Surface Mount Fuse with Clip, 4.2 x 11.3 mm, Quick-Acting F, UMK 250 = UMF 250 (Au) + UMC 250




Surface Mount Fuse with Clip

IEC 60127-4 · 250 VAC · 125 VDC · Quick-Acting F

See below:
**Approvals and Compliances**

## Description

- VDE/UL Approvals, UMF 250, UMF 250 (Au), UMC 250 , see variants
- High breaking capacity of up to 200 A @ 250 VAC
- UL approval for 0.05 A - 4 A @ 250 VAC and 125 VDC

## Applications

- Primary protection on SMD PCBs

## 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 - 4 A |
| Breaking Capacity | 100-200 A |
| Characteristic | Quick-Acting F |
| Mounting | PCB,SMT |
| Admissible Ambient Air Temp. | -40 °C to 85 °C |
| Climatic Category | 40/085/21 acc. to IEC 60068-1 |
| Material: Housing | Ceramics |
| Material: Terminals | Gold-Plated Copper Alloy |
| Storage Conditions | 0 °C to 40 °C, max. 70% r.h. |
| Product Marking | S, Rated current, Rated Voltage, Characteristic, Breaking Capacity |

| | |
|---|---|
| Soldering Methods | Reflow<br>Soldering Profile |
| Solderability | 245 °C / 3 sec acc. to IEC 60068-2-58 |
| Resistance to Soldering Heat | 260 °C / 10 sec acc. to IEC 60068-2-58 |
| Moisture Sensitivity Level | MSL 1, J-STD-020 |
| Flammability | min. UL 94V-1<br>(acc. to EIA/IS-722, Test 4.12) |
| Moisture Resistance Test | (acc. to EIA/IS-722, Test 4.4.3)<br>10% rated current. Temperatur change between 25°C und 65°C at 100% relative humidity. Duration: 24h each cycle, total 10 cycles |
| Operational Life | (acc. to EIA/IS-722, Test 4.4.1)<br>1000h @ 0.60 x In @ 70°C |
| Mechanical Shock | MIL-STD-202, Method 213 Condition A |
| Resistance to Solvents | Cleaning with common solvents |
| Terminal Strength | (acc. to EIA/IS-722, Test 4.5.5)<br>(Deflection of board 1 mm for 1 minute) |

## 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: UMK 250

| Approval Logo | Certificates | Certification Body | Description |
|---|---|---|---|
| VDE | VDE Approvals | VDE | VDE Certificate Number: 40027880 / 40023291 |
| c UL us | UL Approvals | UL | UR File Number: E41599 |

## Product standards

Product standards that are referenced

| Organization | Design | Standard | Description |
|---|---|---|---|
| IEC | Designed according to | IEC 60127-6 | Miniature fuses. Part 6. Fuse-holders for miniature fuse-links |
| IEC | Designed according to | IEC 60127-4 | Miniature fuses. Part 4. Universal modular fuse-links for through-hole and surface mount types |
| UL | Designed according to | UL 248-14 / 4248-1 | Low voltage fuses - Part 14: Additional fuses |
| CSA Group | Designed according to | CSA22.2 No. 248.14 / No. 4248.1 | 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 |

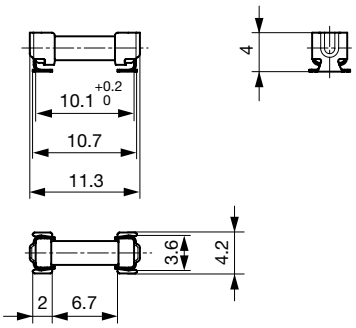
## Compliances

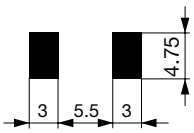
The product complies with following Guide Lines

| 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 COMPLIANT | 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. |

## Dimension [mm]

11.3 mm



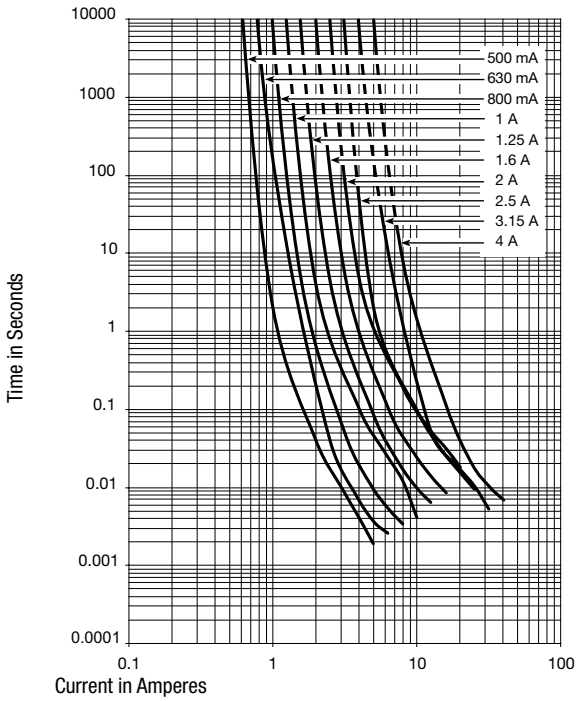




Soldering pads

## 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 - 4.0 A | - | 60 min | 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. [$A^2s$] | VDE | cULus | Order Number |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.5 | 250 | 125 | 1) | 600 | 430 | 500 | 0.27 | ● | ● | 3404.2463.11 |
| 0.5 | 250 | 125 | 1) | 600 | 430 | 500 | 0.27 | ● | ● | 3404.2463.22 |
| 0.63 | 250 | 125 | 1) | 500 | 350 | 500 | 0.9 | ● | ● | 3404.2464.11 |
| 0.63 | 250 | 125 | 1) | 500 | 350 | 500 | 0.9 | ● | ● | 3404.2464.22 |
| 0.8 | 250 | 125 | 1) | 400 | 300 | 500 | 0.21 | ● | ● | 3404.2465.11 |
| 0.8 | 250 | 125 | 1) | 400 | 300 | 500 | 0.21 | ● | ● | 3404.2465.22 |
| 1 | 250 | 125 | 1) | 300 | 250 | 500 | 0.4 | ● | ● | 3404.2466.11 |
| 1 | 250 | 125 | 1) | 300 | 250 | 500 | 0.4 | ● | ● | 3404.2466.22 |
| 1.25 | 250 | 125 | 2) | 300 | 220 | 1000 | 1 | ● | ● | 3404.2467.11 |
| 1.25 | 250 | 125 | 2) | 300 | 220 | 1000 | 1 | ● | ● | 3404.2467.22 |
| 1.6 | 250 | 125 | 2) | 300 | 190 | 1000 | 2.1 | ● | ● | 3404.2468.11 |
| 1.6 | 250 | 125 | 2) | 300 | 190 | 1000 | 2.1 | ● | ● | 3404.2468.22 |
| 2 | 250 | 125 | 2) | 300 | 200 | 1000 | 3.26 | ● | ● | 3404.2469.11 |
| 2 | 250 | 125 | 2) | 300 | 200 | 1000 | 3.26 | ● | ● | 3404.2469.22 |
| 2.5 | 250 | 125 | 2) | 300 | 160 | 1200 | 4.8 | ● | ● | 3404.2470.11 |
| 2.5 | 250 | 125 | 2) | 300 | 160 | 1200 | 4.8 | ● | ● | 3404.2470.22 |
| 3.15 | 250 | 125 | 2) | 300 | 100 | 1500 | 5.17 | ● | ● | 3404.2471.11 |
| 3.15 | 250 | 125 | 2) | 300 | 100 | 1500 | 5.17 | ● | ● | 3404.2471.22 |
| 4 | 250 | 125 | 2) | 300 | 100 | 2000 | 9.4 | ● | ● | 3404.2472.11 |
| 4 | 250 | 125 | 2) | 300 | 100 | 2000 | 9.4 | ● | ● | 3404.2472.22 |

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, resistive

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

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

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

Approval Overview

UMF 250 -> Fuse with tin-plated caps, Approval Status: VDE, UL LISTED, cURus, Free of CCC, PSE JET, KTL

| 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 |
|---|---|---|---|---|---|---|---|---|

UMF 250 (Au) -> Fuse with gold-plated caps, Approval Status: VDE Mark and cURus

UMC 250 -> Clip, Approval Status: VDE UG Mark and cURus

UMK 250 = UMF 250 (Au) + UMC 250

There is no approval existing for the combination fuse and clip UMK 250, but the fuse and the clip are fully approved independently at VDE/UL. See details above.

In the reflow soldering process, the fuse must have gold-plated caps, otherwise fuse and clip would be soldered together. For fuse replacement in the field, a standard UMF 250 fuse with tin-plated caps can be used.

It is not allowed to replace higher rated current than 4 A in the clip.

| **Packaging Unit** acc. IEC 60286-3 Type 2a | | |
|---|---|---|
| | .xx = .11 | 100 pcs. in tape in ESD-plastic bag |
| | .xx = .22 | 1000 pcs. in tape [W: 24mm and P1: 8mm] on reel [A: 33cm] |

11.07.2022



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.