# Technical Data 4347

Effective April 2024 Supersedes December 2019

# BUSSMANN SERIES

# SR-5 Subminiature time-delay fuses



Photo is representative

## **Product features**

- Radial leaded time-delay thru-hole fuse
- Designed to IEC 60127-3, sheet 4
- Internationally accepted for primary and secondary overcurrent protection
- Place directly onto PCB or plug into <u>BK-PCS</u> holder
- High inrush withstand capability
- Compatible with leaded and lead-free reflow and wave solder

#### Agency information

- VDE: File: HA122052 (100 mA to 6.3 A)
- cURus: File E19180 Guide: JDYX8 JDYX2 (100 mA to 6.3 A)
- CCC: File: 2020970207000251 (100 mA to 6.3 A)
- PSE: JET1641-31007-1015 (1 A to 5 A) JET1641-31007-1009 (6.3 A)
- SEMKO: File: 1412328 (100 mA to 6.3 A)
- KC: SU05011-9003B (100 mA) SU05011-9004B (125 mA to 800 mA) SU05011-9002B (1 A to 2.5 A) SU05011-9001B (3.15 A to 6.3 A)



# Applications

Primary and secondary circuit protection:

- Servers
- Appliances and white goods
- LED/LCD televisions and displays
- Heating, ventilation, and air conditioning (HVAC)
- Lighting ballasts
- LED lighting
- Set top boxes
- Power supplies

#### **Environmental compliance**



#### **Ordering code**



The ordering code is the part number replacing the "" with a "-" plus adding the packaging suffix (example: SR-5-1.25A to SR-5-1-25A)

#### **Packaging suffix**

-BK

-AP

200 pieces in polybag

Ammo Pack,Pitch=12.7 mm



#### **Electrical characteristics**

Rating	1.5 In	2.1 In	2.75 In		4 In		10 In	
	minimum	maximum	minimum	maximum	minimum	maximum	minimum	maximum
100 mA to 4 A	60 minutes	2 minutes	400 ms	10 seconds	150 ms	3 seconds	20 ms	150 ms
5 A to 6.3 A	60 minutes	2 minutes	400 ms	10 seconds	150 ms	3 seconds	20 ms	150 ms

#### **Product specifications**

	Current	Voltage	rating @ rated voltage <sup>1</sup>	Typical DC cold	Typical voltage	Typical pre-arcing² l²t (A²sec)	Agency information					
Part number	(A)	(Vac)	(A)	(Ω)	(mV)		VDE	cURus	ccc	PSE	SEMKO	кс
SR-5-100mA	0.100	250	35	2.37	288.5	0.015155	х	х	х		Х	Х
SR-5-125mA	0.125	250	35	1.6	238	0.026783	Х	х	х		х	Х
SR-5-160mA	0.160	250	35	1.02	196.5	0.039097	Х	х	х		Х	Х
SR-5-200mA	0.200	250	35	0.94	215.5	0.168832	Х	х	х		х	Х
SR-5-250mA	0.250	250	35	0.66	185	0.24778	х	х	х		х	Х
SR-5-315mA	0.315	250	35	0.43	152	0.277201	Х	х	х		х	Х
SR-5-400mA	0.400	250	35	0.285	127	0.771618	Х	х	х		Х	Х
SR-5-500mA	0.500	250	35	0.242	143.5	2	Х	х	х		Х	Х
SR-5-630mA	0.630	250	35	0.154	113	3.5	х	х	х		х	Х
SR-5-800mA	0.800	250	35	0.112	104.5	6.5	Х	х	х		х	Х
SR-5-1A	1.0	250	35	0.085	100	7.5	Х	х	х	х	х	Х
SR-5-1.25A	1.25	250	35	0.061	91	13	Х	х	х	х	х	х
SR-5-1.6A	1.6	250	35	0.043	102	24	х	х	х	х	х	х
SR-5-2A	2.0	250	35	0.031	74.5	30	х	х	х	х	х	Х
SR-5-2.5A	2.5	250	35	0.024	72.5	45	Х	х	х	х	х	Х
SR-5-3.15A	3.15	250	35	0.018	70.25	57	Х	х	х	х	Х	Х
SR-5-4A	4.0	250	40	0.012	62	80	х	х	х	х	х	х
SR-5-5A	5.0	250	50	0.010	57.5	95.4	х	х	х	х	х	Х
SR-5-6.3A	6.3	250	63	0.008	60.85	200	х	x	х	х	х	Х

1. Interrupting ratings: 100 mA to 3.15 A were measured at 35 A , 95%-100% of PF on AC, 4 A , 5 A were measured at 10 times of rated current ,95%-100% of PF on AC.

2. Typical pre-arcing: SR-5-100mA to SR-5-400mA measured @ 100 In, SR-5-500mA to SR-5-6.3A measured @10 In

3. Typical voltage drop was measured at +20 °C ambient temperature at rated currentt

#### **Dimensions- mm**

Drawing not to scale



Dimension A	Length
SR-5-xxxA-BK	4.3 ±0.3 mm
SR-5-xxxA-AP	9.15 ±2 mm

# Land pattern



# **General specifications**

Operating temperature: -40 °C to +125 °C with proper derating factor applied.
Solderability: EIA-186-9E, method 9
High frequency vibration: MIL-STD-202F, method 201A

# **Packaging information**

Packaging suffix	Description
-BK	Bulk, 200 pieces in polybag
-AP	Ammo Pack, Pitch=12.7 mm

## -AP (Ammo pack) (mm)



# Temperature derating curve



# Current vs time curve



# SR-5 Subminiature time-delay fuses

#### Wave solder profile



# Reference EN 61760-1:2006

Profile feat	ture	Standard SnPb solder	Lead (Pb) free solder		
Preheat	• Temperature min. (T <sub>smin</sub> )	100 °C	100 °C		
	• Temperature typ. (T <sub>styp</sub> )	120 °C	120 °C		
	• Temperature max. (T <sub>smax</sub> )	130 °C	130 °C		
	<ul> <li>Time (T<sub>smin</sub> to T<sub>smax</sub>) (t<sub>s</sub>)</li> </ul>	70 seconds	70 seconds		
$\Delta$ preheat to max Temperature		150 °C max.	150 °C max.		
Peak temperature (Tp)*		235 °C – 260 °C	250 °C – 260 °C		
Time at peak temperature (t <sub>p</sub> )		10 seconds max 5 seconds max each wave	10 seconds max 5 seconds max each wave		
Ramp-down rate		~ 2 K/s min ~3.5 K/s typ ~5 K/s max	~ 2 K/s min ~3.5 K/s typ ~5 K/s max		
Time 25 °C to 25 °C		4 minutes	4 minutes		

#### Manual solder

+350 °C (4-5 seconds by soldering iron), generally manual/hand soldering is not recommended.

Life Support Policy: Eaton does not authorize the use of any of its products for use in life support devices or systems without the express written approval of an officer of the Company. Life support systems are devices which support or sustain life, and whose failure to perform, when properly used in accordance with instructions for use provided in the labeling, can be reasonably expected to result in significant injury to the user.

Eaton reserves the right, without notice, to change design or construction of any products and to discontinue or limit distribution of any products. Eaton also reserves the right to change or update, without notice, any technical information contained in this bulletin.

Eaton Electronics Division 1000 Eaton Boulevard Cleveland, OH 44122 United States Eaton.com/electronics

© 2024 Eaton All Rights Reserved Printed in USA Publication No. 4347 April 2024

Eaton is a registered trademark.

All other trademarks are property of their respective owners.

Follow us on social media to get the latest product and support information.



