



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		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.

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.

"SinglFuse" is a trademark of Bourns, Inc.

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

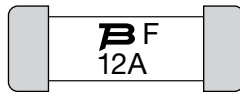
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Environmental Characteristics

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.



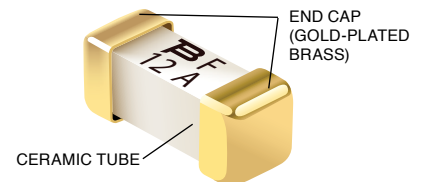
Rated Current	Part Marking
12 A	12A
15 A	15A
20 A	20A
25 A	25A

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

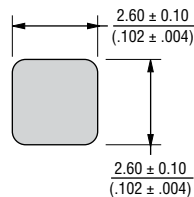
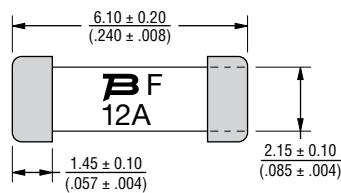
Construction



Packaging Quantity

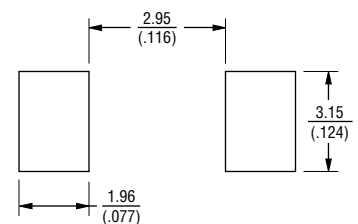
1,000 pieces per 7-inch reel

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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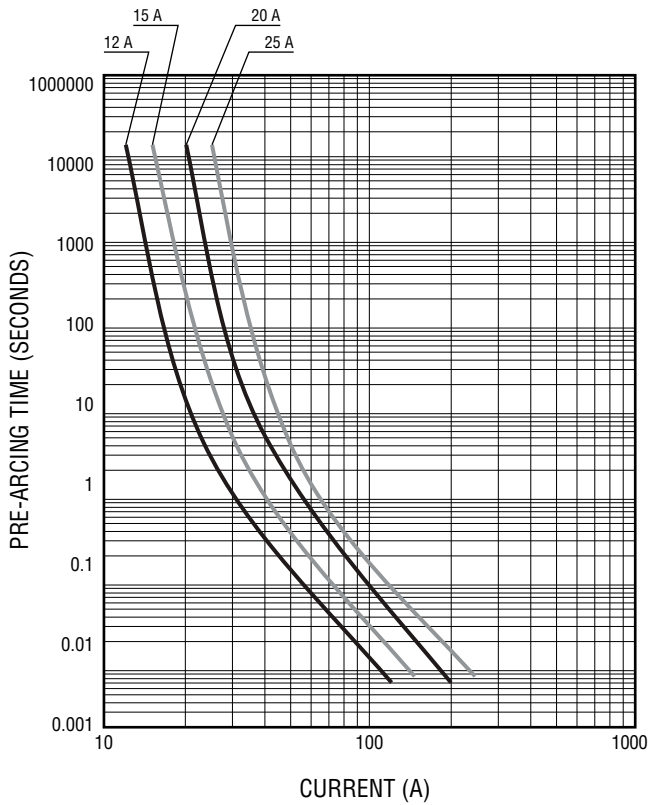
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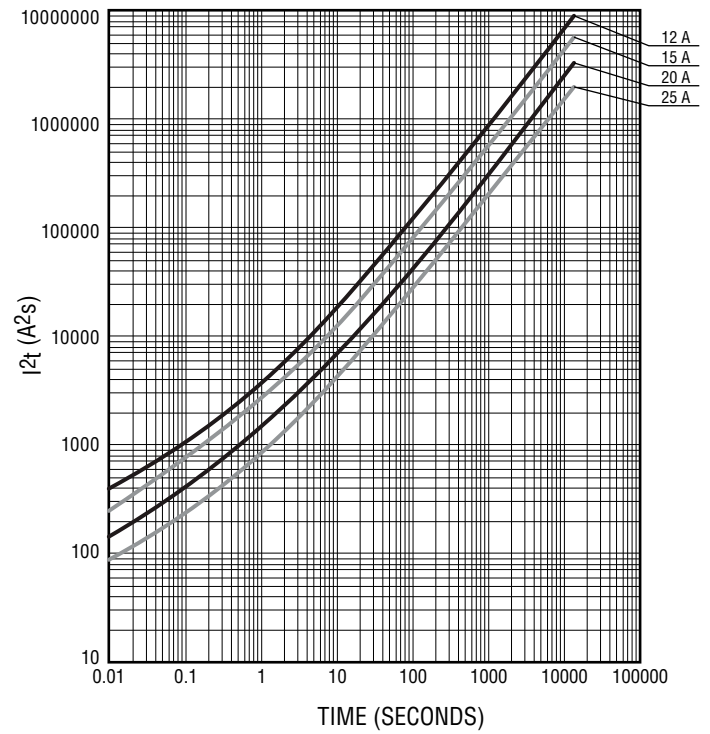
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Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



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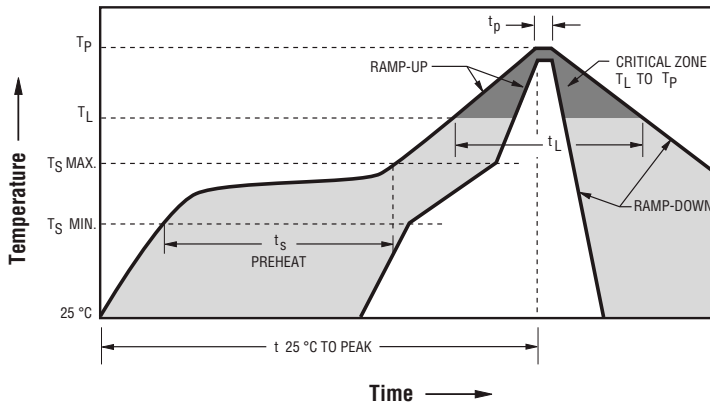
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Solder Reflow Recommendations

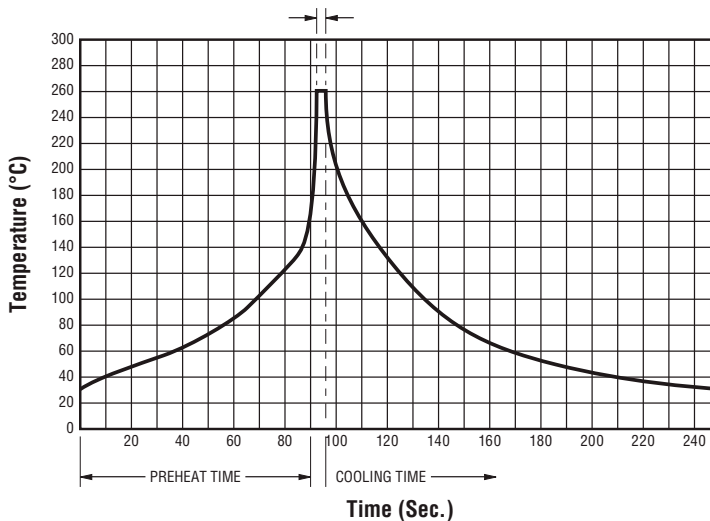


Profile Feature	Pb-Free Assembly
Preheat / Soak: Temperature Min. (T_{smin}) Temperature Max. (T_{smax}) Time (t_s) from (T_{smin} to T_{smax})	150 °C 200 °C 60~180 seconds
Ramp Up Rate (T_L to T_P)	3 °C / second max.
Ramp Up Rate (T_{smax} to T_L)	5 °C / second max.
Liquidous Temperature (T_L) Time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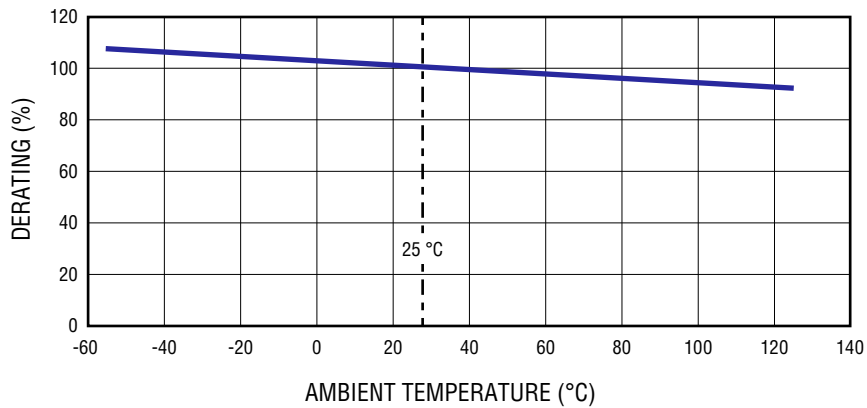
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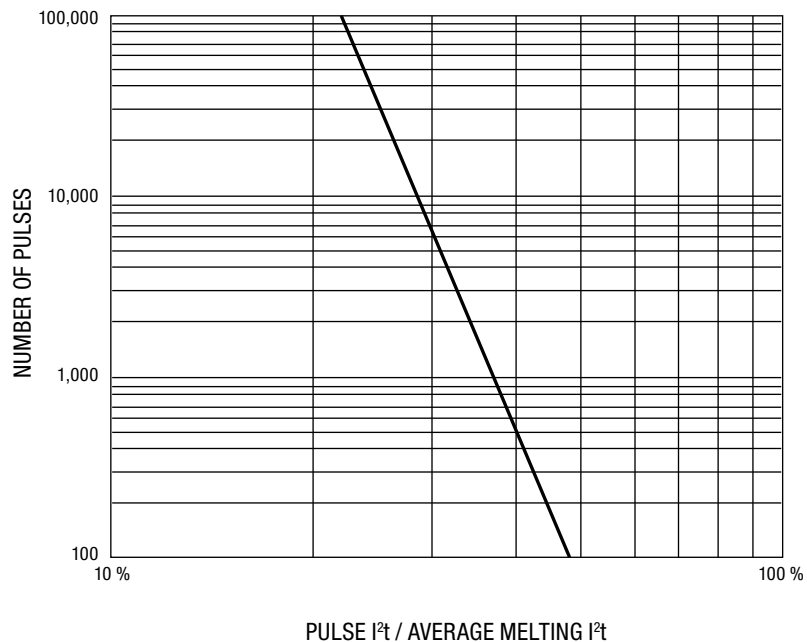
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Current Rating Thermal Derating Curve



Pulse Cycle Withstand Capability



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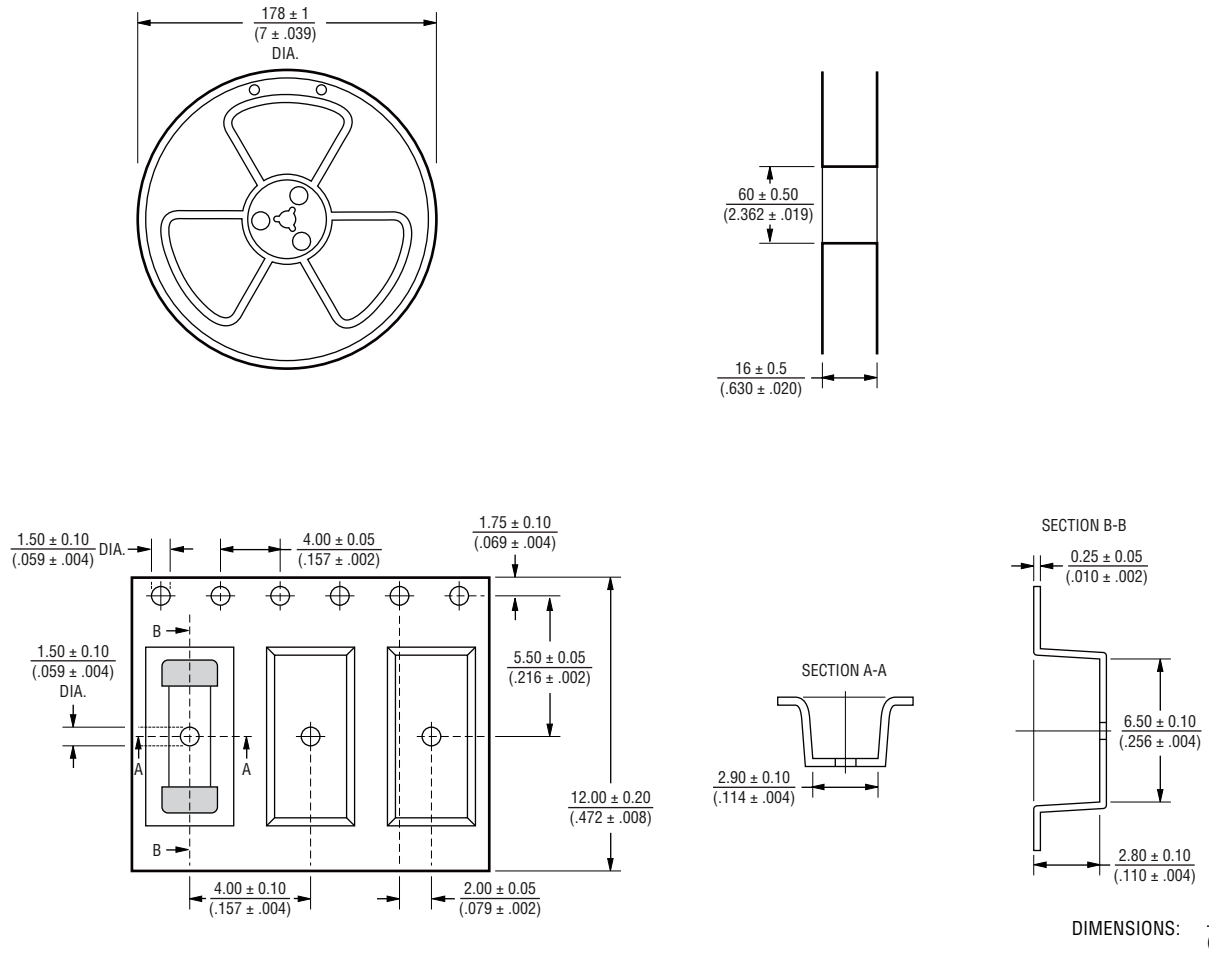
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Packaging Specifications



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REV. 03/19

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