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SingIFuse™ SF-2923HC-C Series Features

- Single blow fuse for overcurrent protection
- EIA 2923 (7358 metric) footprint
- High current ceramic housing design
- UL 248-14 compliant
- Surface mount packaging for automated assembly
- RoHS compliant* and halogen free**

SF-2923HC-C Series – High Current SMD Fuses

Clearing Time Characteristics for Series

% of Current Rating	Clearing Time at 25 °C	
	Min.	Max.
100 %	4 hours	—
250 %	—	60 seconds

Additional Information

Click these links for more information:

PRODUCT SELECTOR | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

Electrical Characteristics

Model	Rated Current (A)	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I^2t (A^2s) ****	Certifications
						cUL: E198545
SF-2923HC20C-2	20	0.002	60 VDC	300 A @ 60 VDC	108	✓
SF-2923HC30C-2	30	0.0012			270	✓
SF-2923HC40C-2	40	0.001			416	✓
SF-2923HC50C-2	50	0.0007			1750	✓

*** 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

CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant.
See 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.

SingIFuse™ SF-2923HC-C Series Applications

- Li-ion Battery Packs
- Energy Storage Systems (ESS)
- Power Tools
- Electric Assist Bicycles
- Servers and Routers
- Uninterruptible Power Supplies (UPS)
- Power Distribution Units (PDUs)
- Power Factor Correction (PFC)

SF-2923HC-C Series – High Current SMD Fuses

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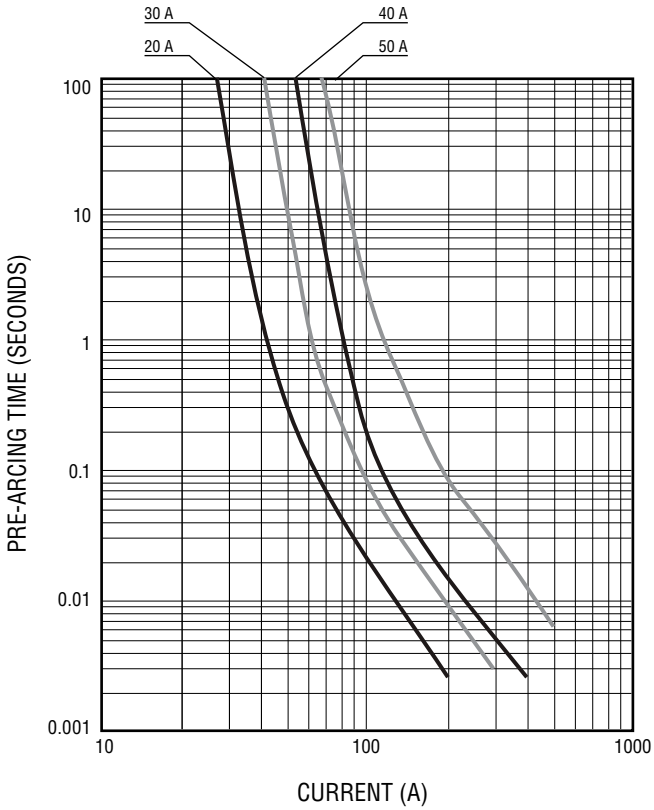
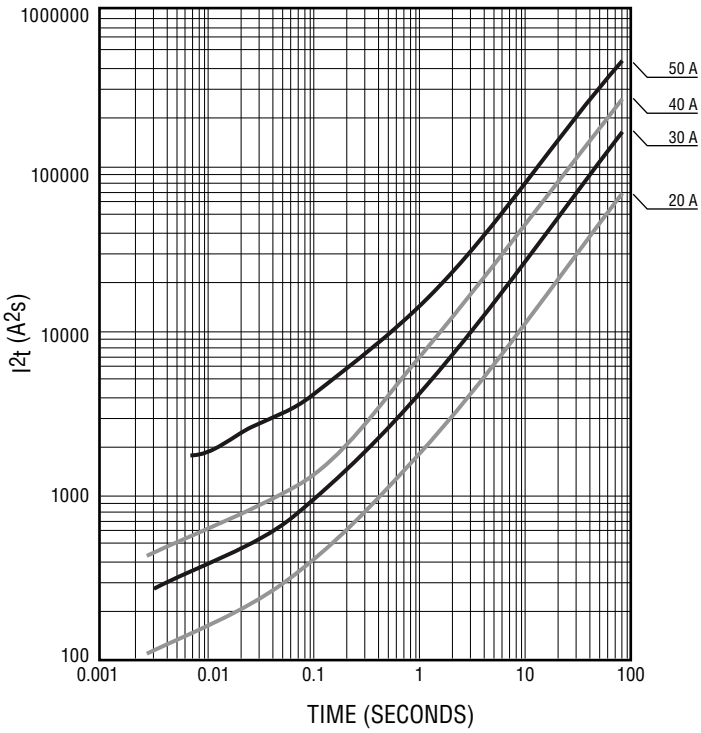
Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



SF-2923HC-C Series – High Current SMD Fuses

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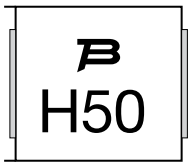
Typical Part Marking

Represents total content. Layout may vary.



Rated Current	Part Marking
20 A	H20
30 A	H30
40 A	H40
50 A	H50

How to Order

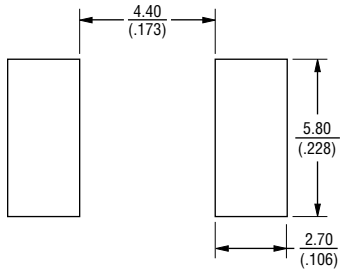
SF - 2923 HC 20 C - 2

- SinglFuse™ Product Designator
- SMD Footprint
  - 2923 = EIA 2923 (7358 metric)
- Fuse Blow Type
  - HC = High Current
- Rated Current
  - 20 ~ 50 (20 A ~ 50 A)
- Structure Type
  - C = Ceramic Cube Housing
- Packaging Type
  - - 2 = Tape & Reel

Packaging

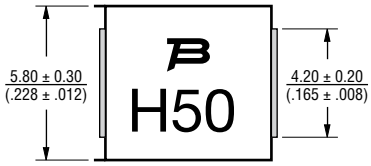
Reel Dimension	13-inch Tape and Reel
Specification	EIA 481-2
Quantity	1,000 pieces
Packaging Code	-2

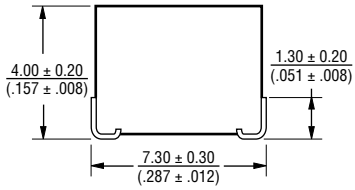
Recommended Pad Layout



DIMENSIONS: MM / (INCHES)

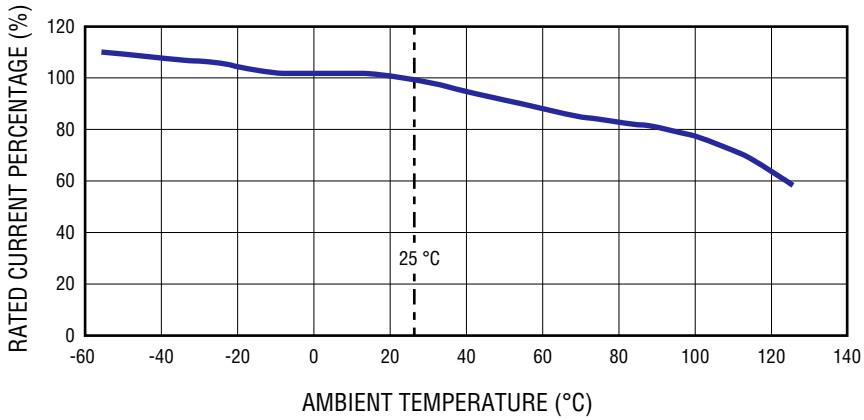
Product Dimensions



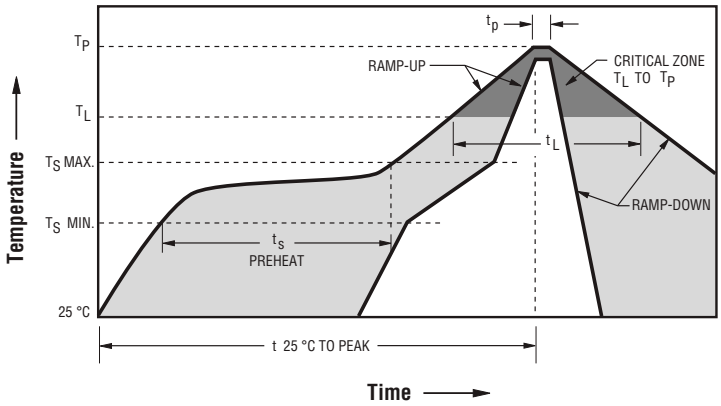


DIMENSIONS: MM / (INCHES)

Current Rating Thermal Derating Curve



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.
Do not exceed	260 °C

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

Reliability Testing

No.	Test	Test Condition	Requirement	Test Reference
1	Solderability	Temperature setup: 235 +0 / -5 °C Time setup: 10 sec.	After test terminal electrode wetting area must be greater than 95 %	IEC 68-2-58
2	Resistance to soldering heat	Temperature setup: 235 ±5 °C Time setup: 30 sec.	DCR change ≤ ±15 %	IEC 68-2-58
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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