SingIFuse™ 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 listed
- Surface mount packaging for automated assembly
- RoHS compliant* and halogen free**

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

Electrical Characteristics

Model	Rated Current (A)	Fusing Time	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I^2t (A^2s) ****	Certifications
							cUL
							E198545
SF-2410HI0375T-2	0.375	Open within 1-60 sec. at 200 % rated current	0.6208	125 VAC	50 A @ 125 VAC 50 A @ 125 VDC 300 A @ 32 VDC	0.4147	✓
SF-2410HI050T-2	0.5		0.3462			0.495	✓
SF-2410HI075T-2	0.75		0.1666			1.2632	✓
SF-2410HI100T-2	1		0.1079			1.9933	✓
SF-2410HI150T-2	1.5		0.057			2.82	✓
SF-2410HI200T-2	2		0.0509			7.488	✓
SF-2410HI250T-2	2.5		0.0317			16.771	✓
SF-2410HI300T-2	3		0.0228			24.99	✓
SF-2410HI350T-2	3.5		0.0196			24.908	✓
SF-2410HI400T-2	4		0.015			27.056	✓
SF-2410HI500T-2	5		0.0112			50.308	✓
SF-2410HI700T-2	7		0.0083			100.06	✓

*** Resistance value measured with ≤10 % rated current at 25 °C ambient. Tolerance ±30 %.
**** Melting I^2t calculated at 10 times rated current.

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

Agency Recognition

UL File Number E198545

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™ 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

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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

Typical Part Marking

Represents total content. Layout may vary.

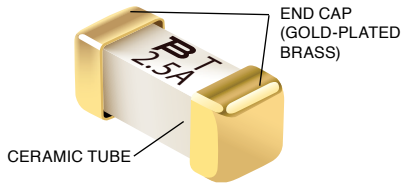
Rated Current	Part Marking
375 mA	375 mA
500 mA	500 mA
750 mA	750 mA
1 A	1 A
1.5 A	1.5 A
2 A	2 A
2.5 A	2.5 A
3 A	3 A
3.5 A	3.5 A
4 A	4 A
5 A	5 A
7 A	7 A

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

Construction



Packaging Quantity

1,000 pieces per 7-inch reel

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

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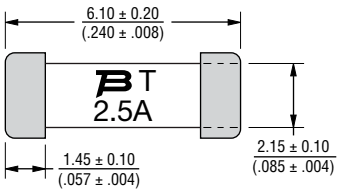
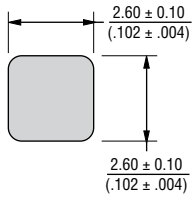
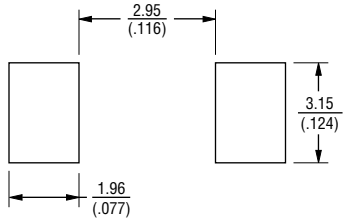
Product Dimensions





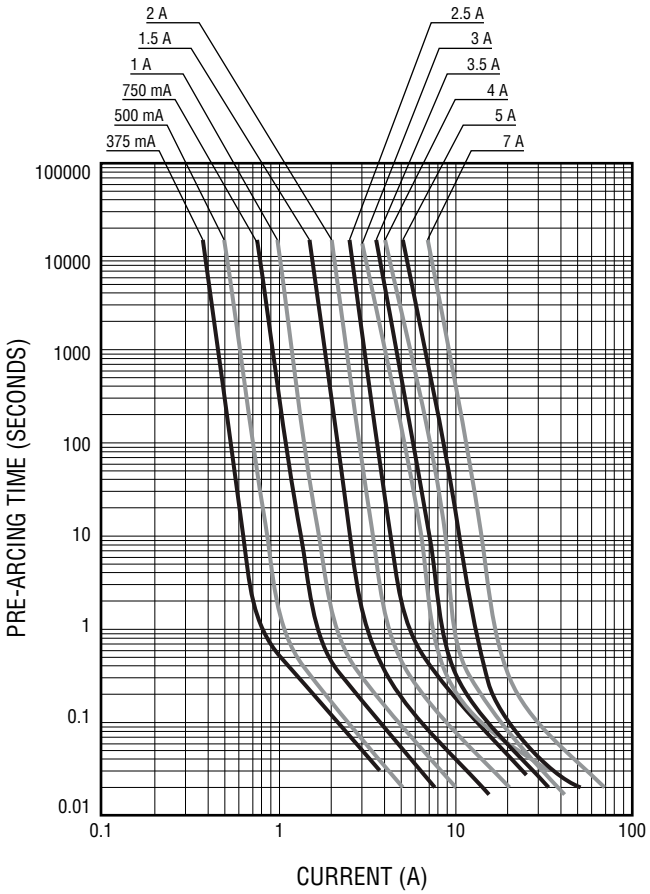
DIMENSIONS: MM / (INCHES)

Recommended Pad Layout

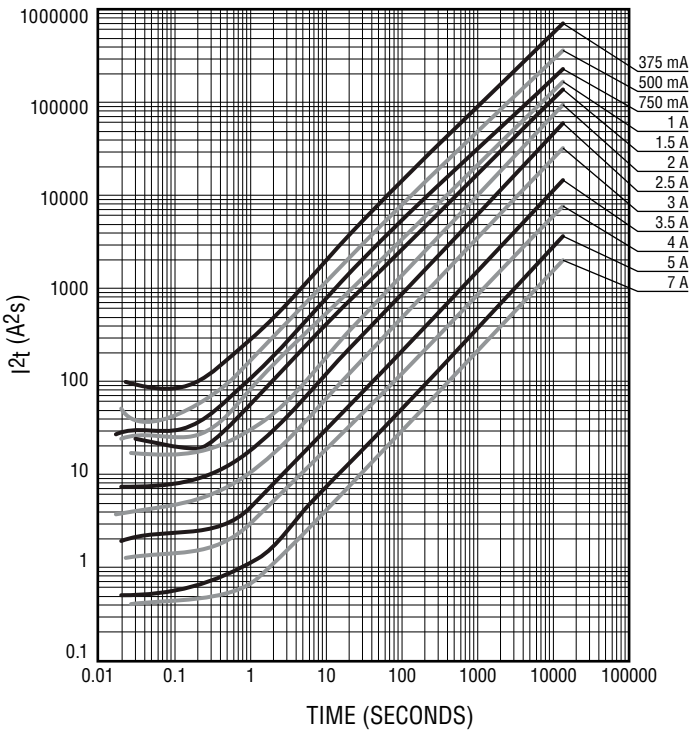


DIMENSIONS: MM / (INCHES)

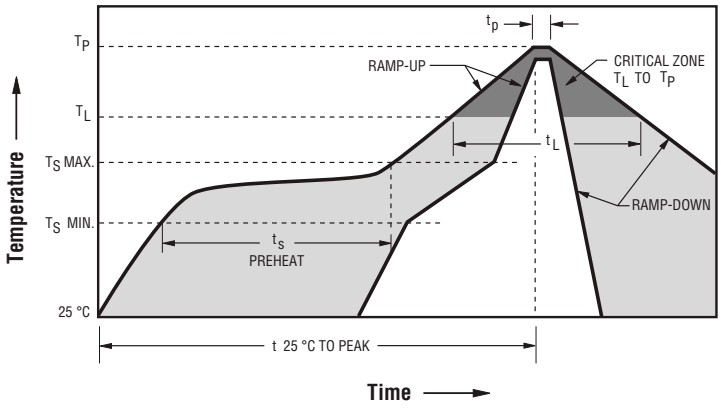
Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



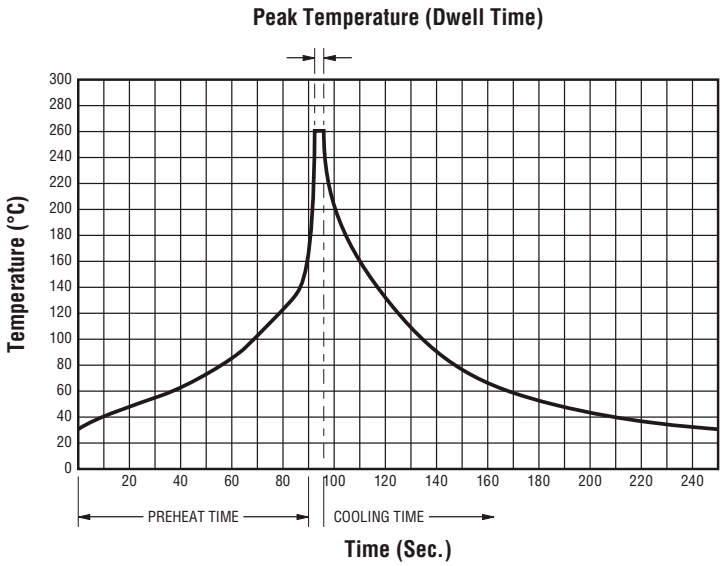
Solder Reflow Recommendations



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

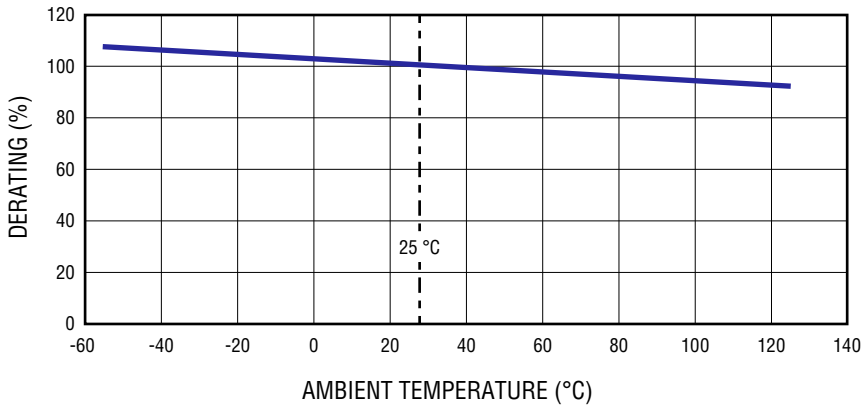
* Tolerance for peak profile temperature (Tp) is defined as a supplier minimum and a user maximum.

Solder Wave Recommendations

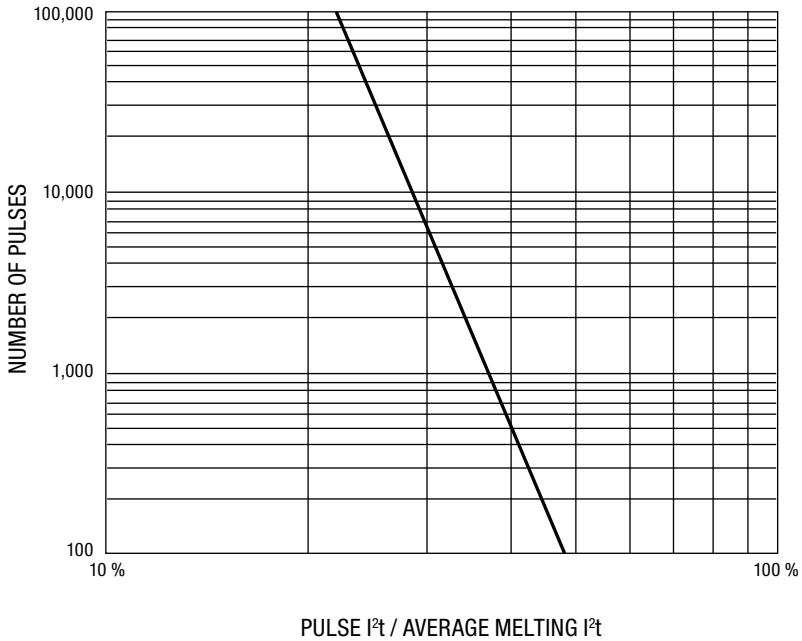


Profile Feature	Pb-Free Assembly
Preheat: Temperature Max. (T_{smax}) Time (Min. to Max.)	 150 °C 60~90 seconds
Solder Pot Temperature	260 °C max.
Solder Dwell Time	2~3 seconds

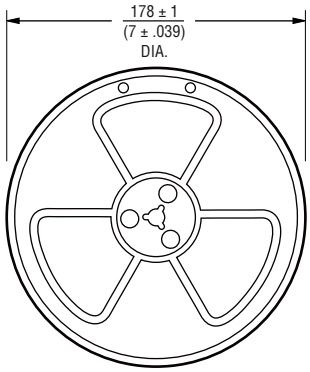
Current Rating Thermal Derating Curve

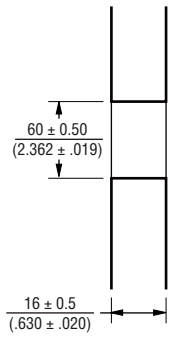


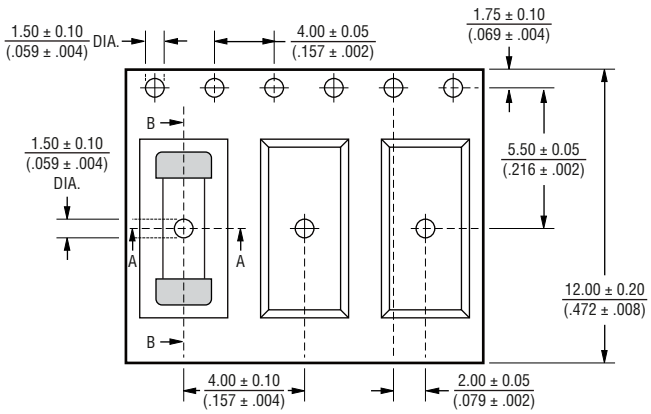
Pulse Cycle Withstand Capability

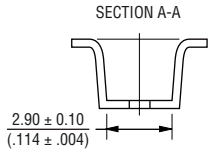


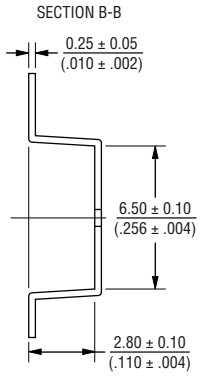
Packaging Specifications











DIMENSIONS: MM / (INCHES)

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