



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 ² t (A ² 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 | 49.69 |
| SF-2410F1500W-2 | 15.0 | | 0.0038 | | | 103.5 |
| SF-2410F2000W-2 | 20.0 | | 0.0034 | | 127.5 | |

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

**** Melting I²t 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

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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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Users should verify actual device performance in their specific applications.

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WARNING Cancer and Reproductive Harm

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

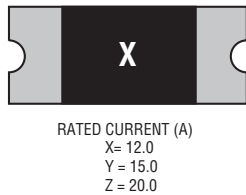
SF-2410FxxxW Series - Fast Acting Wire Core Surface Mount Fuses **BOURNS®**

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 |

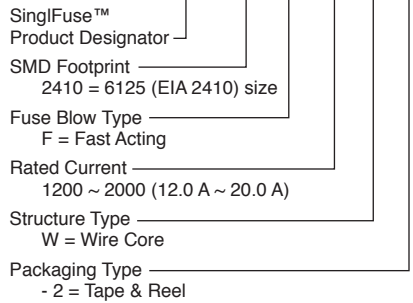
Typical Part Marking

Represents total content. Layout may vary.

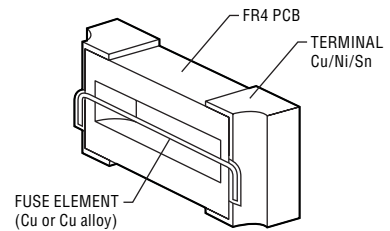


How to Order

SF - 2410 F 1200 W - 2



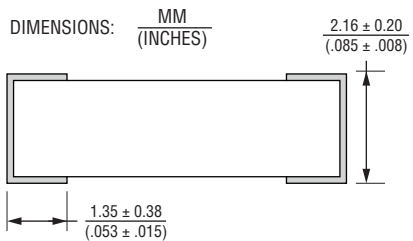
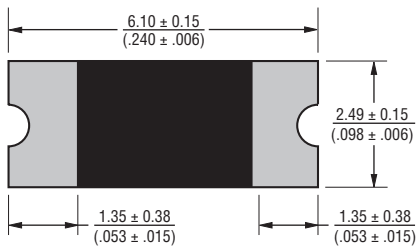
Construction



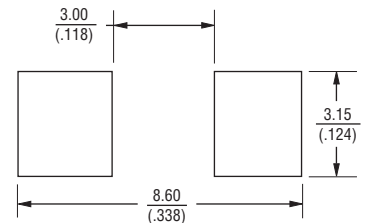
Packaging Quantity

2,000 pieces per 7-inch reel

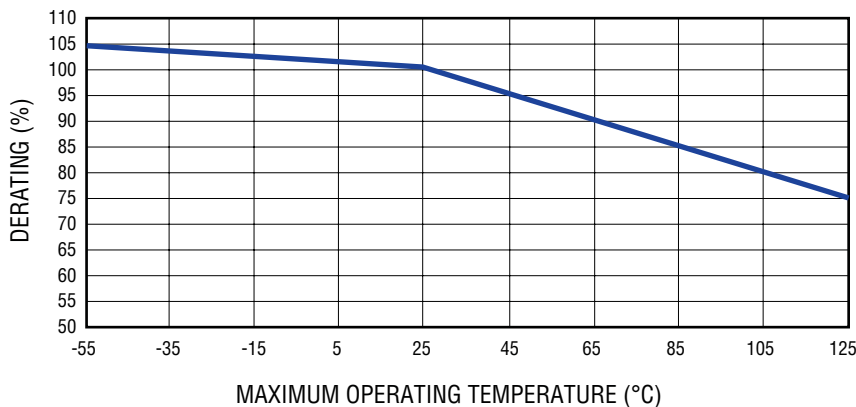
Product Dimensions



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_d) | 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_d) | 260 °C |
| Time (t_p)* within 5 °C of the specified classification temperature (T_c) | 30 seconds* |
| Ramp Down Rate (T_d to T_L) | 6 °C / second max. |
| Time 25 °C to Peak Temperature | 8 minutes max. |

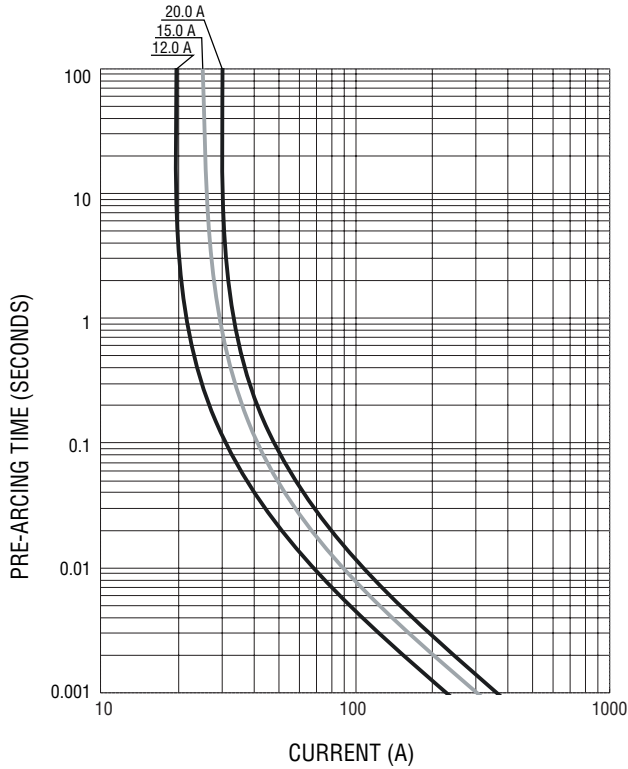
* Tolerance for peak profile temperature (T_p) is defined as a supplier minimum and a user maximum.

Recommended Temperature Profile for Wave Soldering

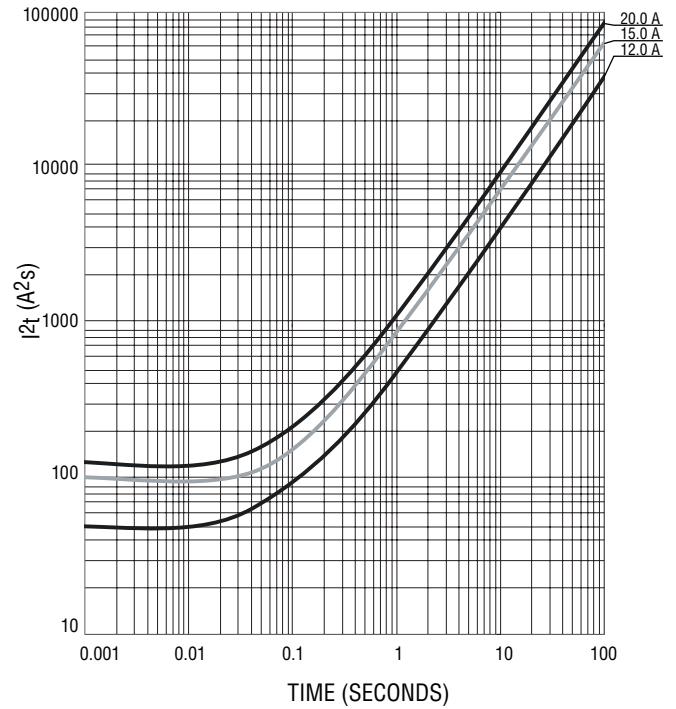


Wave soldering is suitable for 2410 size models.

Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



SF-2410FxxxW Series Tape and Reel Packaging Specifications

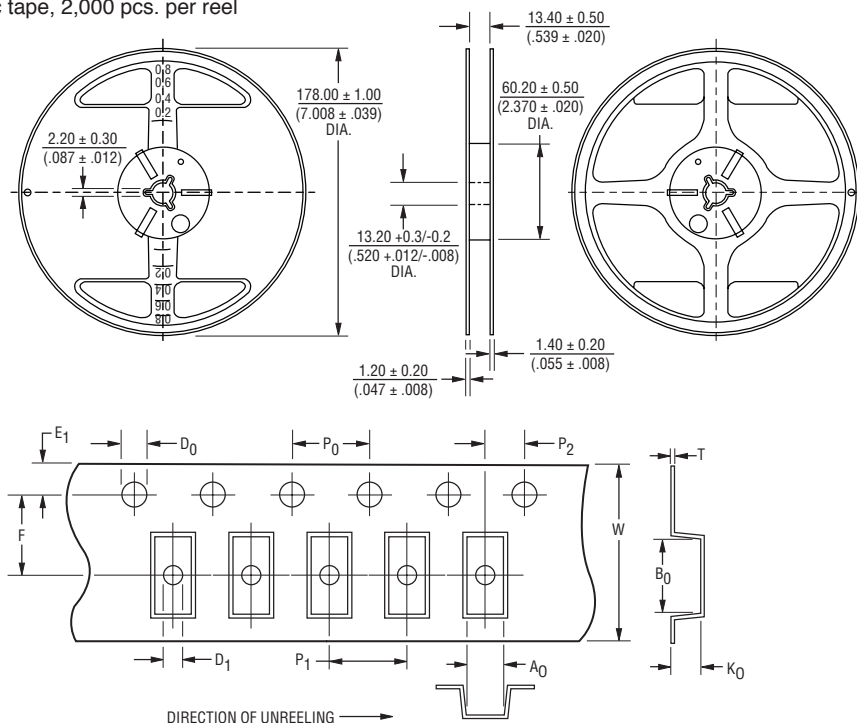


SF-2410FxxxW Series per EIA 481-2

Tape Dimensions

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