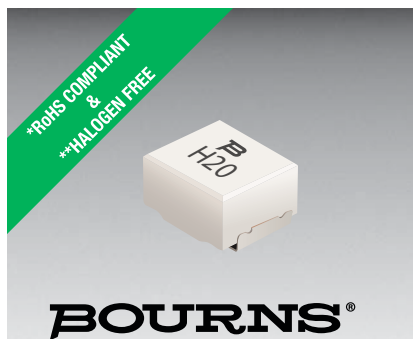




SinglFuse™ SF-2923HC-C Series Features

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

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

Electrical Characteristics

Model	Rated Current (Amps)	Fusing Time	Resistance (Ω) Typ.***	Rated Voltage	Interrupting Rating	Typical I ² t (A ² s) ****
SF-2923HC20C-2	20	Open within 60 sec. at 250 % rated current	0.0020	60 VDC	300 A @ 60 VDC	108
SF-2923HC30C-2	30		0.0012			270
SF-2923HC40C-2	40		0.0010			416
SF-2923HC50C-2	50		0.0007			1750

*** 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 +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

Agency Recognition

UL File NumberE198545

BOURNS®

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www.bourns.com



WARNING Cancer and Reproductive Harm - www.P65Warnings.ca.gov

* RoHS Directive 2002/95/EC Jan. 27, 2003 including annex and RoHS Recast 2011/65/EU June 8, 2011.

** 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-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

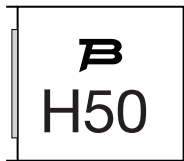
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Environmental Characteristics

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.



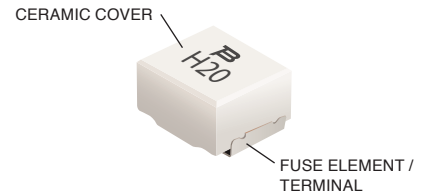
Rated Current	Part Marking
20 A	H20
30 A	H30
40 A	H40
50 A	H50

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

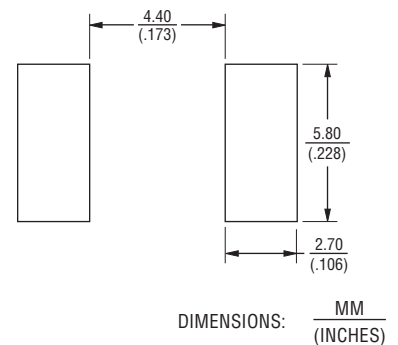
Construction



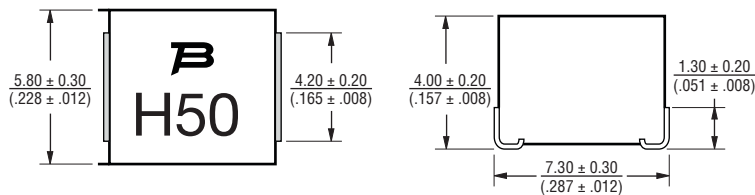
Packaging Quantity

1,000 pieces per 13-inch reel

Recommended Pad Layout



Product Dimensions



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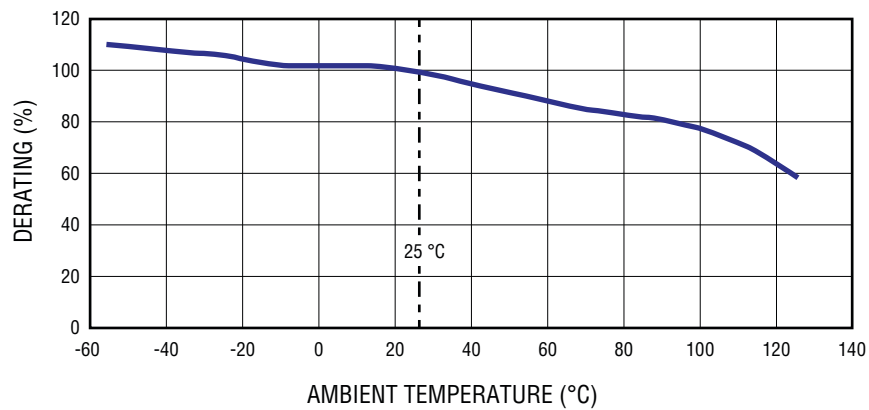
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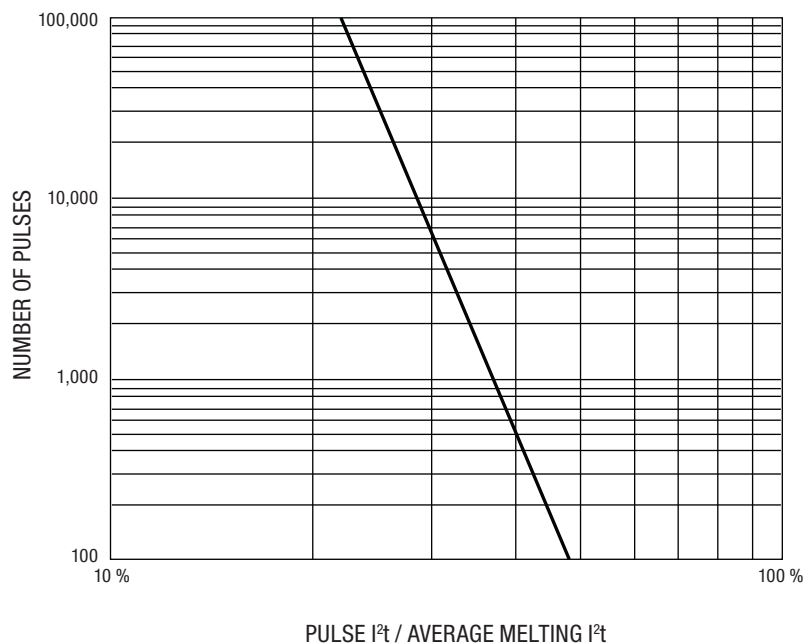
SF-2923HC-C Series – High Current SMD Fuses

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Current Rating Thermal Derating Curve



Pulse Cycle Withstand Capability

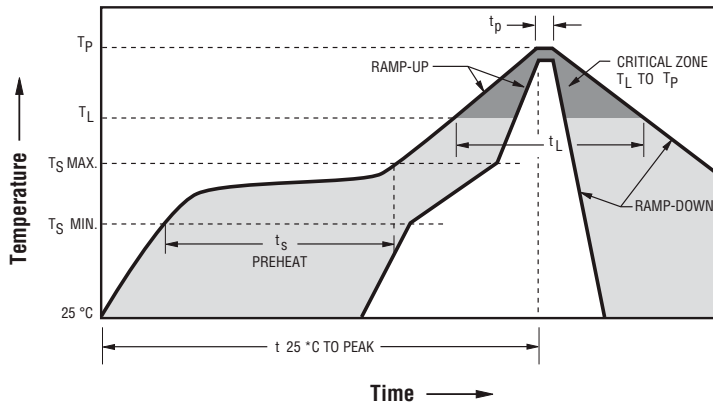


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Solder Reflow Recommendations



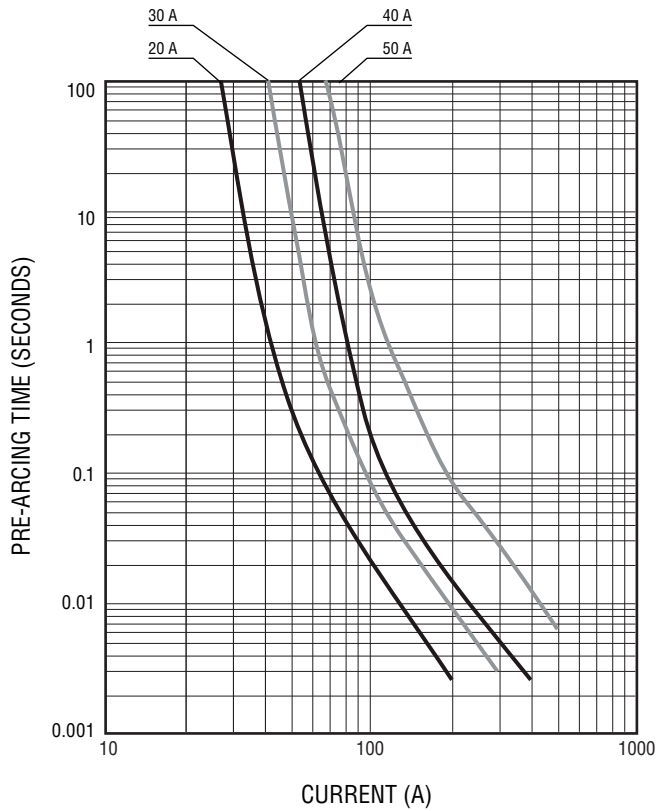
Profile Feature	Pb-Free Assembly
Preheat / Soak:	
Temperature Min. (T _{smin})	150 °C
Temperature Max. (T _{smax})	200 °C
Time (t _s) from (T _{smin} to T _{smax})	60~180 seconds
Ramp Up Rate (T _L to T _p)	3 °C / second max.
Ramp Up Rate (T _{smax} to T _L)	5 °C / second max.
Liquidous Temperature (T _L)	217 °C
Time (t _L) maintained above T _L	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 (T_p) is defined as a supplier minimum and a user maximum.

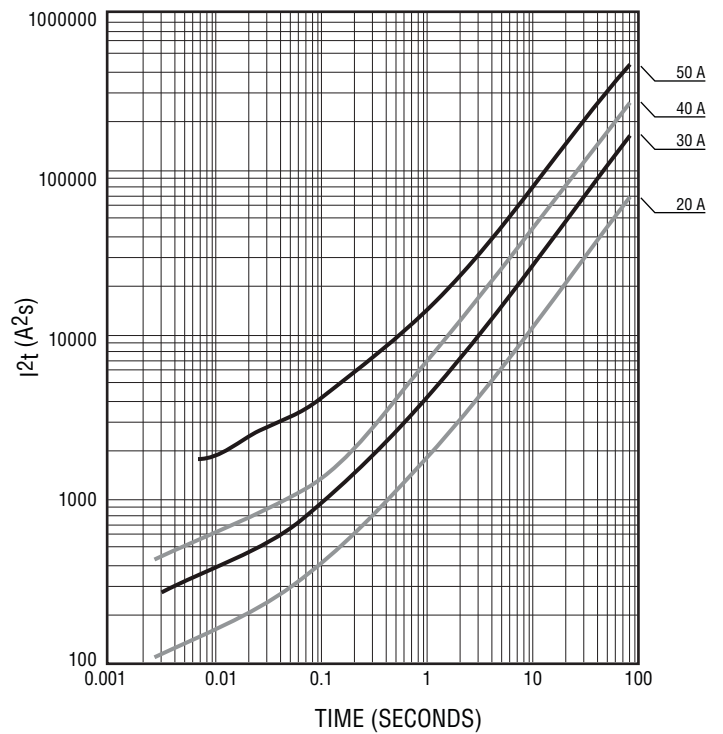
SF-2923HC-C Series – High Current SMD Fuses

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Average Pre-Arcing Time vs. Current Curves



Average I^2t vs. t Curves



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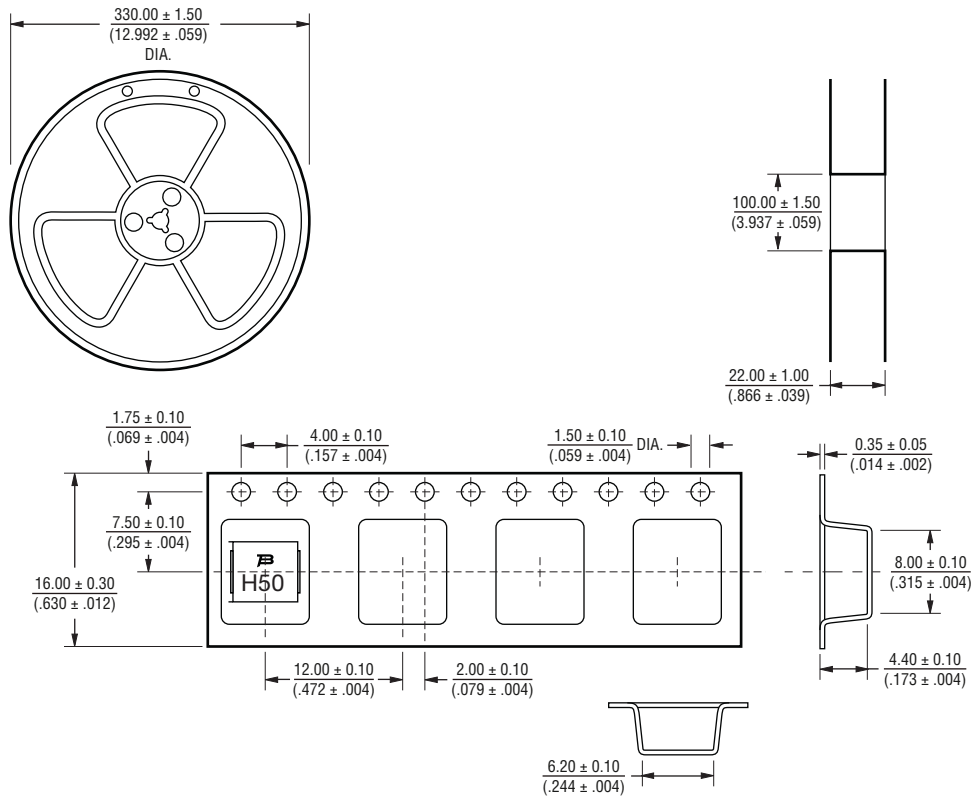
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SF-2923HC-C Series – High Current SMD Fuses

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Packaging Specifications



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

REV. 01/19

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