



SinglFuse™ SF-2410F-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-2410F-T Series – Fast Acting 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-2410F1200T-2 | 12 | Open within 60 sec. at 200 % rated current | 0.0045 | 125 VAC | 50 A @ 65 VAC 50 A @ 65 VDC 200 A @ 86 VAC 200 A @ 86 VDC 300 A @ 24 VDC | 52.91 | ✓ | |
| SF-2410F1500T-2 | 15 | | 0.003 | | | | 90.9 | ✓ |
| SF-2410F2000T-2 | 20 | | 0.0025 | | | | 140.8 | ✓ |
| SF-2410F2500T-2 | 25 | | 0.002 | | | | 246.55 | ✓ |

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

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

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 |



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-2410F-T Series Applications

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

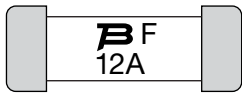
SF-2410F-T Series – Fast Acting SMD Fuses BOURNS®

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

Typical Part Marking

Represents total content. Layout may vary.



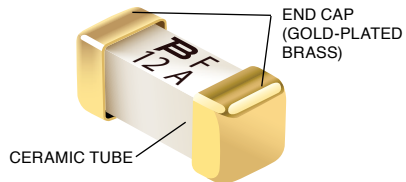
| Rated Current | Part Marking |
|---------------|--------------|
| 12 A | 12A |
| 15 A | 15A |
| 20 A | 20A |
| 25 A | 25A |

How to Order

SF - 2410 F 1200 T - 2

SinglFuse™
 Product Designator
 SMD Footprint
 2410 = EIA 2410
 (6125 metric)
 Fuse Blow Type
 F = Fast Acting
 Rated Current
 1200 ~ 2500 (12 A ~ 25 A)
 Structure Type
 T = Ceramic Tube
 Packaging Type
 - 2 = Tape & Reel

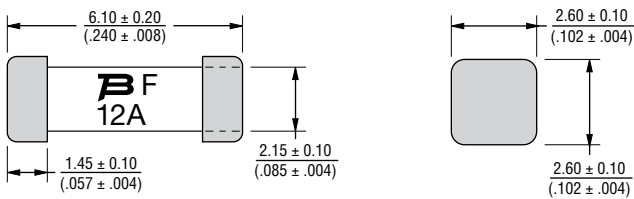
Construction



Packaging Quantity

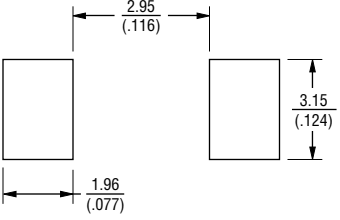
1,000 pieces per 7-inch reel

Product Dimensions



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

Recommended Pad Layout



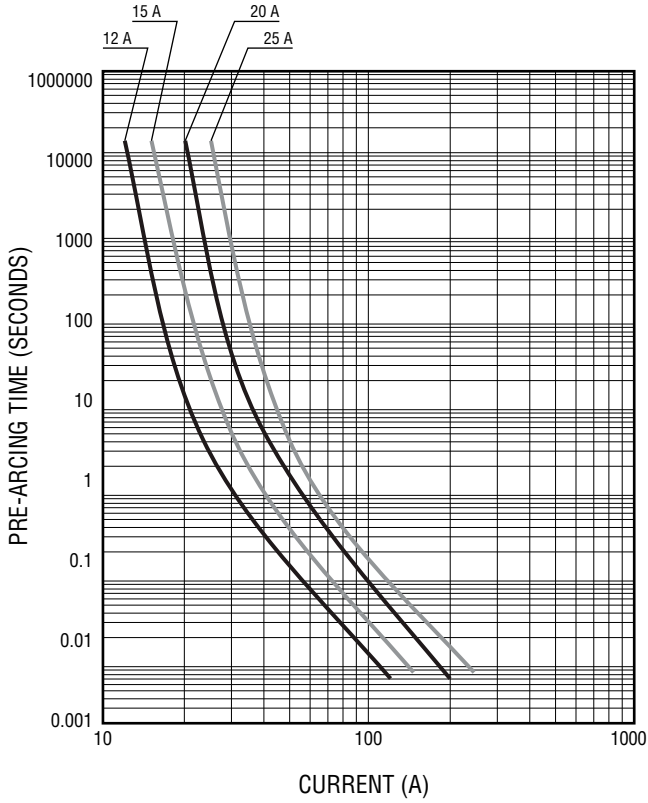
DIMENSIONS: $\frac{\text{MM}}{\text{(INCHES)}}$

Agency Recognition

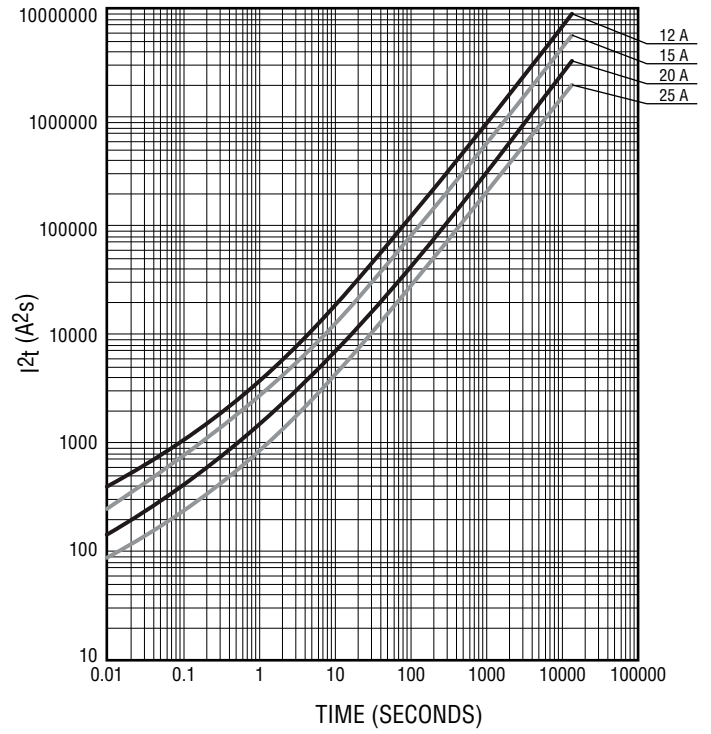
UL File Number [E198545](#)

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Average Pre-Arcing Time vs. Current Curves



Average I²t vs. t Curves

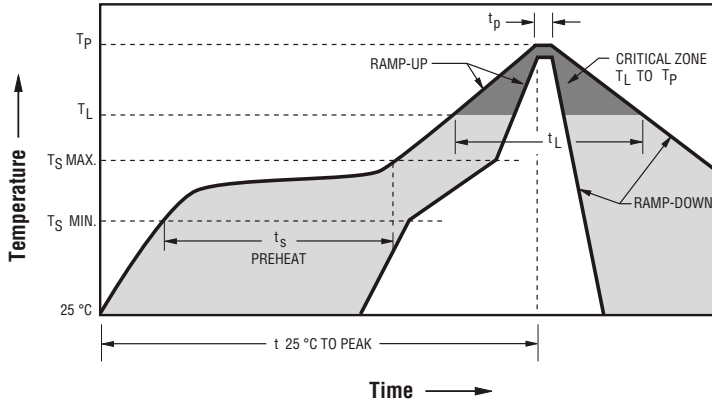


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Solder Reflow Recommendations



| 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 60~180 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)



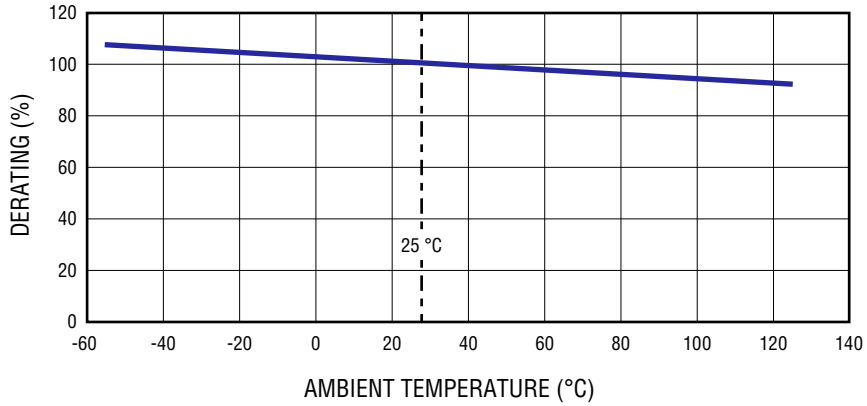
| Profile Feature | Pb-Free Assembly |
|--|-------------------------|
| Preheat: Temperature Max. (T_{smax}) Time (Min. to Max.) | 150 °C 60~90 seconds |
| Solder Pot Temperature | 260 °C max. |
| Solder Dwell Time | 2~3 seconds |

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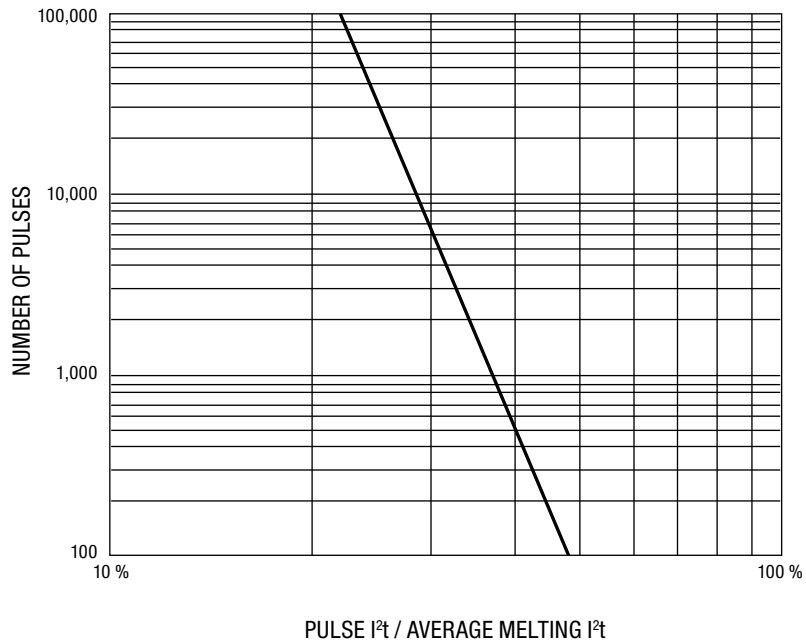
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Current Rating Thermal Derating Curve



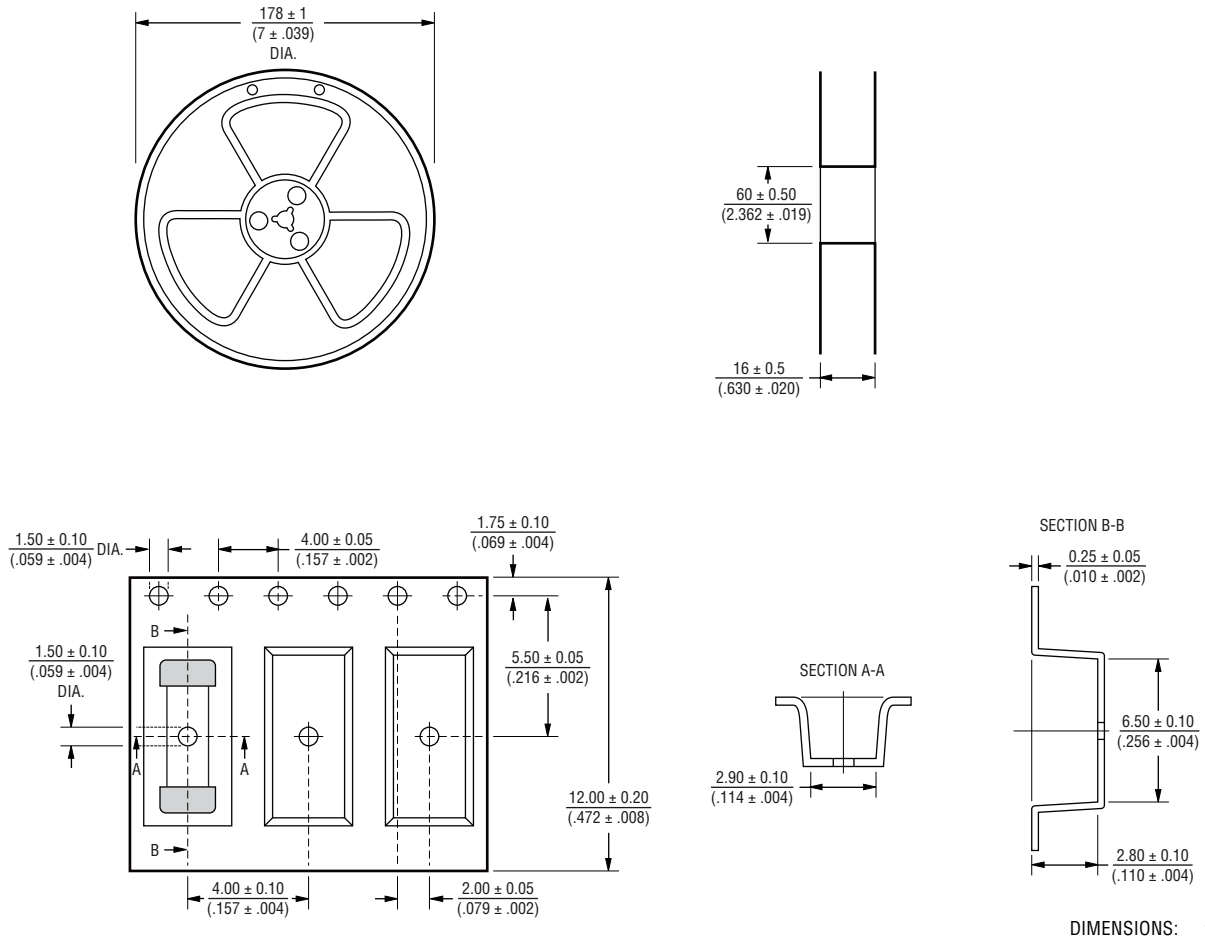
Pulse Cycle Withstand Capability



SF-2410F-T Series – Fast Acting SMD Fuses

BOURNS®

Packaging Specifications



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

BOURNS®

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REV. 03/19

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