AEO 10.3x38

EV Fuse 10.3 x 38 mm, 1000 VDC, up to 50 A

new



Standard version



Screw-on version



PCB version



Screw-on version (axial)

1000 VDC · EV Fuse

See below:
Approvals and Compliances

Description
- High breaking capacity up to 50 kA @ 1000 VDC
- Manifold mounting versions

Unique Selling Proposition
- Designed for electric vehicles (EV Car)
- Very high rated current up to 50 A

Applications
- Battery Management System
- On-Board Battery Charger
- DC/DC Converters
- Air-Conditioning Compressor
- PCT Heater

References
Corresponding Fuseholder

Weblinks
pdf data sheet, html datasheet, General Product Information, Distributor-Stock-Check, Accessories, Detailed request for product

Technical Data

Rated Voltage	800 - 1000 VDC
Rated current	10 - 50 A
Breaking Capacity	10 - 50 kA
Characteristic	EV Fuse
Mounting	Insert, PCB/THT, Screw
Admissible Ambient Air Temp.	-40 °C to 125 °C
Material: Tube	Ceramics
Material: Endcaps	Ni/Sn-Plated Copper Alloy
Unit Weight	8.1 g
Storage Conditions	0 °C to 60 °C, max. 70% r.h.
Product Marking	, Type, Rated current, Rated Voltage, Breaking Capacity, CE mark, Approvals, "EV Fuse"

Solderability	JESD22-B102E, Method 1
Resistance to Soldering Heat	JEDEC J-STD-020, Method B
Solderability	245 °C / 2 sec acc. to IEC 60068-2-20, Test Ta, method 1
Resistance to Soldering Heat	260 °C / 5 sec acc. to IEC 60068-2-20, Test Tb, method 1A
Operational Life	MIL-STD-202, Method 108 Condition D 1000h @ 0.4 x In @ 125°C
Vibration, High Frequency	MIL-STD-202, Method 204 Condition D
Temperature Cycling	JESD22, Method JA-104 Condition G
Flame Retardance	AEC-Q200-001

Approvals and Compliances

Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in Details about Approvals

SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical technology according to ISO 13485 or in the aerospace industry can be offered exclusively with customer-specific, individual agreements by SCHURTER.

Approvals

The approval mark is used by the testing authorities to certify compliance with the safety requirements placed on electronic products.

Approval Reference Type: AEO 10x38

Approval Logo	Certificates	Certification Body	Description
c UL us	UL Approvals	UL	UL File Number: E184831

Application standards

Application standards where the product can be used

Organization	Design	Standard	Description
IEC	Designed for applications acc.	IEC/UL 62368-1	Audio/video, information and communication technology equipment - Part 1: Safety requirements

Compliances

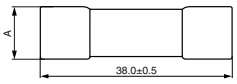
The product complies with following Guide Lines

Identification	Details	Initiator	Description
CE	CE declaration of conformity	SCHURTER AG	The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008.
UKCA	UKCA declaration of conformity	SCHURTER AG	The UKCA marking declares that the product complies with the applicable requirements laid down in the British Amendment of Regulation (EC) 765/2008.
RoHS COMPLIANT	RoHS	SCHURTER AG	Directive RoHS 2011/65/EU, Amendment (EU) 2015/863
China RoHS	China RoHS	SCHURTER AG	The law SJ / T 11363-2006 (China RoHS) has been in force since 1 March 2007. It is similar to the EU directive RoHS.
REACH	REACH	SCHURTER AG	On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force.
AEC Q200	Automotive	SCHURTER AG	AEC-Q200 is a test standard for passive components used in automotive applications. SCHURTER tests components according to the customer's agreement and is certified according to IATF 16949.

Dimension [mm]

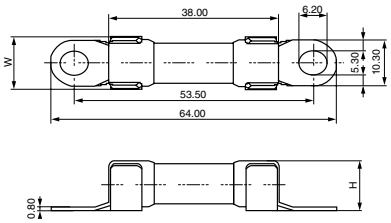
10.3 mm

Standard



Dimensions [mm]	10-30 A	40-50 A
A	⌀10.3	⌀10.4

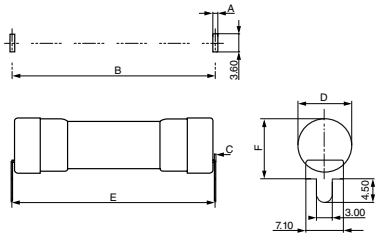
Screw-on mounting



Dimensions [mm]	10-30 A	40-50 A
W	11.9±0.8	12.5±0.8
H	11.1±0.8	11.3±0.8

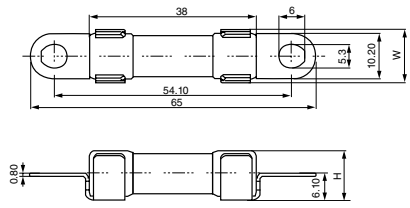
Mounting Torque: 3-5Nm

PCB terminals



Dimensions [mm]	10 A - 30 A	40 A - 50 A
A	1.0	1.2
B	38.9	41.2
C	0.3±0.05	0.5±0.05
D	10.8±0.5	11.1±0.5
E	38.9±0.5	41.2±0.5
F	11.5±0.5	11.5±0.5

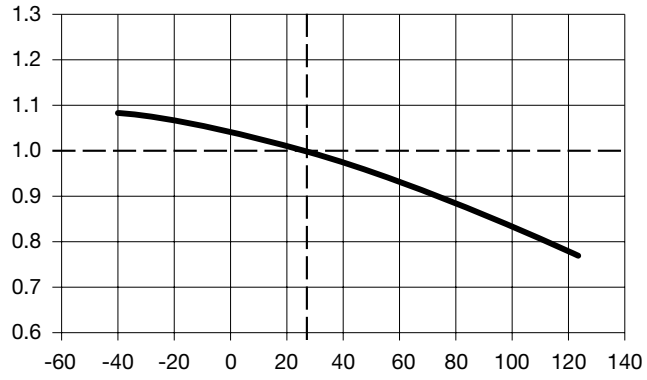
Screw mount (Axial)



Dimensions [mm]	10-30 A	40-50 A
W	11.9±0.8	12.5±0.8
H	11.1±0.8	11.3±0.8

Mounting Torque: 3-5Nm

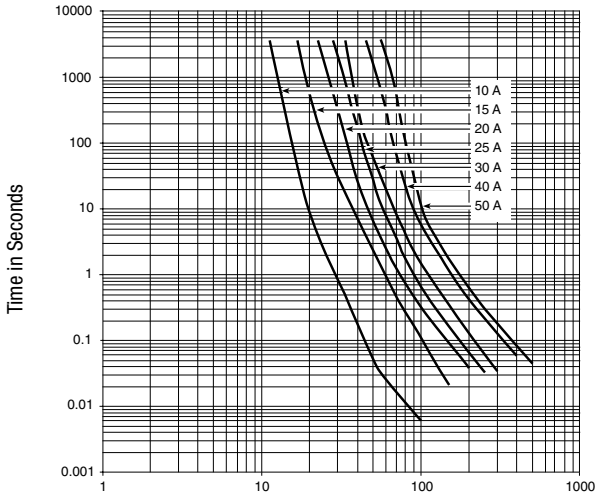
Derating Curves



Pre-Arcing Time

Rated Current In	1.13 x In min.	1.35 x In max.	2.0 x In min.	2.0 x In max.	3.0 x In min.	3.0 x In max.	5.0 x In min.	5.0 x In max.
10 A - 50 A	60 min	60 min	500 ms	100 s	100 ms	15 s	30 ms	1 s

Time-Current-Curves



Current in Amperes

All Variants

Rated Current [A]	Mounting	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 I_n max. [mV]	Power Dissipation 0.5 I_n typ. [mW]	Melting I^2t 10.0 I_n typ. [A^2s]	cULus	Order Number
10	Standard	1000	1)	225	860	62	●	8020.2050
15	Standard	1000	1)	175	1000	488	●	8020.2051
20	Standard	1000	1)	165	1300	1507	●	8020.2052
25	Standard	1000	1)	165	1400	2094	●	8020.2056
30	Standard	1000	1)	155	1800	3150	●	8020.2053
40	Standard	800	2)	155	1800	9600	●	8020.2054
50	Standard	800	2)	155	2600	11417	●	8020.2055
10	Screw	1000	1)	225	860	62	●	8020.2060

Rated Current [A]	Mounting	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 I_n max. [mV]	Power Dissipation 0.5 I_n typ. [mW]	Melting I^2t 10.0 I_n typ. [A^2s]	c UL us	Order Number
15	Screw	1000	1)	175	1000	488	●	8020.2061
20	Screw	1000	1)	165	1300	1507	●	8020.2062
25	Screw	1000	1)	165	1400	2094	●	8020.2066
30	Screw	1000	1)	155	1800	3150	●	8020.2063
40	Screw	800	2)	155	1800	9600	●	8020.2064
50	Screw	800	2)	155	2600	11417	●	8020.2065
10	Screw (Axial)	1000	1)	225	860	62	●	8020.2080
15	Screw (Axial)	1000	1)	175	1000	488	●	8020.2081
20	Screw (Axial)	1000	1)	165	1300	1507	●	8020.2082
25	Screw (Axial)	1000	1)	165	1400	2094	●	8020.2086
30	Screw (Axial)	1000	1)	155	1800	3150	●	8020.2083
40	Screw (Axial)	800	2)	155	1800	9600	●	8020.2084
50	Screw (Axial)	800	2)	155	2600	11417	●	8020.2085
10	PCB	1000	1)	225	860	62	●	8020.2090
15	PCB	1000	1)	175	1000	488	●	8020.2091
20	PCB	1000	1)	165	1300	1507	●	8020.2092
25	PCB	1000	1)	165	1400	2094	●	8020.2096
30	PCB	1000	1)	155	1800	3150	●	8020.2093
40	PCB	800	2)	155	1800	9600	●	8020.2094
50	PCB	800	2)	155	2600	11417	●	8020.2095

Availability for all products can be searched real-time:https://www.schurter.com/en/Stock-Check/Stock-Check-SCHURTER

1) UL: 20 kA @ 1000 VDC with L/R < 3 ms; internal testing: 10 kA @ 275 VAC with 0.99 ≥ cos φ ≥ 0.7

1) Internal tests: 50 kA @ 1000 VDC with L/R ≤ 1 ms

2) UL: 20 kA @ 800 VDC with L/R < 3 ms; internal testing: 10 kA @ 275 VAC with 0.99 ≥ cos φ ≥ 0.7

Packaging Unit

Standard version	Bulk (10 pcs.)
PCB version	Bulk (100 pcs.)
Screw-on version	Bulk (50 pcs.)

Accessories

	Description
	ESO 10.3x38 Fuse Inserter/Extractor with Cover Function for 10.3x38 mm Fuses in Clips, Patent Pending

29.09.2021

The specifications, descriptions and illustrations indicated in this document are based on current information. All content is subject to modifications and amendments. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability and test each product selected for their own applications.