

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

new



250 VAC · 125 VDC · Quick-Acting F

See below:

[Approvals and Compliances](#)

### Description

- Designed for use with fuseholder FRM-A
- 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

- Defined interruption at 1.7 x rated current
- Low melting I<sup>2</sup>t-values
- Verified High Altitude Capability
- Qualified for high altitude operation

### Applications

- Avionics
- Ground Equipment

### References

Corresponding Fuseholder [FRM-A](#)

### 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 - 8 A                                                                                                                               |
| Breaking Capacity        | 100 A - 200 A                                                                                                                           |
| Characteristic           | Quick-Acting F                                                                                                                          |
| Mounting                 | PCB, SMT                                                                                                                                |
| Admissible Ambient Temp. | -55 °C to 125 °C                                                                                                                        |
| Climatic Category        | 55/125/21 acc. to IEC 60068-1                                                                                                           |
| Material: Housing        | Ceramics                                                                                                                                |
| Material: Terminals      | Copper alloy, gold-plated nickel                                                                                                        |
| Unit Weight              | 0.3 g                                                                                                                                   |
| Storage Conditions       | 0 °C to 40 °C, max. 70% r.h.                                                                                                            |
| Product Marking          |  DRM-A, Rated current, Characteristic, Rated Voltage |

|                              |                                                                            |
|------------------------------|----------------------------------------------------------------------------|
| Soldering Methods            | Reflow, Wave<br><a href="#">Soldering Profile</a>                          |
| Solderability                | JESD22-B102E, Method 1                                                     |
| Resistance to Soldering Heat | JEDEC J-STD-020                                                            |
| 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                                                           |
| Damp heat, steady state      | IEC 60068-2-78                                                             |
| Moisture Sensitivity Level   | MIL-STD-202, Method 106 (acc. to EIA/IS-722, Test 4.4.3)                   |
| Operational Life             | MIL-STD-202, Method 108 Condition F 2000h @ 0.60 x I <sub>n</sub> @ 125 °C |
| Vibration, High Frequency    | IEC 60068-2-6                                                              |
| Mechanical Shock             | IEC 60068-2-27                                                             |
| High Temperature Exposure    | IEC 60068-2-14                                                             |
| 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: DRM-A

| Approval Logo                                                                       | Certificates                 | Certification Body | Description            |
|-------------------------------------------------------------------------------------|------------------------------|--------------------|------------------------|
|  | <a href="#">UL Approvals</a> | UL                 | UR File Number: E41599 |

Product standards

Product standards that are referenced

| Organization                                                                     | Design                | Standard  | Description                                     |
|----------------------------------------------------------------------------------|-----------------------|-----------|-------------------------------------------------|
|  | Designed according to | UL 248-14 | Low voltage fuses - Part 14: Supplemental fuses |

Application standards

Application standards where the product can be used

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

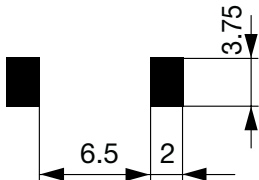
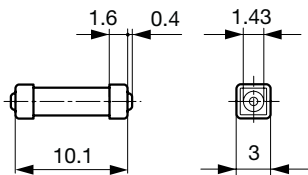
Compliances

The product complies with following Guide Lines

| Identification                                                                    | Details                                        | Initiator   | Description                                                                                                                                                                                           |
|-----------------------------------------------------------------------------------|------------------------------------------------|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <a href="#">CE declaration of conformity</a>   | 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. |
|   | <a href="#">UKCA declaration of conformity</a> | 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.                                                  |
|   | <a href="#">RoHS</a>                           | SCHURTER AG | Directive RoHS 2011/65/EU, Amendment (EU) 2015/863                                                                                                                                                    |
|   | <a href="#">China RoHS</a>                     | 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.                                                                                  |
|   | <a href="#">Halogen Free</a>                   | SCHURTER AG | SCHURTER strives to offer our customers halogen free products.                                                                                                                                        |
|  | <a href="#">REACH</a>                          | 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.                               |

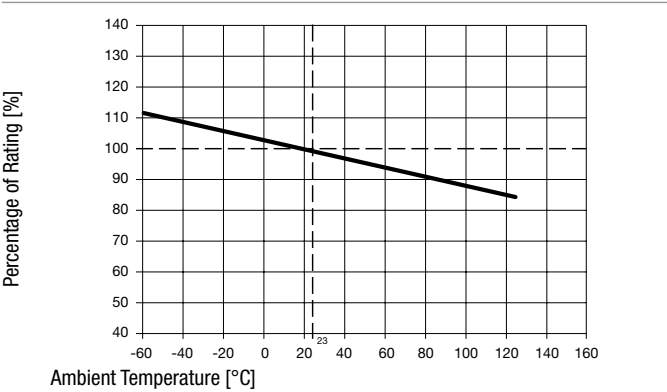
Dimension [mm]

10.1 mm



Soldering pads

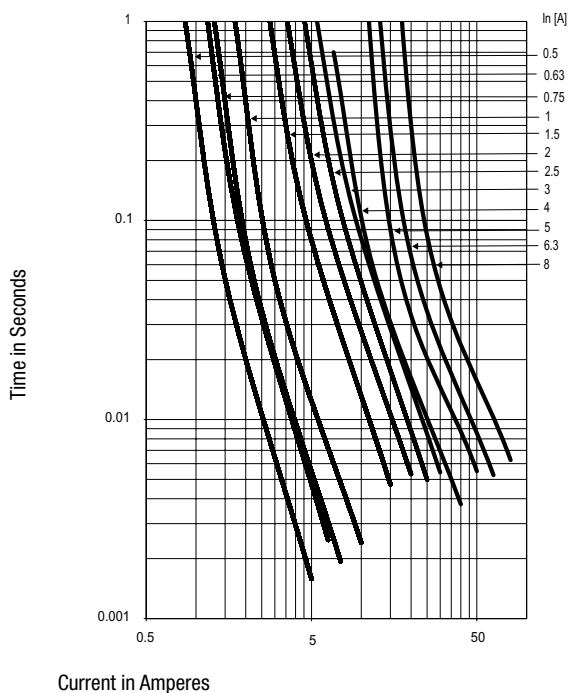
Derating Curves



## Pre-Arcing Time

| Rated Current $I_n$ | 1.0 x $I_n$ min. | 1.1 x $I_n$ min. | 1.7 x $I_n$ min. | 1.7 x $I_n$ max. | 3.0 x $I_n$ min. | 3.0 x $I_n$ max. | 10.0 x $I_n$ min. | 10.0 x $I_n$ max. |
|---------------------|------------------|------------------|------------------|------------------|------------------|------------------|-------------------|-------------------|
| 0.5 A - 8 A         | 4 h              | 60 min           | 300 ms           | 60 min           | 35 ms            | 300 ms           | 1 ms              | 10 ms             |

## Time-Current-Curves



## All Variants

| Rated Current [A] | Rated Voltage [VAC] | Rated Voltage [VDC] | Breaking Capacity | Voltage Drop 1.0 $I_n$ typ. [mV] | Power Dissipation 1.1 $I_n$ typ. [mW] | Melting $I^2t$ 10.0 $I_n$ typ. [A <sup>2</sup> s] | Packaging unit | Order Number |
|-------------------|---------------------|---------------------|-------------------|----------------------------------|---------------------------------------|---------------------------------------------------|----------------|--------------|
| 0.5               | 250                 | 125                 | 1)                | 830                              | 503                                   | 0.04                                              | 100            | 3-133-762    |
| 0.5               | 250                 | 125                 | 1)                | 830                              | 503                                   | 0.04                                              | 2000           | 3-133-763    |
| 0.63              | 250                 | 125                 | 1)                | 580                              | 468                                   | 0.1                                               | 100            | 3-133-757    |
| 0.63              | 250                 | 125                 | 1)                | 580                              | 468                                   | 0.1                                               | 2000           | 3-133-758    |
| 0.75              | 250                 | 125                 | 1)                | 500                              | 494                                   | 0.11                                              | 100            | 3-133-755    |
| 0.75              | 250                 | 125                 | 1)                | 500                              | 494                                   | 0.11                                              | 2000           | 3-133-756    |
| 1                 | 250                 | 125                 | 1)                | 380                              | 517                                   | 0.24                                              | 100            | 3-133-753    |
| 1                 | 250                 | 125                 | 1)                | 380                              | 517                                   | 0.24                                              | 2000           | 3-133-754    |
| 1.5               | 250                 | 125                 | 2)                | 290                              | 576                                   | 1.1                                               | 100            | 3-133-751    |
| 1.5               | 250                 | 125                 | 2)                | 290                              | 576                                   | 1.1                                               | 2000           | 3-133-752    |
| 2                 | 250                 | 125                 | 2)                | 280                              | 740                                   | 2.1                                               | 100            | 3-133-749    |
| 2                 | 250                 | 125                 | 2)                | 280                              | 740                                   | 2.1                                               | 2000           | 3-133-750    |
| 2.5               | 250                 | 125                 | 2)                | 275                              | 941                                   | 3.1                                               | 100            | 3-133-747    |
| 2.5               | 250                 | 125                 | 2)                | 275                              | 941                                   | 3.1                                               | 2000           | 3-133-748    |
| 3                 | 250                 | 125                 | 2)                | 240                              | 1067                                  | 4.9                                               | 100            | 3-133-745    |
| 3                 | 250                 | 125                 | 2)                | 240                              | 1067                                  | 4.9                                               | 2000           | 3-133-746    |
| 4                 | 250                 | 125                 | 2)                | 135                              | 726                                   | 6                                                 | 100            | 3-133-743    |
| 4                 | 250                 | 125                 | 2)                | 135                              | 726                                   | 6                                                 | 2000           | 3-133-744    |
| 5                 | 250                 | 125                 | 2)                | 100                              | 672                                   | 13.8                                              | 100            | 3-133-731    |
| 5                 | 250                 | 125                 | 2)                | 100                              | 672                                   | 13.8                                              | 2000           | 3-133-742    |
| 6.3               | 250                 | 125                 | 2)                | 105                              | 903                                   | 20.9                                              | 100            | 3-133-729    |
| 6.3               | 250                 | 125                 | 2)                | 105                              | 903                                   | 20.9                                              | 2000           | 3-133-730    |

| Rated Cur-<br>rent [A] | Rated Vol-<br>tage [VAC] | Rated Voltage<br>[VDC] | Breaking Ca-<br>pacity | Voltage Drop<br>1.0 I <sub>n</sub> typ. [mV] | Power Dissipa-<br>tion 1.1 I <sub>n</sub> typ.<br>[mW] | Melting I <sup>2</sup> t 10.0<br>I <sub>n</sub> typ. [A²s] | Packaging unit | Order Number |
|------------------------|--------------------------|------------------------|------------------------|----------------------------------------------|--------------------------------------------------------|------------------------------------------------------------|----------------|--------------|
| 8                      | 250                      | 125                    | 2)                     | 93                                           | 978                                                    | 40.1                                                       | 100            | 3-133-472    |
| 8                      | 250                      | 125                    | 2)                     | 93                                           | 978                                                    | 40.1                                                       | 2000           | 3-133-471    |

Availability for all products can be searched real-time: <https://www.schurter.com/en/info-center/support-tools/stock-check-distributors>

- 1) UL: 100 A @ 250 VAC, cos  $\phi$   $\geq$  0.99; 100 A @ 125 VDC, tau < 0.5 ms
- 1) Internal tests at 65'000 ft: 200 A @ 125 VAC, cos  $\phi$   $\geq$  0.99; 200 A @ 125 VDC, tau < 0.5 ms
- 2) UL: 100 A @ 250 VAC, cos  $\phi$   $\geq$  0.99; 100 A @ 125 VDC, tau < 0.5 ms
- 2) Internal tests at 65'000 ft: 100 A @ 125 VAC, cos  $\phi$   $\geq$  0.99; 100 A @ 125 VDC, tau < 0.5 m

|                          |                                                           |
|--------------------------|-----------------------------------------------------------|
| <b>Packaging Unit</b>    | 100 pcs in ESD-plastic bag                                |
| acc. IEC 60286-3 Type 2a | 2000 pcs. in tape [W: 24mm and P1: 8mm] on reel [A: 33cm] |

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