SinglFuse™ SF-2410F-W Series Features

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

SF-2410F-W Series - Fast Acting Wire Core Surface Mount Fuses

Clearing Time Characteristics for Series

<table>
<thead>
<tr>
<th>% of Current Rating</th>
<th>Clearing Time at 25 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Min.</td>
</tr>
<tr>
<td>100 %</td>
<td>4 hours</td>
</tr>
<tr>
<td>200 %</td>
<td>0.01 seconds</td>
</tr>
</tbody>
</table>

Additional Information

Click these links for more information:

- PRODUCT
- TECHNICAL LIBRARY
- INVENTORY
- SAMPLES
- CONTACT

Electrical Characteristics

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Current (A)</th>
<th>Resistance (Ω) Typ.***</th>
<th>Rated Voltage</th>
<th>Interrupting Rating</th>
<th>Typical I²t (A²s) ****</th>
<th>Certifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>SF-2410F1200W-2</td>
<td>12.0</td>
<td>0.0053</td>
<td>65 VAC</td>
<td>50 A @ 65 VAC</td>
<td>49.69</td>
<td>✓</td>
</tr>
<tr>
<td>SF-2410F1500W-2</td>
<td>15.0</td>
<td>0.0038</td>
<td>65 VDC</td>
<td>50 A @ 65 VDC</td>
<td>103.5</td>
<td>✓</td>
</tr>
<tr>
<td>SF-2410F2000W-2</td>
<td>20.0</td>
<td>0.0034</td>
<td>65 VDC</td>
<td>100 A @ 65 VDC</td>
<td>127.5</td>
<td>✓</td>
</tr>
</tbody>
</table>

*** 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

<table>
<thead>
<tr>
<th>No.</th>
<th>Test</th>
<th>Requirement</th>
<th>Test Condition</th>
<th>Test Reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Reflow and bend</td>
<td>DCR change ≤ 20 % (≤ 10 % for ≤1 A) No mechanical damage</td>
<td>3 reflows at 245 °C followed by a 2 mm bend</td>
<td>Refer to STP document</td>
</tr>
<tr>
<td>2</td>
<td>Solderability</td>
<td>Minimum 90 % coverage</td>
<td>One dip at 245 °C for 5 seconds</td>
<td>MIL-STD-202 Method 208</td>
</tr>
<tr>
<td>3</td>
<td>Soldering heat resistance</td>
<td>DCR change ≤ 20 % (≤ 10 % for ≤1 A) New solder coverage ≤ 75 %</td>
<td>One dip at 260 °C for 10 seconds</td>
<td>MIL-STD-202 Method 210</td>
</tr>
<tr>
<td>4</td>
<td>Moisture resistance</td>
<td>DCR change ≤ 15 % No excessive corrosion</td>
<td>10 cycles</td>
<td>MIL-STD-202 Method 106</td>
</tr>
<tr>
<td>5</td>
<td>Salt spray</td>
<td>DCR change ≤ 10 % No excessive corrosion</td>
<td>48 hour exposure, 5 % salt solution</td>
<td>MIL-STD-202 Method 101</td>
</tr>
<tr>
<td>6</td>
<td>Mechanical vibration</td>
<td>DCR change ≤ 10 % No mechanical damage</td>
<td>0.4 inch D.A. or 30 G between 5-3000 Hz</td>
<td>MIL-STD-202 Method 204</td>
</tr>
<tr>
<td>7</td>
<td>Mechanical shock</td>
<td>DCR change ≤ 10 % No mechanical damage</td>
<td>1500 G, 0.5 ms, half-sine shocks</td>
<td>MIL-STD-202 Method 213</td>
</tr>
<tr>
<td>8</td>
<td>Thermal Shock</td>
<td>DCR change ≤ 10 % No mechanical damage</td>
<td>100 cycles between -65 °C and +125 °C</td>
<td>MIL-STD-202 Method 107</td>
</tr>
<tr>
<td>9</td>
<td>Life</td>
<td>No electrical &quot;opens&quot; during testing Voltage drop change shall be less than ≤20 % of initial value</td>
<td>80 % rated current (75 % for &lt; 1 A fuses) for 2000 hours at ambient temperature +25 °C</td>
<td>Refer to STP document</td>
</tr>
</tbody>
</table>

** 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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SinglFuse™ SF-2410F-W Series Applications
- LCD / LED TVs
- White goods
- PC servers
- LCD monitors
- DC/DC converters
- DC/AC inverters
- Notebooks / ultrabooks
- Telecom systems
- Chargers

SF-2410F-W Series – Fast Acting Wire Core Surface Mount Fuses

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

Environmental Characteristics

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**SF-2410F-W Series – Fast Acting Wire Core Surface Mount Fuses**

### Typical Part Marking

Represents total content. Layout may vary.

- **RATED CURRENT (A)**
  - X = 12.0
  - Y = 15.0
  - Z = 20.0

### How to Order

**SF - 2410 F 1200 W - 2**

**SinglFuse™**  
**Product Designator**  
**SMD Footprint**  
2410 = 6125 (EIA 2410) size  
**Fuse Blow Type**  
F = Fast Acting  
**Rated Current**  
1200 ~ 2000 (12.0 A ~ 20.0 A)  
**Structure Type**  
W = Wire Core  
**Packaging Type**  
- 2 = Tape & Reel

### Product Dimensions

- 6.10 ± 0.15  
- 1.35 ± 0.38  
- 2.49 ± 0.15

### Recommended Pad Layout

- 3.15 (1.24)  
- 8.60 (0.338)  
- 3.00 (1.18)

### Current Rating Thermal Derating Curve

![Current Rating Thermal Derating Curve](chart)

<table>
<thead>
<tr>
<th>RATED CURRENT PERCENTAGE (%)</th>
<th>AMBIENT TEMPERATURE (°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>110</td>
<td>-55</td>
</tr>
<tr>
<td>100</td>
<td>-35</td>
</tr>
<tr>
<td>95</td>
<td>-15</td>
</tr>
<tr>
<td>90</td>
<td>5</td>
</tr>
<tr>
<td>85</td>
<td>25</td>
</tr>
<tr>
<td>80</td>
<td>45</td>
</tr>
<tr>
<td>75</td>
<td>65</td>
</tr>
<tr>
<td>70</td>
<td>85</td>
</tr>
<tr>
<td>65</td>
<td>105</td>
</tr>
<tr>
<td>60</td>
<td>125</td>
</tr>
</tbody>
</table>

### Packaging

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

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Solder Reflow Recommendations

**Profile Feature**

<table>
<thead>
<tr>
<th>Preheat / Soak:</th>
<th>Pb-Free Assembly</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temperature Min. (Tsmin)</td>
<td>150 °C</td>
</tr>
<tr>
<td>Temperature Max. (Tsmax)</td>
<td>200 °C</td>
</tr>
<tr>
<td>Time (ts) from (Tsmin to Tsmax)</td>
<td>60~120 seconds</td>
</tr>
<tr>
<td>Ramp Up Rate (TL to Tp)</td>
<td>3 °C / second max.</td>
</tr>
<tr>
<td>Liquidous Temperature (TL)</td>
<td>217 °C</td>
</tr>
<tr>
<td>Time (tL) maintained above TL</td>
<td>60~150 seconds</td>
</tr>
<tr>
<td>Peak Package Body Temperature (Tp)</td>
<td>260 °C</td>
</tr>
<tr>
<td>Time (tP)* within 5 °C of the specified classification temperature (Tc)</td>
<td>30 seconds*</td>
</tr>
<tr>
<td>Ramp Down Rate (Tp to TL)</td>
<td>6 °C / second max.</td>
</tr>
<tr>
<td>Time 25 °C to Peak Temperature</td>
<td>8 minutes max.</td>
</tr>
</tbody>
</table>

* 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.
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