



SinglFuse™ SF-2410FP-T Series Features

- Single blow fuse for overcurrent protection
- EIA 2410 (6125 metric) footprint
- Ceramic tube design for fast acting precision fusing speed applications
- UL 248-14 listed
- Surface mount packaging for automated assembly
- RoHS compliant* and halogen free**

SF-2410FP-T Series – Fast Acting Precision SMD Fuses

Electrical Characteristics

| Model | Rated Current (A) | Fusing Time | Resistance (Ω) Typ.*** | Rated Voltage | Interrupting Rating | Typical I ² t (A ² s)**** | Certifications |
|------------------|-------------------|---|------------------------|---------------|--|---|----------------|
| | | | | | | | cUL |
| | | | | | | | E198545 |
| SF-2410FP0062T-2 | 0.062 | Open within 5 sec. at 200 % rated current | 6.653 | 125 VAC | 50 A @ 125 VAC 50 A @ 125 VDC 300 A @ 32 VDC | 0.0012 | ✓ |
| SF-2410FP008T-2 | 0.08 | | 4.974 | | | 0.0017 | ✓ |
| SF-2410FP010T-2 | 0.1 | | 3.014 | | | 0.0043 | ✓ |
| SF-2410FP0125T-2 | 0.125 | | 2.044 | | | 0.0094 | ✓ |
| SF-2410FP016T-2 | 0.16 | | 0.8655 | | | 0.0116 | ✓ |
| SF-2410FP020T-2 | 0.2 | | 1.8535 | | | 0.0517 | ✓ |
| SF-2410FP025T-2 | 0.25 | | 1.119 | | | 0.0528 | ✓ |
| SF-2410FP0315T-2 | 0.315 | | 0.843 | | | 0.1365 | ✓ |
| SF-2410FP0375T-2 | 0.375 | | 0.732 | | | 0.1502 | ✓ |
| SF-2410FP040T-2 | 0.4 | | 0.4995 | | | 0.2149 | ✓ |
| SF-2410FP050T-2 | 0.5 | | 0.476 | | | 0.358 | ✓ |
| SF-2410FP075T-2 | 0.75 | | 0.2065 | | | 0.3761 | ✓ |
| SF-2410FP100T-2 | 1 | | 0.158 | | | 0.4143 | ✓ |
| SF-2410FP150T-2 | 1.5 | | 0.114 | | | 1.0606 | ✓ |
| SF-2410FP200T-2 | 2 | | 0.0605 | | | 1.08 | ✓ |
| SF-2410FP250T-2 | 2.5 | | 0.044 | | | 1.1471 | ✓ |
| SF-2410FP300T-2 | 3 | | 0.036 | | | 1.548 | ✓ |
| SF-2410FP315T-2 | 3.15 | | 0.033 | | | 2.6485 | ✓ |
| SF-2410FP350T-2 | 3.5 | | 0.029 | | | 2.695 | ✓ |
| SF-2410FP400T-2 | 4 | | 0.021 | | | 3.9744 | ✓ |
| SF-2410FP500T-2 | 5 | 0.013 | 6.175 | ✓ | | | |
| SF-2410FP700T-2 | 7 | 0.01 | 9.016 | ✓ | | | |
| SF-2410FP800T-2 | 8 | 0.0085 | 16.758 | ✓ | | | |
| SF-2410FP1000T-2 | 10 | 0.006 | 24.42 | ✓ | | | |

*** Resistance value measured with ≤10 % rated current at 25 °C ambient. Tolerance ±30 %.

**** Melting I²t calculated at 10 times rated current.



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.

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Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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SinglFuse™ SF-2410FP-T Series Applications

- Notebooks
- LCD Monitors
- LCD Backlight Inverters
- POE, POE+
- PC Servers
- Power Supplies
- Game Consoles
- White Goods

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Reliability Testing

| No. | Test | Test Condition | Requirement | Test Reference |
|-----|------------------------------|--|--|---|
| 1 | Solderability | Temperature setup: 235 ±5 °C Time setup: 10 ±1 sec. | After test terminal electrode wetting area must be greater than 95 % | IEC 60068-2-58 |
| 2 | Resistance to soldering heat | Temperature setup: 235 ±5 °C Time setup: 30 ± 5 sec. | DCR change ≤ ±15 % | IEC 60068-2-58 |
| 3 | Thermal shock | Temperature setup: 25 °C ~ -65 °C ~ 25 °C ~ 125 °C Time setup: -65 °C (30 min) ~ 25 °C (5 min) ~ 125 °C (30 min) ~ 25 °C (5 min), 5 cycles | DCR change ≤ ±15 % No mechanical damage | MIL-STD-202G Method 107G Test Condition B |
| 4 | Humidity unload | Heat (85 ±0.5 °C) High Humidity (85 ±1 % RH) 240 hours | DCR change ≤ ±15 % No mechanical damage | MIL-STD-202G Method 103B Test Condition A |
| 5 | Salt spray | Salt spray concentration: 5 ±1 % Test liquid temperature: 35 ±0.5 °C 96 hours | DCR change ≤ ±15 % No mechanical damage | MIL-STD-202G Method 101E Test Condition A |
| 6 | Bending | The board shall be bent by 1 mm at a rate of 1 mm/sec. | DCR change ≤ ±15 % | IEC 60127-4 |
| 7 | Vibration | Frequency setup: 10 ~ 55 ~ 10 Hz Time setup: 1 Minute/cycle (X-Y-Z, 120 cycles, 6 hours) | DCR change ≤ ±15 % No mechanical damage | MIL-STD-202G Method 201A |

Environmental Characteristics

Operating Temperature..... -55 °C to +125 °C
 Storage Conditions
 Temperature +15 °C to +30 °C
 Humidity..... 20 % to 70 %
 Shelf Life..... 2 years from manufacturing date
 Moisture Sensitivity Level 1
 ESD Classification (HBM)..... Class 6

Agency Recognition

UL File Number E198545

Packaging Quantity

1,000 pieces per 7-inch reel

Construction



How to Order

SF - 2410 FP 0062 T - 2

SinglFuse™ _____
 Product Designator _____
 SMD Footprint _____
 2410 = EIA 2410
 (6125 metric)
 Fuse Blow Type _____
 FP = Fast Acting Precision
 Rated Current _____
 0062 ~ 1000 (62 mA ~ 10 A)
 Structure Type _____
 T = Ceramic Tube
 Packaging Type _____
 - 2 = Tape & Reel

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Typical Part Marking

Represents total content. Layout may vary.



| Rated Current | Part Marking |
|---------------|--------------|
| 62 mA | 62 mA |
| 80 mA | 80 mA |
| 100 mA | 100 mA |
| 125 mA | 125 mA |
| 160 mA | 160 mA |
| 200 mA | 200 mA |
| 250 mA | 250 mA |
| 315 mA | 315 mA |
| 375 mA | 375 mA |
| 400 mA | 400 mA |
| 500 mA | 500 mA |
| 750 mA | 750 mA |

| Rated Current | Part Marking |
|---------------|--------------|
| 1 A | 1 A |
| 1.5 A | 1.5 A |
| 2 A | 2 A |
| 2.5 A | 2.5 A |
| 3 A | 3 A |
| 3.15 A | 3.15 A |
| 3.5 A | 3.5 A |
| 4 A | 4 A |
| 5 A | 5 A |
| 7 A | 7 A |
| 8 A | 8 A |
| 10 A | 10 A |

Product Dimensions



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

Recommended Pad Layout



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

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Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



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 60~180 seconds |
| Ramp Up Rate (T_L to T_p) | 3 °C / second max. |
| Ramp Up Rate (T_{smax} to T_L) | 5 °C / second max. |
| Liquidous Temperature (T_L) Time (t_L) maintained above T_L | 217 °C 60~90 seconds |
| Peak Package Body Temperature (T_p) | 235 °C ± 5 °C |
| Time within 5 °C of actual peak temperature (T_p) | 20~30 seconds* |
| Ramp Down Rate (T_p to T_L) | 6 °C / second max. |
| Time 25 °C to Peak Temperature | 8 minutes max. |
| Do not exceed | 240 °C |

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

Solder Wave Recommendations

Peak Temperature (Dwell Time)



| Profile Feature | Pb-Free Assembly |
|--|-------------------------|
| Preheat: Temperature Max. (T_{smax}) Time (Min. to Max.) | 150 °C 60~90 seconds |
| Solder Pot Temperature | 260 °C max. |
| Solder Dwell Time | 2~3 seconds |

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Current Rating Thermal Derating Curve



Pulse Cycle Withstand Capability



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Packaging Specifications



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