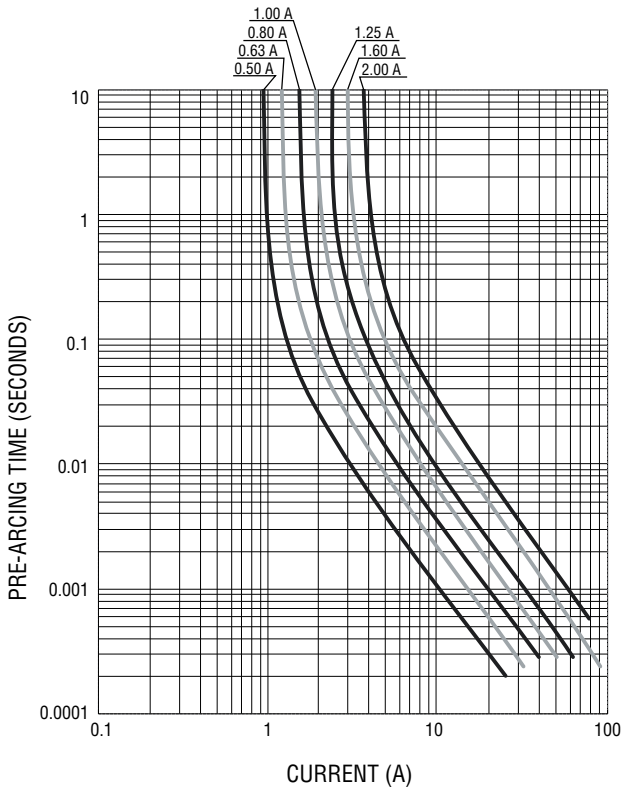
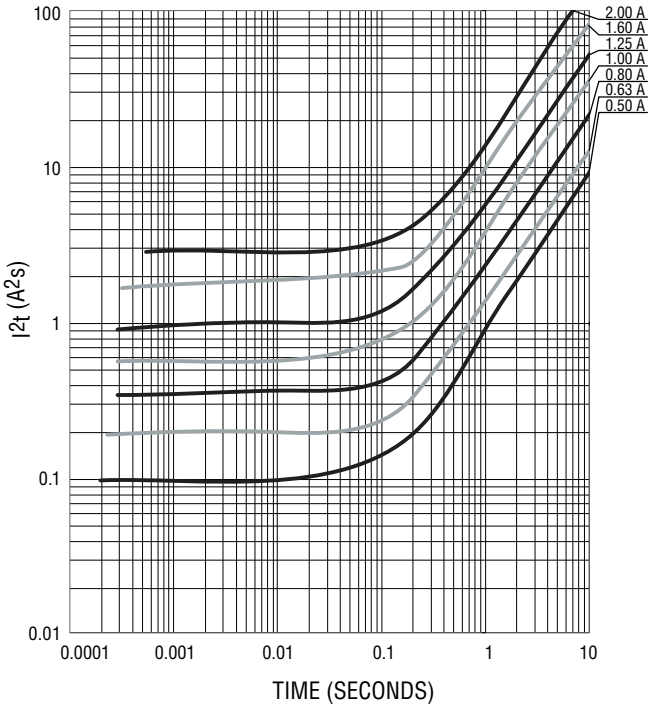
### Average Pre-Arcing Time vs. Current Curves




### Average $I^2t$ 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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## 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

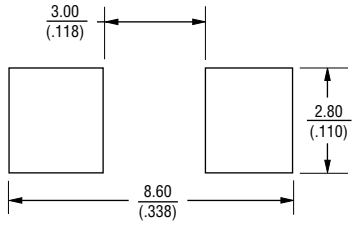
**SF - 2410 SP 100 W - 2**

- SingIFuse™ 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

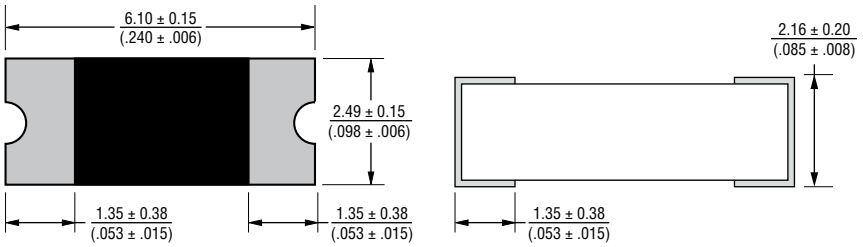
| | |
|---|---|
| **Reel Dimension** | 7-inch Tape and Reel |
| **Specification** | EIA 481-2 |
| **Quantity** | 2,000 pieces |
| **Packaging Code** | -2 |

## Recommended Pad Layout



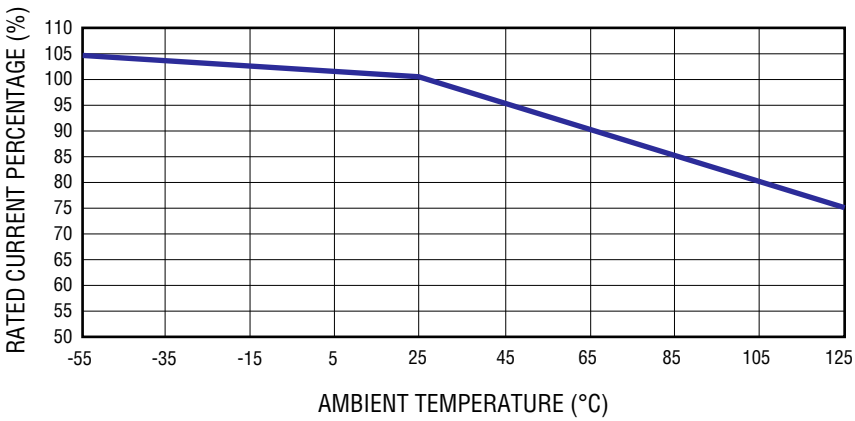

DIMENSIONS: MM / (INCHES)

## Product Dimensions

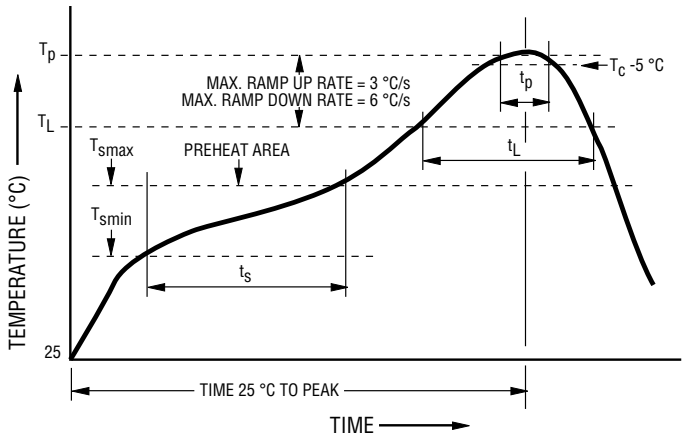



DIMENSIONS: MM / (INCHES)

## Current Rating Thermal Derating Curve



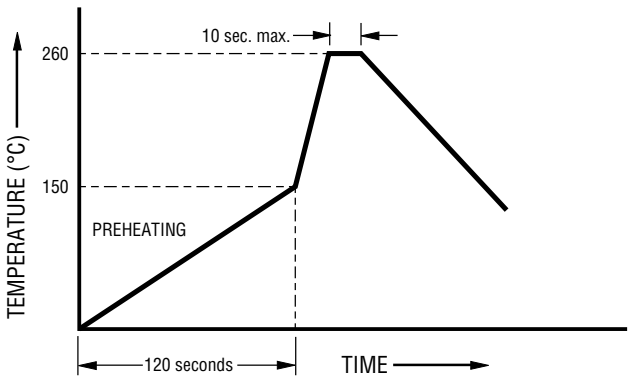
## Solder Reflow Recommendations




| 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.

## 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 |

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