UMF 250

Surface Mount Fuse, 3 x 10.1 mm, Quick-Acting F, 250 VAC, 125 VDC



IEC 60127 · 250 VAC · 125 VDC · Quick-Acting F

See below:
Approvals and Compliances

Description

- Directly solderable on printed circuit boards
- Impermeable to potting compound used to achieve hermetic seal for use in intrinsically safe applications according to ATEx and IECEx requirements.

Unique Selling Proposition

- High breaking capacity up to 500A
- Low melting I^2t-values, fast interruption

Applications

- Primary protection on SMD PCBs
- Secondary protection on SMD PCBs
- Battery Management System
- Medical Equipment
- Power supplies
- Illumination

References

Fuse Kit Fuse Kit UMF 250 / UMK 250

Weblinks

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

Technical Data

Rated Voltage	250 VAC, 125 VDC
Rated current	0.5 - 15 A
Breaking Capacity	100 A - 500 A
Characteristic	Quick-Acting F
Mounting	PCB,SMT
Admissible Ambient Air Temp.	-55 °C to 125 °C
Climatic Category	55/125/21 acc. to IEC 60068-1
Material: Housing	Ceramics
Material: Terminals	Copper alloy, tin-plated
Unit Weight	0.23 g
Storage Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	Ⓢ Ⓜ, Rated current, Rated Voltage, Characteristic, Breaking Capacity

Soldering Methods	Reflow, Wave Soldering Profile
Solderability	245 °C / 3 sec acc. to IEC 60068-2-58, Test Td
Resistance to Soldering Heat	260 °C / 10 sec acc. to IEC 60068-2-58, Test Td
Moisture Sensitivity Level	MSL 1, J-STD-020
Case Resistance	>100 MΩ (between leeds and body) acc. to EIA/IS-722, Test 4.7
Flammability	min. UL 94V-1 (acc. to EIA/IS-722, Test 4.12)
Moisture Resistance Test	MIL-STD-202, Method 106 (acc. to EIA/IS-722, Test 4.4.3)
Operational Life	1000h @ 0.60 x In @ 70°C (acc. to EIA/IS-722, Test 4.4.1)
Mechanical Shock	MIL-STD-202, Method 213 Condition A
Resistance to Solvents	MIL-STD-202, Method 215

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: UMF 250

Approval Logo	Certificates	Certification Body	Description
	VDE Approvals	VDE	VDE Certificate Number: 40027880 & 40048753
	UL Approvals	UL	UR File Number: E41599
	METI Approvals	METI	Japan Electrical Safety and Environment technology Laboratories

Product standards

Product standards that are referenced

Organization	Design	Standard	Description
IEC	Designed according to	IEC 60127-4/2	Miniature fuses. Part 4. Universal modular fuse-links for through-hole and surface mount types
IEC	Designed according to	IEC 60127-7/1	Miniature fuses - Part 7: Miniature fuse-links for special applications
UL	Designed according to	UL 248-14	Low voltage fuses - Part 14: Additional fuses
CSA Group	Designed according to	CSA22.2 No. 248.14	Low-Voltage Fuses - Part 14: Supplemental Fuses

Application standards

Application standards where the product can be used

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

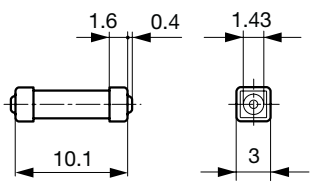
Compliances

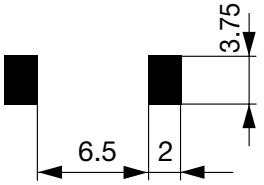
The product complies with following Guide Lines

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	RoHS	SCHURTER AG	Directive RoHS 2011/65/EU, Amendment (EU) 2015/863
50	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.
Halogen Free HF	Halogen Free	SCHURTER AG	SCHURTER strives to offer our customers halogen free products.
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.
		SCHURTER AG	Universal Modular Fuse meets the standard IEC 60127-4

Dimension [mm]

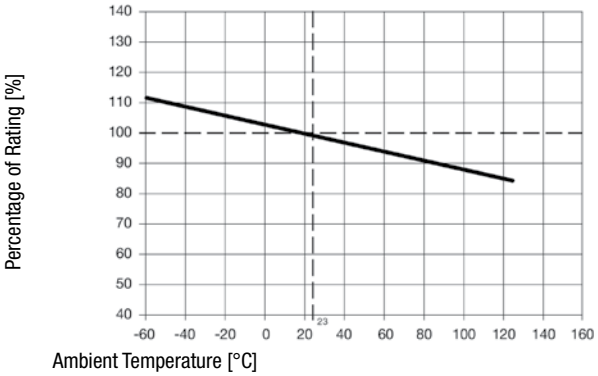
10.1 mm





Soldering pads

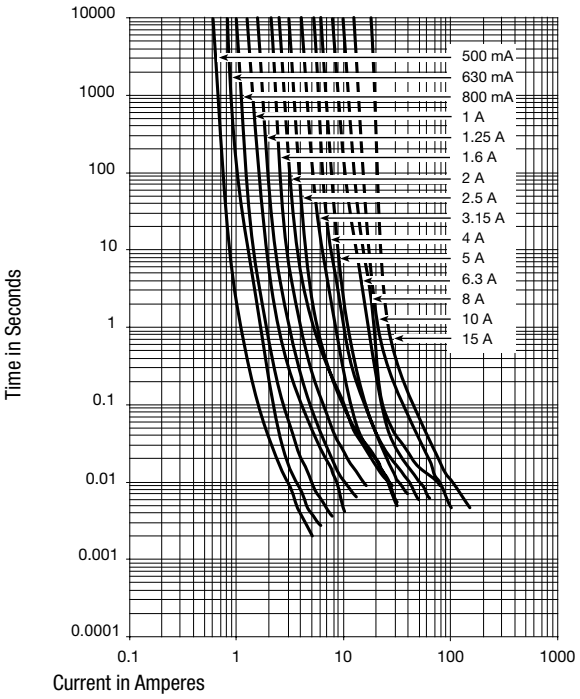
Derating Curves



Pre-Arcing Time

Rated Current In	1.0 x In min.	1.25 x In min.	2.0 x In max.	10.0 x In min.	10.0 x In max.
0.5 A - 8 A	-	60 min	120 s	1 ms	10 ms
10 A - 15 A	4 h	-	120 s	1 ms	10 ms

Time-Current-Curves



All Variants

Rated Current [A]	Rated Voltage [VAC]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 I_n max. [mV]	Voltage Drop 1.0 I_n typ. [mV]	Power Dissipation 1.25 I_n max [mW]	Melting I^2t 10.0 I_n typ. [A^2s]				Order Number
0.5	250	125	1)	600	430	500	0.042	●	●	●	3405.0163.11
0.5	250	125	1)	600	430	500	0.042	●	●	●	3405.0163.24
0.63	250	125	1)	500	350	500	0.092	●	●	●	3405.0164.11
0.63	250	125	1)	500	350	500	0.092	●	●	●	3405.0164.24
0.8	250	125	1)	400	300	500	0.21	●	●	●	3405.0165.11
0.8	250	125	1)	400	300	500	0.21	●	●	●	3405.0165.24
1	250	125	2)	300	250	500	0.4	●	●	●	3405.0166.11

Rated Current [A]	Rated Voltage [VAC]	Rated Voltage [VDC]	Breaking Capacity	Voltage Drop 1.0 I_n max. [mV]	Voltage Drop 1.0 I_n typ. [mV]	Power Dissipation 1.25 I_n max [mW]	Melting I^2t 10.0 I_n typ. [A^2s]	VDE		cULus	Order Number
1	250	125	2)	300	250	500	0.4	●	●	●	3405.0166.24
1.25	250	125	3)	300	220	1000	1	●	●	●	3405.0167.11
1.25	250	125	3)	300	220	1000	1	●	●	●	3405.0167.24
1.6	250	125	3)	300	190	1000	2.1	●	●	●	3405.0168.11
1.6	250	125	3)	300	190	1000	2.1	●	●	●	3405.0168.24
2	250	125	3)	300	200	1000	3.26	●	●	●	3405.0169.11
2	250	125	3)	300	200	1000	3.26	●	●	●	3405.0169.24
2.5	250	125	3)	300	160	1200	4.8	●	●	●	3405.0170.11
2.5	250	125	3)	300	160	1200	4.8	●	●	●	3405.0170.24
3.15	250	125	3)	300	100	1500	5.17	●	●	●	3405.0171.11
3.15	250	125	3)	300	100	1500	5.17	●	●	●	3405.0171.24
4	250	125	3)	300	100	2000	9.4	●	●	●	3405.0172.11
4	250	125	3)	300	100	2000	9.4	●	●	●	3405.0172.24
5	250	125	3)	300	110	2500	13.57	●	●	●	3405.0173.11
5	250	125	3)	300	110	2500	13.57	●	●	●	3405.0173.24
6.3	250	125	3)	300	80	3000	23.85	●	●	●	3405.0174.11
6.3	250	125	3)	300	80	3000	23.85	●	●	●	3405.0174.24
8	250	125	3)	220	80	3000	52.58	●	●	●	3405.0175.11
8	250	125	3)	220	80	3000	52.58	●	●	●	3405.0175.24
10	250	125	3)	220	150	4000	45.8	●		●	3405.0176.11
10	250	125	3)	220	150	4000	45.8	●		●	3405.0176.24
15	125	125	4)	150	100	4000	100			●	3405.0178.11
15	125	125	4)	150	100	4000	100			●	3405.0178.24

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

1) IEC: 100 A @ 250 VAC / 100 A @ 125 VDC, resistiv

1) UL: 200 A @ 250 VAC, p.f. ≥ 0.99 / 200 A @ 125 VDC, resistiv

2) IEC: 100 A @ 250 VAC / 100 A @ 125 VDC, resistiv

2) UL: 200 A @ 250 VAC, p.f. ≥ 0.99 / 200 A @ 125 VDC, resistiv

2) PSE: 100 A @ 250 VAC

3) IEC: 100 A @ 250 VAC / 100 A @ 125 VDC, resistiv

3) UL: 100 A @ 250 VAC, p.f. ≥ 0.99 / 100 A @ 125 VDC, resistiv

3) PSE: 100 A @ 250 VAC

4) UL: 150 A @ 125 VAC, p.f. ≥ 0.99 / 500 A @ 125 VDC, tau < 0.1ms

4) PSE: 100 A @ 250 VAC

Packaging Unit
acc. IEC 60286-3 Type 2a

.xx = .11	100 pcs in ESD-plastic bag
.xx = .24	2000 pcs. in tape [W: 24mm and P1: 8mm] on reel [A: 33cm]

03.01.2023

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.