



**THE DATASHEET OF  
SF-2410F2000T-2**





## SinglFuse™ SF-2410F-T Series Features

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

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

### Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
200 %	—	60 seconds

### Additional Information

Click these links for more information:



### Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I <sup>2</sup> t (A <sup>2</sup> s) ****	Certifications
						cUL: <a href="#">E198545</a>
SF-2410F1200T-2	12	0.0045	86 VAC 86 VDC	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	65 VAC 65 VDC	50 A @ 65 VAC 50 A @ 65 VDC 300 A @ 24 VDC	140.8	✓
SF-2410F2500T-2	25	0.002				246.55

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

\*\*\*\* Melting I<sup>2</sup>t calculated at 10 times rated current.

### 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

\*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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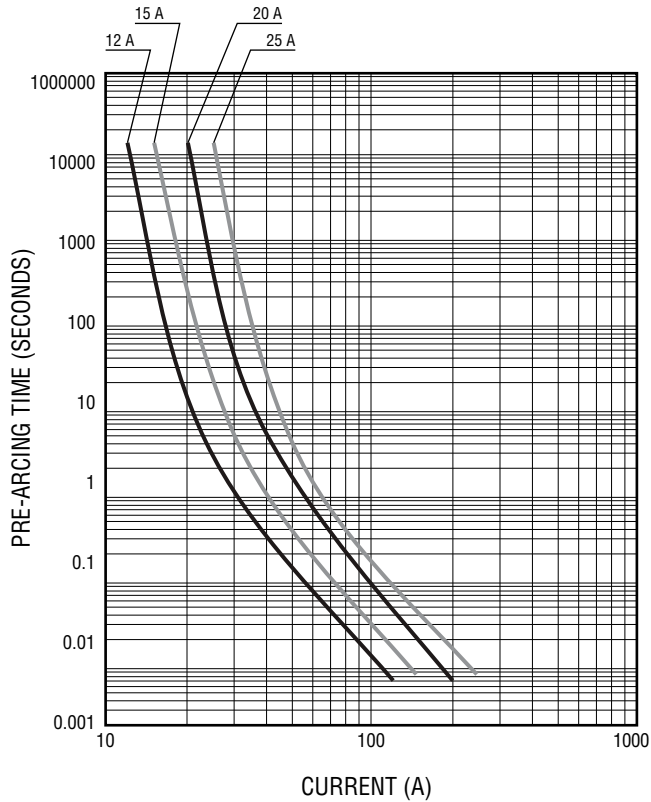
**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# SinglFuse™ SF-2410F-T Series Applications

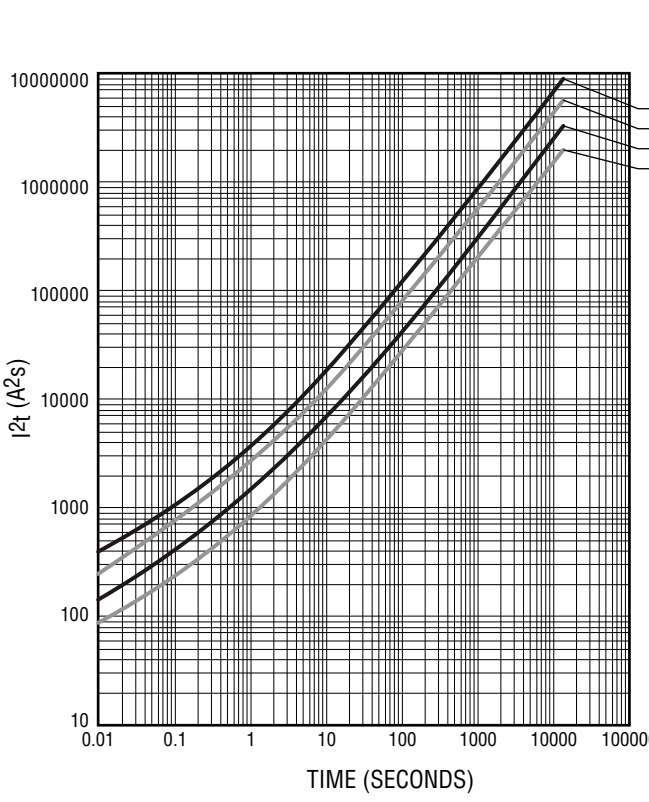
- Notebooks
- LCD Monitors
- LCD Backlight Inverters
- POE, POE+
- PC Servers
- Power Supplies
- Game Consoles
- White Goods

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

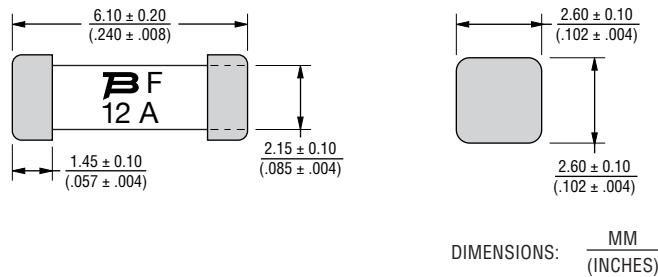
**Average Pre-Arcing Time vs. Current Curves**



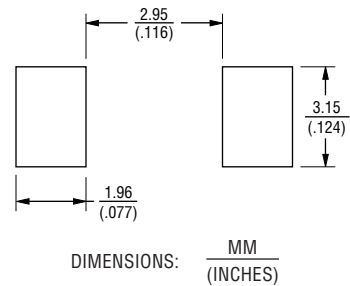
**Average I²t vs. t Curves**



**Product Dimensions**



**Recommended Pad Layout**

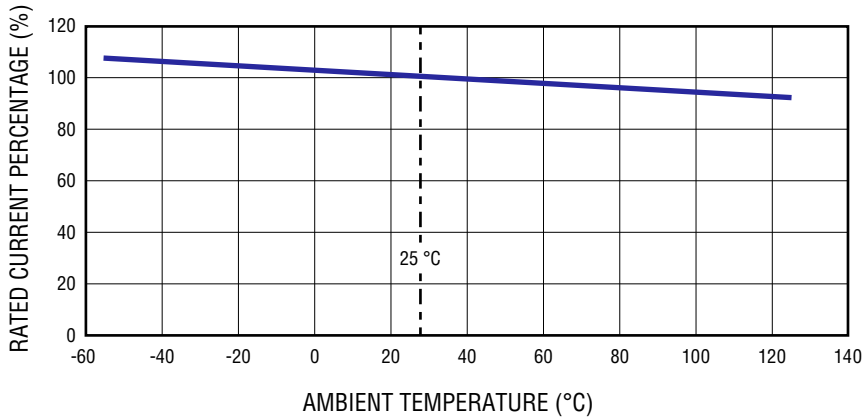


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# SF-2410F-T Series - Fast Acting SMD Fuses



## Current Rating Thermal Derating Curve



## How to Order

**SF - 2410 F 1200 T - 2**

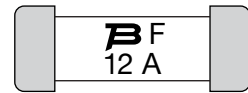
- SinglFuse™
- Product Designator \_\_\_\_\_
- SMD Footprint \_\_\_\_\_  
2410 = EIA 2410 (6125 metric)
- Fuse Blow Type \_\_\_\_\_  
F = Fast Acting
- Rated Current \_\_\_\_\_  
1200 ~ 2500 (12 A ~ 25 A)
- Structure Type \_\_\_\_\_  
T = Ceramic Tube
- Packaging Type \_\_\_\_\_  
- 2 = Tape & Reel

## Packaging

Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	1,000 pieces
Packaging Code	-2

## 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

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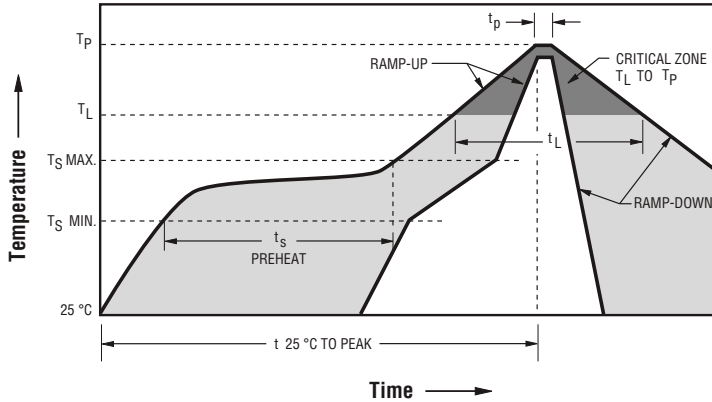
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# SF-2410F-T Series - Fast Acting SMD Fuses



## Solder Reflow Recommendations

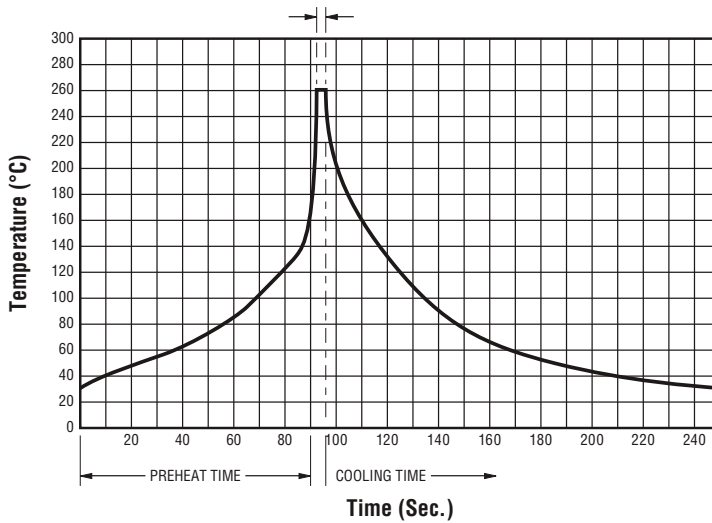


Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. ( $T_{Smin}$ ) Temperature Max. ( $T_{Smax}$ ) Time ( $t_s$ ) from ( $T_{Smin}$ to $T_{Smax}$ )	150 °C 200 °C 60~180 seconds
Ramp Up Rate ( $T_L$ to $T_p$ )	3 °C / second max.
Ramp Up Rate ( $T_{Smax}$ to $T_L$ )	5 °C / second max.
Liquidous Temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60~90 seconds
Peak Package Body Temperature ( $T_p$ )	260 °C +0/-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.

\* 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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**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

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