



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

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

## SF-2410HI-T Series – High Inrush SMD Fuses

### Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
200 %	1 second	60 seconds
300 %	0.2 seconds	3 seconds
800 %	0.02 seconds	0.1 seconds

### Additional Information

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### 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-2410HI0375T-2	0.375	0.6208	125 VAC	50 A @ 125 VAC 50 A @ 125 VDC 300 A @ 32 VDC	0.4147	✓
SF-2410HI050T-2	0.50	0.3462			0.495	✓
SF-2410HI075T-2	0.75	0.1666			1.2632	✓
SF-2410HI100T-2	1.00	0.1079			1.9933	✓
SF-2410HI150T-2	1.50	0.057			2.82	✓
SF-2410HI200T-2	2.00	0.0509			7.488	✓
SF-2410HI250T-2	2.50	0.0317			16.771	✓
SF-2410HI300T-2	3.00	0.0228			24.99	✓
SF-2410HI350T-2	3.50	0.0196			24.908	✓
SF-2410HI400T-2	4.00	0.015			27.056	✓
SF-2410HI500T-2	5.00	0.0112			50.308	✓
SF-2410HI700T-2	7.00	0.0083			100.06	✓

\*\*\* 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.



### WARNING Cancer and Reproductive Harm

[www.P65Warnings.ca.gov](http://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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# SinglFuse™ SF-2410HI-T Series Applications

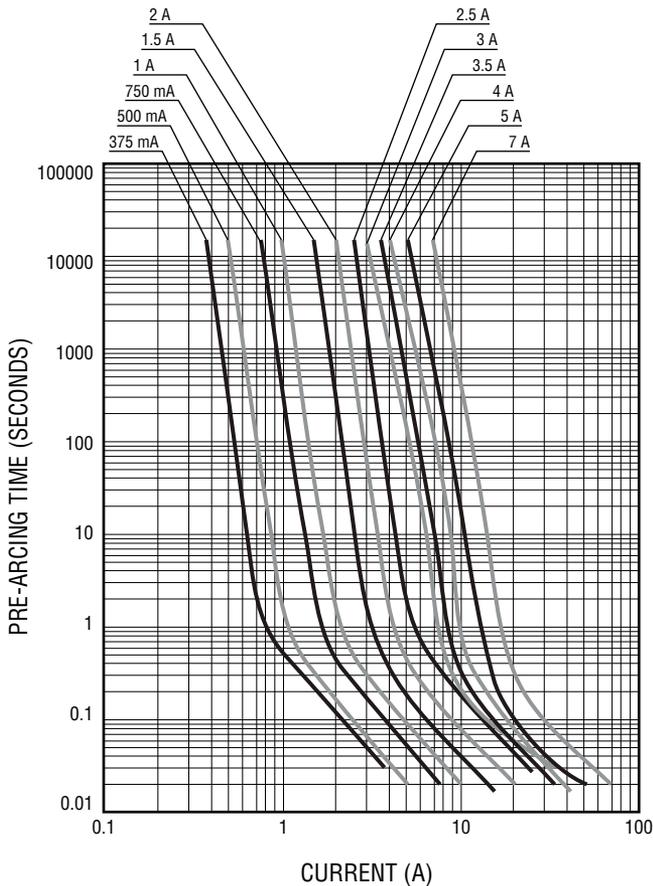
- Notebooks
- LCD Monitors
- LCD Backlight Inverters
- POE, POE+
- PC Servers
- Power Supplies
- Battery Protection
- White Goods

## SF-2410HI-T Series – High Inrush SMD Fuses BOURNS®

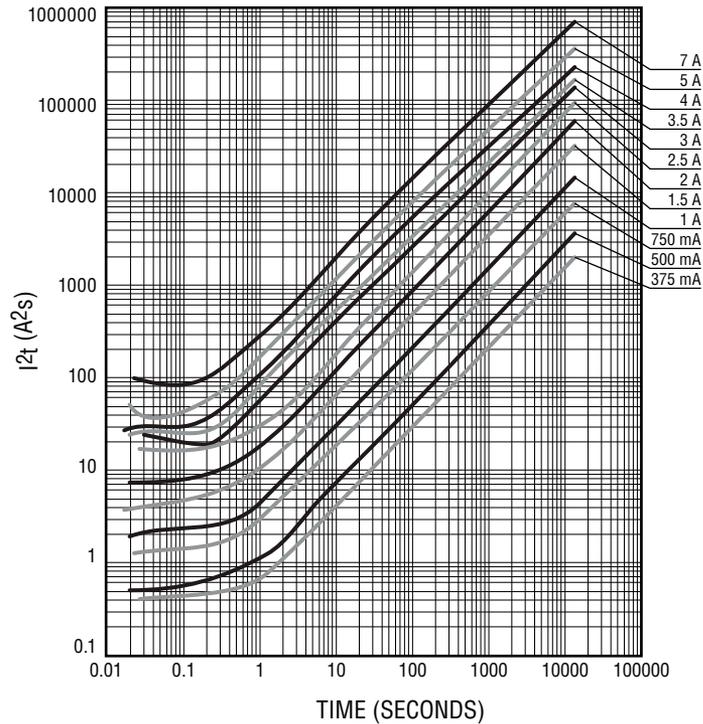
### Environmental Characteristics

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

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



### Average I²t vs. t Curves



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# SF-2410HI-T Series – High Inrush SMD Fuses

**BOURNS®**

## Typical Part Marking

Represents total content. Layout may vary.



Rated Current	Part Marking
375 mA	375 mA
500 mA	500 mA
750 mA	750 mA
1 A	1 A
1.5 A	1.5 A
2 A	2 A
2.5 A	2.5 A
3 A	3 A
3.5 A	3.5 A
4 A	4 A
5 A	5 A
7 A	7 A

## How to Order

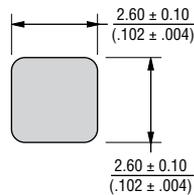
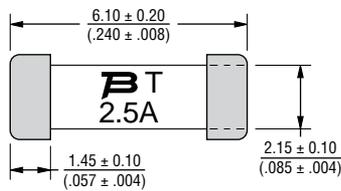
**SF - 2410 HI 0375 T - 2**

SinglFuse™ \_\_\_\_\_  
 Product Designator \_\_\_\_\_  
 SMD Footprint \_\_\_\_\_  
 2410 = EIA 2410  
 (6125 metric) \_\_\_\_\_  
 Fuse Blow Type \_\_\_\_\_  
 HI = High inrush \_\_\_\_\_  
 Rated Current \_\_\_\_\_  
 0375 ~ 700 (375 mA ~ 7 A) \_\_\_\_\_  
 Structure Type \_\_\_\_\_  
 T = Ceramic Tube \_\_\_\_\_  
 Packaging Type \_\_\_\_\_  
 - 2 = Tape & Reel \_\_\_\_\_

## Packaging

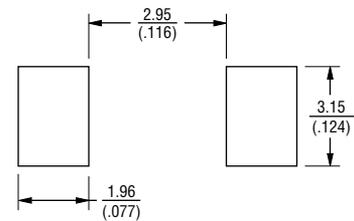
Reel Dimension	7-inch Tape and Reel
Specification	EIA 481-2
Quantity	1,000 pieces
Packaging Code	-2

## Product Dimensions



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

## Recommended Pad Layout



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

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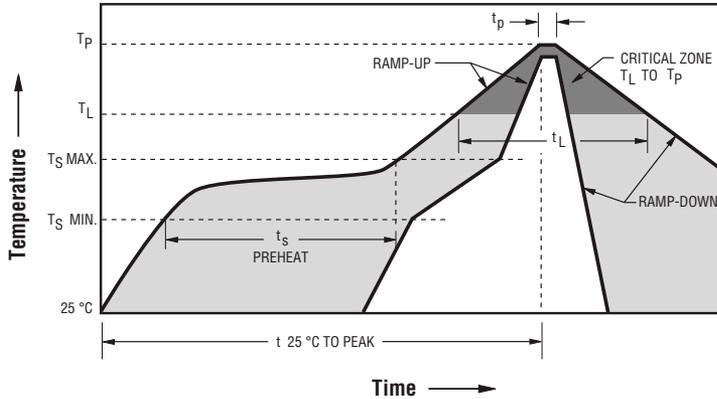
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# SF-2410HI-T Series – High Inrush SMD Fuses



## Solder Reflow Recommendations

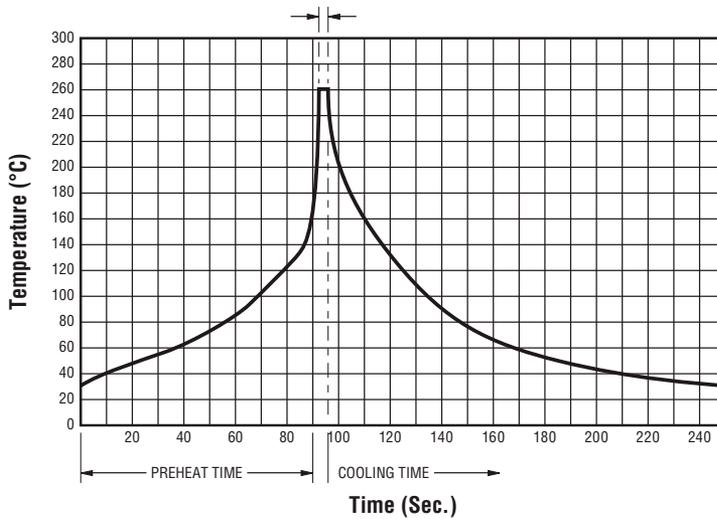


Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. ( $T_{smin}$ ) Temperature Max. ( $T_{smax}$ ) Time ( $t_s$ ) from ( $T_{smin}$ to $T_{smax}$ )	150 °C 200 °C 60~180 seconds
Ramp Up Rate ( $T_L$ to $T_p$ )	3 °C / second max.
Ramp Up Rate ( $T_{smax}$ to $T_L$ )	5 °C / second max.
Liquidous Temperature ( $T_L$ ) Time ( $t_L$ ) maintained above $T_L$	217 °C 60~90 seconds
Peak Package Body Temperature ( $T_p$ )	235 °C $\pm$ 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)



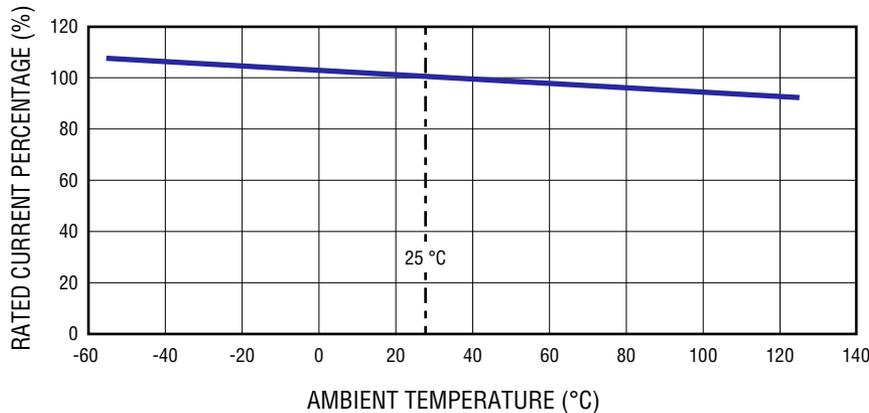
Profile Feature	Pb-Free Assembly
Preheat: Temperature Max. ( $T_{smax}$ ) Time (Min. to Max.)	150 °C 60~90 seconds
Solder Pot Temperature	260 °C max.
Solder Dwell Time	2~3 seconds

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## Current Rating Thermal Derating Curve



## 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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