



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

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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-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 I²t 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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Specifications are subject to change without notice. Users should verify actual device performance in their specific applications.

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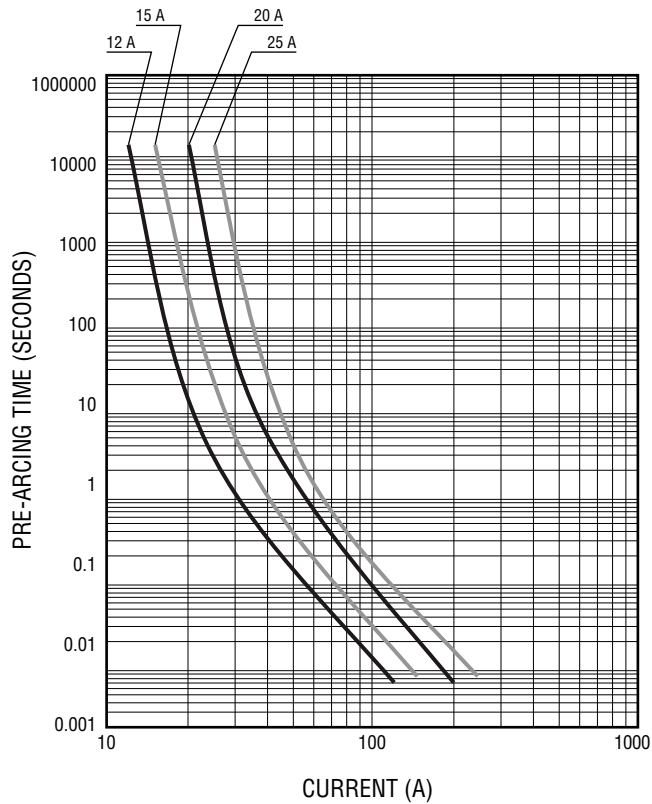
SinglFuse™ SF-2410F-T Series Applications

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

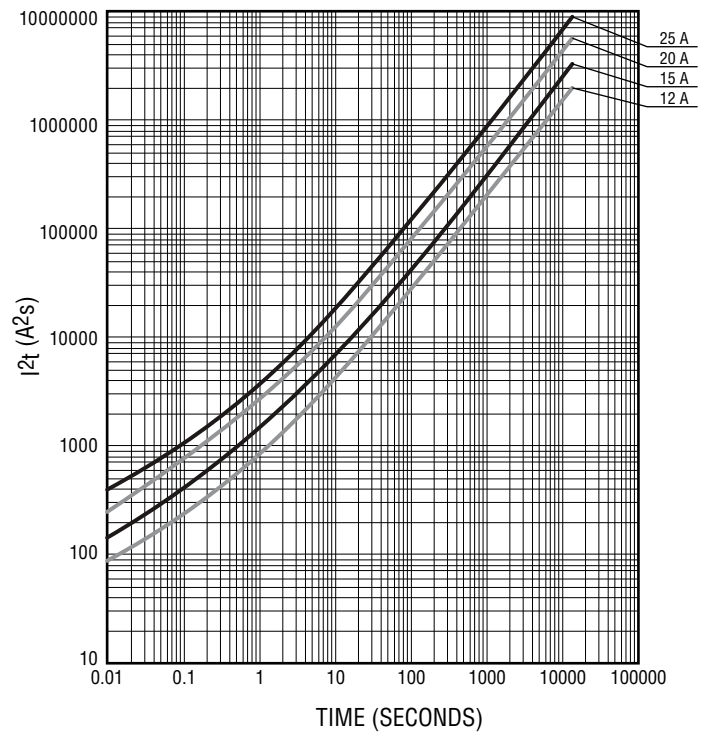
SF-2410F-T Series - Fast Acting SMD Fuses

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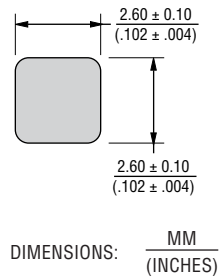
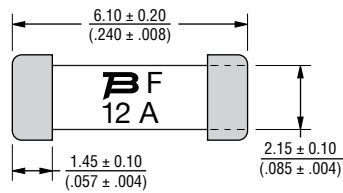
Average Pre-Arcing Time vs. Current Curves



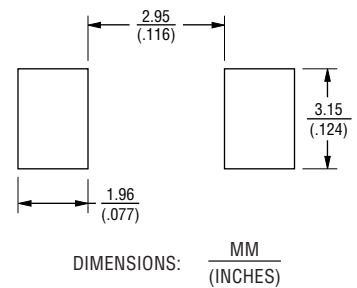
Average I^2t vs. t Curves



Product Dimensions



Recommended Pad Layout



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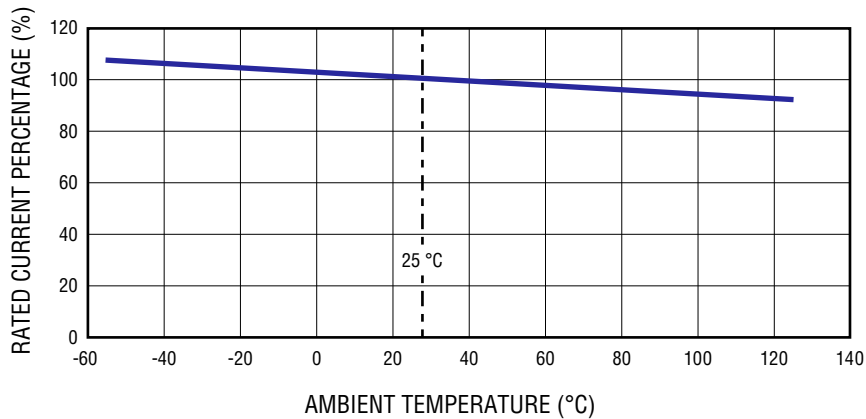
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Current Rating Thermal Derating Curve



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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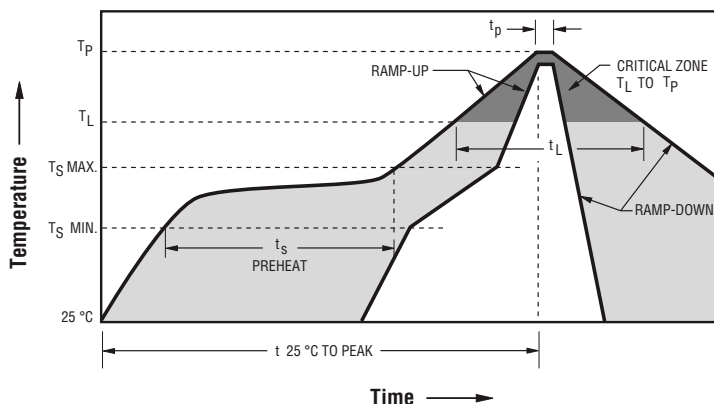
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Solder Reflow Recommendations

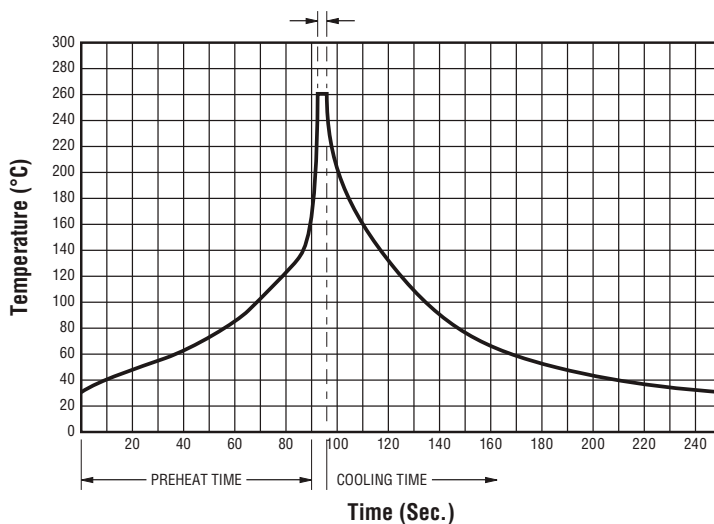


Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T_{smin}) Temperature Max. (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	150 °C 200 °C 60~180 seconds
Ramp Up Rate (T_L to T_P)	3 °C / second max.
Ramp Up Rate (T_{smax} to T_L)	5 °C / second max.
Liquidous Temperature (T_L) Time (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 $\pm$ 5 $^{\circ}$ C Time setup: 10 $\pm$ 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 $\pm$ 5 $^{\circ}$ C Time setup: 30 $\pm$ 5 sec.	DCR change $\leq$ $\pm$ 15 %	IEC 60068-2-58
3	Thermal shock	Temperature setup: 25 $^{\circ}$ C $\sim$ -65 $^{\circ}$ C $\sim$ 25 $^{\circ}$ C $\sim$ 125 $^{\circ}$ C Time setup: -65 $^{\circ}$ C (30 min) $\sim$ 25 $^{\circ}$ C (5 min) $\sim$ 125 $^{\circ}$ C (30 min) $\sim$ 25 $^{\circ}$ C (5 min), 5 cycles	DCR change $\leq$ $\pm$ 15 % No mechanical damage	MIL-STD-202G Method 107G Test Condition B
4	Humidity unload	Heat (85 $\pm$ 0.5 $^{\circ}$ C) High Humidity (85 $\pm$ 1 % RH) 240 hours	DCR change $\leq$ $\pm$ 15 % No mechanical damage	MIL-STD-202G Method 103B Test Condition A
5	Salt spray	Salt spray concentration: 5 $\pm$ 1 % Test liquid temperature: 35 $\pm$ 0.5 $^{\circ}$ C 96 hours	DCR change $\leq$ $\pm$ 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 $\leq$ $\pm$ 15 %	IEC 60127-4
7	Vibration	Frequency setup: 10 $\sim$ 55 $\sim$ 10 Hz Time setup: 1 Minute/cycle (X-Y-Z, 120 cycles, 6 hours)	DCR change $\leq$ $\pm$ 15 % No mechanical damage	MIL-STD-202G Method 201A

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