



**THE DATASHEET OF
SF-2410FPA300W-2**





Features

- Fast acting precision fusing speed
- EIA 2410 (6125 metric) footprint
- AEC-Q200 compliant*
- UL 248-14 listed
- RoHS compliant** and halogen free***

SF-2410FPA-W Series - Automotive Grade Fast Acting Precision Fuses

Clearing Time Characteristics for Series

| % of Current Rating | Clearing Time @ 25 °C | |
|---------------------|-----------------------|-----------|
| | Min. | Max. |
| 100 % | 4 hours | — |
| 200 % | 0.01 second | 5 seconds |

Additional Information

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Electrical Characteristics

| Model | Rated Current (A) | Resistance (Ω) Typ.***** | Rated Voltage | Interrupting Rating | Typical I ² t (A ² s)***** | Certifications |
|-------------------|-------------------|--------------------------|---------------|-----------------------------------|--|------------------------------|
| | | | | | | cUL: E198545 |
| SF-2410FPA100W-2 | 1 | 0.093 | 250 VDC | 100 A @ 250 VDC 300 A @ 32 VDC | 0.59 | ✓ |
| SF-2410FPA125W-2 | 1.25 | 0.07 | | | 0.96 | ✓ |
| SF-2410FPA150W-2 | 1.5 | 0.06 | | | 1.19 | ✓ |
| SF-2410FPA200W-2 | 2 | 0.042 | | | 2.75 | ✓ |
| SF-2410FPA250W-2 | 2.5 | 0.031 | 125 VDC | 50 A @ 125 VDC 300 A @ 32 VDC | 1.21 | ✓ |
| SF-2410FPA300W-2 | 3 | 0.0249 | | | 1.73 | ✓ |
| SF-2410FPA315W-2 | 3.15 | 0.023 | | | 2.2 | ✓ |
| SF-2410FPA350W-2 | 3.5 | 0.021 | | | 2.5 | ✓ |
| SF-2410FPA400W-2 | 4 | 0.0175 | | | 3.3 | ✓ |
| SF-2410FPA500W-2 | 5 | 0.0146 | | | 5.9 | ✓ |
| SF-2410FPA630W-2 | 6.3 | 0.01 | | | 12.5 | ✓ |
| SF-2410FPA700W-2 | 7 | 0.0097 | | | 14.2 | ✓ |
| SF-2410FPA800W-2 | 8 | 0.0085 | | | 16.5 | ✓ |
| SF-2410FPA1000W-2 | 10 | 0.0068 | | | 29.2 | ✓ |

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

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



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* Meets Bourns' internal AEC-Q200 equivalent test plan.

** 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.

"SinglFuse" is a trademark of Bourns, Inc.

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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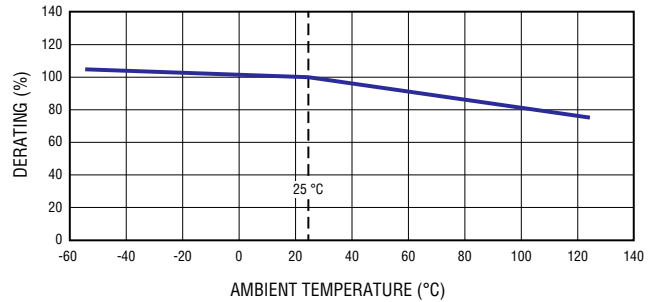
SF-2410FPA-W Series – Automotive Grade Fast Acting Precision SMD Fuses **BOURNS®**

Environmental Characteristics

| | |
|---------------------------------|--------------------|
| Operating Temperature | -55 °C to + 125 °C |
| Storage Conditions | |
| Temperature | +5 °C to +35 °C |
| Humidity | 40 % to 75 % |
| Moisture Sensitivity Level | 1 |
| ESD Classification ¹ | Class 6 |

¹per AEC-Q200-2, HBM

Current Rating Thermal Derating Curve



Typical Part Marking

Represents total content. Layout may vary. Markings in blue color.



| Rated Current | Part Marking | Rated Current | Part Marking |
|---------------|--------------|---------------|--------------|
| 1 A | E | 3.5 A | L |
| 1.25 A | F | 4 A | M |
| 1.5 A | G | 5 A | N |
| 2 A | I | 6.3 A | O |
| 2.5 A | J | 7 A | P |
| 3 A | K | 8 A | R |
| 3.15 A | V | 10 A | Q |

How to Order

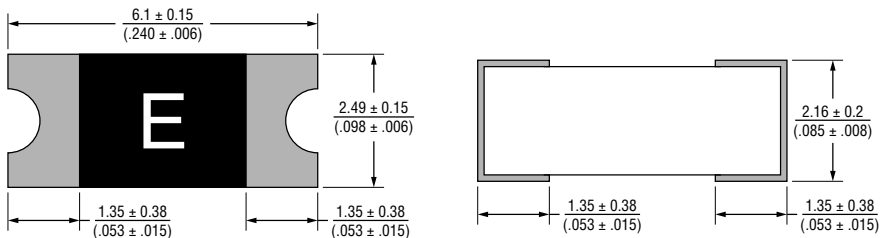
SF - 2410 FP A 100 W - 2

SinglFuse™ _____
 Product Designator _____
 SMD Footprint _____
 2410 = EIA 2410
 (6125 metric) _____
 Fuse Blow Type _____
 FP = Fast Acting Precision _____
 Automotive Grade _____
 Rated Current _____
 100 ~ 1000 = 1 A ~ 10 A _____
 Structure Type _____
 W = Wire Core _____
 Packaging Type _____
 - 2 = Tape & Reel _____

Packaging

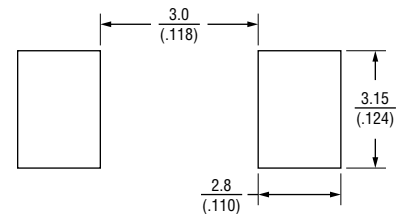
| | |
|----------------|----------------------|
| Reel Dimension | 7-inch Tape and Reel |
| Specification | EIA 481-2 |
| Quantity | 2,000 pieces |
| Packaging Code | -2 |

Product Dimensions



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Recommended Pad Layout



DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

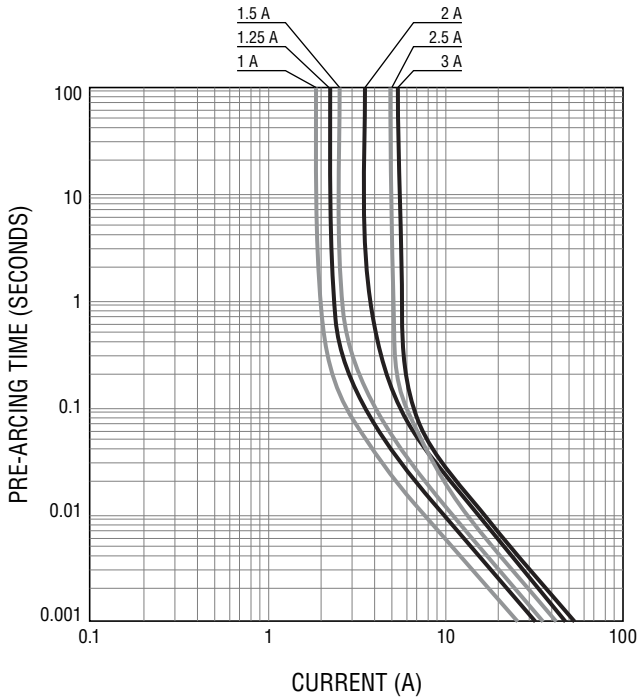
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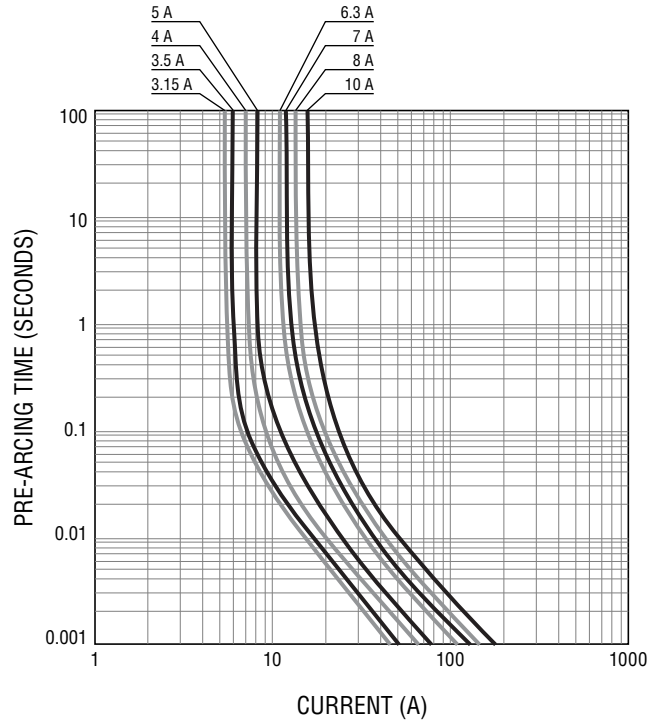
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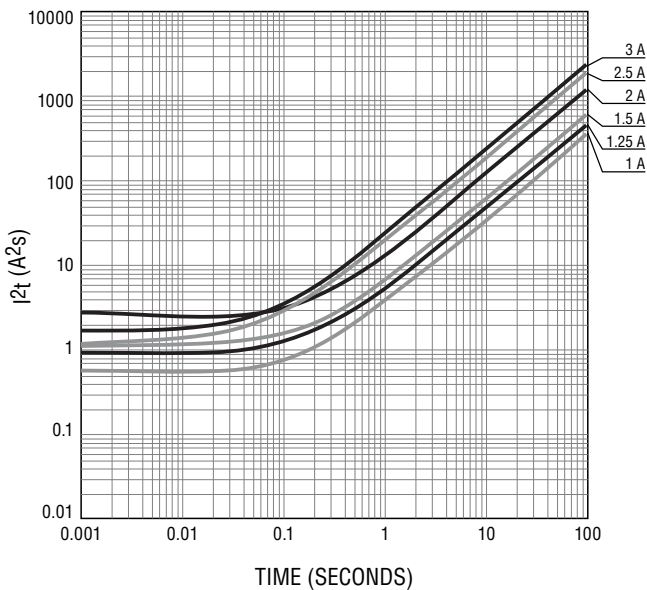
Average Pre-Arcing Time vs. Current Curves (1 - 3 A)



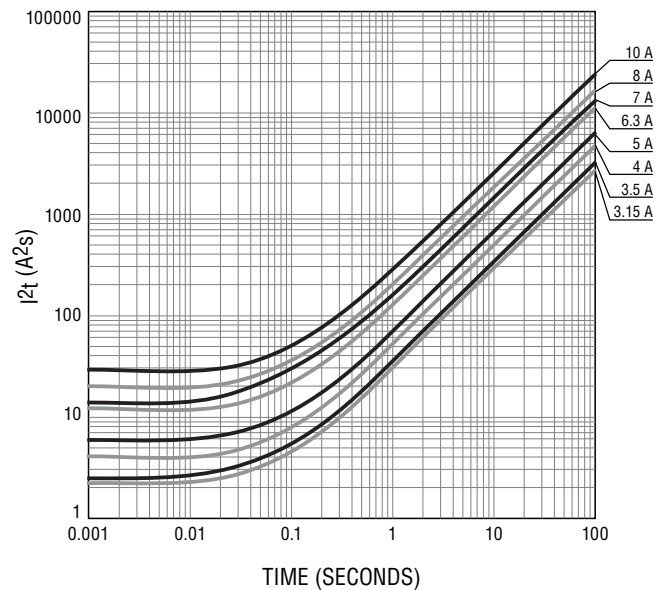
Average Pre-Arcing Time vs. Current Curves (3.15 - 10 A)



Average I^2t vs. t Curves (1 - 3 A)



Average I^2t vs. t Curves (3.15 - 10 A)



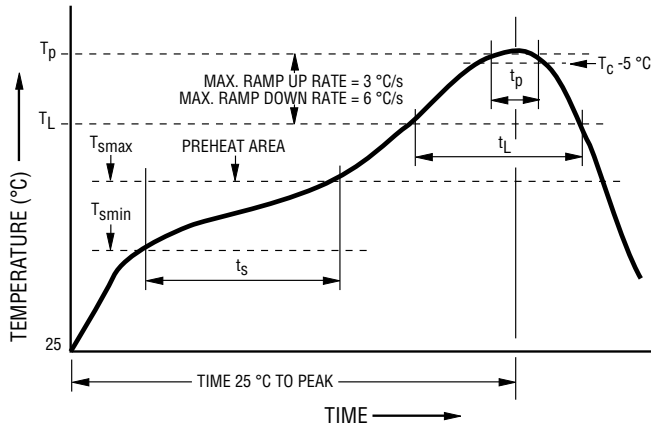
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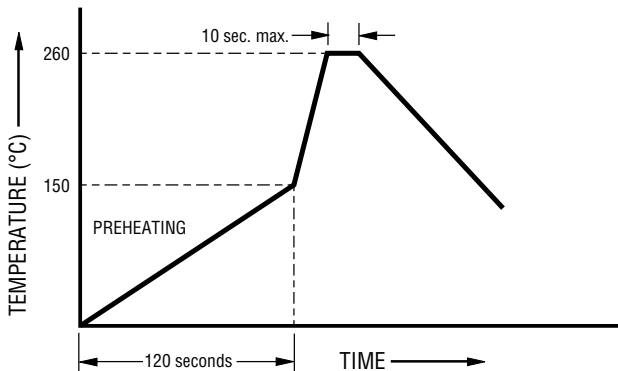
Solder Reflow Recommendations



| 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.

Solder Wave Recommendations



Reliability Tests

| Test Items | Reference Standard |
|---------------------------------|----------------------------|
| Visual Inspection | MIL-STD-883 Method 2009 |
| High Temperature Storage | MIL-STD-202 Method 108 |
| Low Temperature Storage | IEC 60068-2-1 |
| Temperature Cycling | JESD22 Method JA-104 |
| Biased Humidity | MIL-STD-202 Method 103 |
| High Temperature Operating Life | MIL-STD-202 Method 108 |
| Physical Dimension | JESD22 Method JB-100 |
| Mechanical Vibration | MIL-STD-202 Method 204 |
| Mechanical Shock | MIL-STD-202 Method 213 |
| Resistance to Soldering Heat | MIL-STD-202 Method 210 |
| Salt Spray | MIL-STD-202 Method 101 |
| Solderability | MIL-STD-202 Method 208 |
| Terminal Strength | AEC-Q200-006 |
| Board Flex | AEC-Q200-005 |
| Electrical Characterization | Bourns Specification |

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