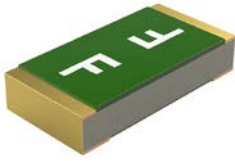


Surface Mount Fuse, 3.2 x 1.6 mm, Super-Quick-Acting FF, 32 VAC, 63 VDC



Exemplary part photo depending on part no.

UL 248-14 · 125 VAC · 125 VDC · Super-Quick-Acting FF

See below:

### Approvals and Compliances

#### Description

- UL characteristic
- Low melting I<sup>2</sup>t-values, fast interruption
- Impermeable to potting compound

#### Applications

- Secondary Protection DC and AC
- Circuits without inrush
- Semiconductor protection

#### References

[Packaging Details](#)

#### Weblinks

[pdf data sheet](#), [html datasheet](#), [General Product Information](#), [Packaging details](#), [Distributor-Stock-Check](#), [Detailed request for product](#), [Microsite](#)

#### Technical Data

|                              |                                    |
|------------------------------|------------------------------------|
| Rated Voltage                | 32 - 125 VAC, 63 - 125 VDC         |
| Rated current                | 0.375 - 4 A                        |
| Breaking Capacity            | 50 A                               |
| Characteristic               | Super-Quick-Acting FF              |
| Mounting                     | PCB,SMT                            |
| Admissible Ambient Air Temp. | -55 °C to 90 °C                    |
| Climatic Category            | 55/090/21 acc. to IEC 60068-1      |
| Material: Housing            | Fiber-reinforced plastic, UL 94V-0 |
| Material: Terminals          | Copper, Ni/Au-plated               |
| Unit Weight                  | 0.006 g                            |
| Storage Conditions           | 0 °C to 60 °C, max. 70% r.h.       |
| Product Marking              | Letter (see variants)              |

|                              |   |
|------------------------------|---|
| Soldering Methods            | Reflow<br><a href="#">Soldering Profile</a>                         |
| Solderability                | 245 °C / 3 sec acc. to IEC 60068-2-58, Test Td                      |
| Resistance to Soldering Heat | 260 +0/-5 °C / 30 sec acc. to IPC/JEDEC J-STD-020D, Level 1         |
| Moisture Sensitivity Level   | MSL 1, J-STD-020  |
| Case Resistance              | acc. to EIA/IS-722, Test 4.7<br>>100 MΩ (between leads and body)    |
| Flammability                 | min. UL 94V-1<br>(acc. to EIA/IS-722, Test 4.12)                    |
| Moisture Resistance Test     | MIL-STD-202, Method 106<br>(50 cycles in a temp./mister chamber)    |
| Resistance to Solvents       | MIL-STD-202, Method 215   |
| Terminal Strength            | MIL-STD-202, Method 211A<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: USF 1206

| Approval Logo | Certificates                 | Certification Body | Description            |
|---------------|------------------------------|--------------------|------------------------|
|               | <a href="#">UL Approvals</a> | UL                 | UL 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: Additional fuses   |
|  | 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   |
|--|--------------------------------|--------------|---|
|  | Designed for applications acc. | IEC/UL 60950 | IEC 60950-1 includes the basic requirements for the safety of information technology equipment. |

## Compliances

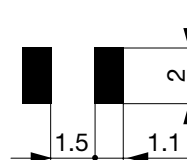
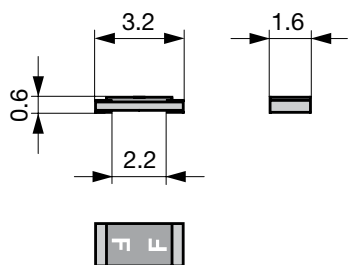
The product complies with following Guide Lines

| 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. |
|   | RoHS   | SCHURTER AG | Directive RoHS 2011/65/EU, Amendment (EU) 2015/863  |
|   | 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                                 | SCHURTER AG | SCHURTER strives to offer our customers halogen free products.  |
|  | 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.                               |

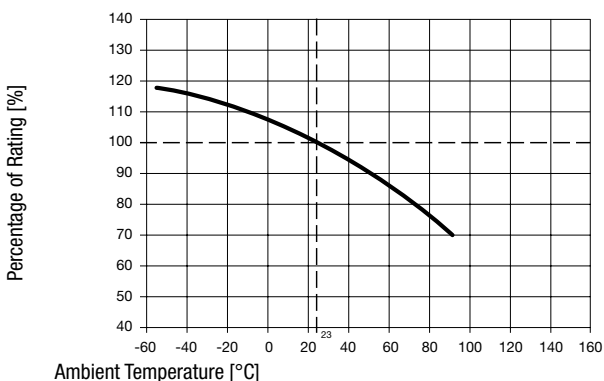
## Dimension [mm]

 3.2 mm

Reflow soldering pads



## Derating Curves

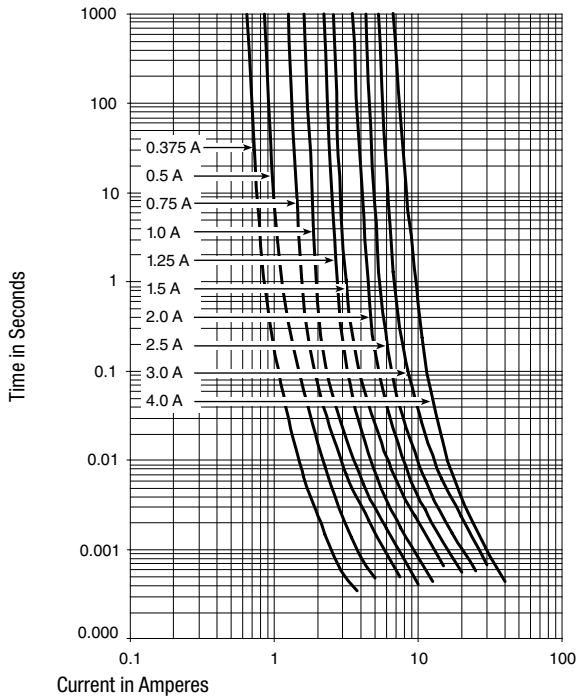


**Pre-Arcing Time**


Rated Current  $I_n$  1.0 x  $I_n$  min. 2.0 x  $I_n$  max.


|               |     |      |
|---------------|-----|------|
| 0.375 A - 4 A | 4 h | 60 s |
|---------------|-----|------|

**Time-Current-Curves**



**All Variants**

| Rated Current [A] | Rated Voltage [VAC] | Rated Voltage [VDC] | Marking | Breaking Capacity | Voltage Drop 1.0 $I_n$ typ. [mV] | Cold Resistance typ. [ $m\Omega$ ] | Melting $I^2t$ 8.0 $I_n$ typ. [ $A^2s$ ] |  US | Order Number |
|-------------------|---------------------|---------------------|---------|-------------------|----------------------------------|------------------------------------|--|--|--------------|
| 0.375             | 125                 | 125                 | E       | 1)                | 140                              | 360                                | 0.005                                    | ●  | 3413.0112.11 |
| 0.375             | 125                 | 125                 | E       | 1)                | 140                              | 360                                | 0.005                                    | ●  | 3413.0112.22 |
| 0.375             | 125                 | 125                 | E       | 1)                | 140                              | 360                                | 0.005                                    | ●  | 3413.0112.24 |
| 0.375             | 125                 | 125                 | E       | 1)                | 140                              | 360                                | 0.005                                    | ●  | 3413.0112.26 |
| 0.5               | 125                 | 125                 | F       | 1)                | 125                              | 200                                | 0.012                                    | ●  | 3413.0113.11 |
| 0.5               | 125                 | 125                 | F       | 1)                | 125                              | 200                                | 0.012                                    | ●  | 3413.0113.22 |
| 0.5               | 125                 | 125                 | F       | 1)                | 125                              | 200                                | 0.012                                    | ●  | 3413.0113.24 |
| 0.5               | 125                 | 125                 | F       | 1)                | 125                              | 200                                | 0.012                                    | ●  | 3413.0113.26 |
| 0.75              | 32                  | 63                  | G       | 2)                | 125                              | 135                                | 0.029                                    | ●  | 3413.0114.11 |
| 0.75              | 32                  | 63                  | G       | 2)                | 125                              | 135                                | 0.029                                    | ●  | 3413.0114.22 |
| 0.75              | 32                  | 63                  | G       | 2)                | 125                              | 135                                | 0.029                                    | ●  | 3413.0114.24 |
| 0.75              | 32                  | 63                  | G       | 2)                | 125                              | 135                                | 0.029                                    | ●  | 3413.0114.26 |
| 1                 | 32                  | 63                  | H       | 2)                | 100                              | 85                                 | 0.042                                    | ●  | 3413.0115.11 |
| 1                 | 32                  | 63                  | H       | 2)                | 100                              | 85                                 | 0.042                                    | ●  | 3413.0115.22 |
| 1                 | 32                  | 63                  | H       | 2)                | 100                              | 85                                 | 0.042                                    | ●  | 3413.0115.24 |
| 1                 | 32                  | 63                  | H       | 2)                | 100                              | 85                                 | 0.042                                    | ●  | 3413.0115.26 |
| 1.25              | 32                  | 63                  | J       | 2)                | 80                               | 50                                 | 0.069                                    | ●  | 3413.0116.11 |
| 1.25              | 32                  | 63                  | J       | 2)                | 80                               | 50                                 | 0.069                                    | ●  | 3413.0116.22 |
| 1.25              | 32                  | 63                  | J       | 2)                | 80                               | 50                                 | 0.069                                    | ●  | 3413.0116.24 |
| 1.25              | 32                  | 63                  | J       | 2)                | 80                               | 50                                 | 0.069                                    | ●  | 3413.0116.26 |
| 1.5               | 32                  | 63                  | K       | 2)                | 80                               | 45                                 | 0.15                                     | ●  | 3413.0117.11 |
| 1.5               | 32                  | 63                  | K       | 2)                | 80                               | 45                                 | 0.15                                     | ●  | 3413.0117.22 |
| 1.5               | 32                  | 63                  | K       | 2)                | 80                               | 45                                 | 0.15                                     | ●  | 3413.0117.24 |

| Rated Current [A] | Rated Voltage [VAC] | Rated Voltage [VDC] | Marking | Breaking Capacity | Voltage Drop 1.0 I <sub>n</sub> typ. [mV] | Cold Resistance typ. [mΩ] | Melting I <sup>2</sup> t 8.0 I <sub>n</sub> typ. [A <sup>2</sup> s] |  | Order Number |
|-------------------|---------------------|---------------------|---------|-------------------|---|---------------------------|---|---|--------------|
| 1.5               | 32                  | 63                  | K       | 2)                | 80  | 45                        | 0.15  | ●   | 3413.0117.26 |
| 2                 | 32                  | 63                  | N       | 2)                | 70  | 30                        | 0.23  | ●   | 3413.0119.11 |
| 2                 | 32                  | 63                  | N       | 2)                | 70  | 30                        | 0.23  | ●   | 3413.0119.22 |
| 2                 | 32                  | 63                  | N       | 2)                | 70  | 30                        | 0.23  | ●   | 3413.0119.24 |
| 2                 | 32                  | 63                  | N       | 2)                | 70  | 30                        | 0.23  | ●   | 3413.0119.26 |
| 2.5               | 32                  | 63                  | O       | 2)                | 70  | 25                        | 0.37  | ●   | 3413.0120.11 |
| 2.5               | 32                  | 63                  | O       | 2)                | 70  | 25                        | 0.37  | ●   | 3413.0120.22 |
| 2.5               | 32                  | 63                  | O       | 2)                | 70  | 25                        | 0.37  | ●   | 3413.0120.24 |
| 2.5               | 32                  | 63                  | O       | 2)                | 70  | 25                        | 0.37  | ●   | 3413.0120.26 |
| 3                 | 32                  | 63                  | P       | 2)                | 70  | 20                        | 0.63  | ●   | 3413.0121.11 |
| 3                 | 32                  | 63                  | P       | 2)                | 70  | 20                        | 0.63  | ●   | 3413.0121.22 |
| 3                 | 32                  | 63                  | P       | 2)                | 70  | 20                        | 0.63  | ●   | 3413.0121.24 |
| 3                 | 32                  | 63                  | P       | 2)                | 70  | 20                        | 0.63  | ●   | 3413.0121.26 |
| 4                 | 32                  | 63                  | S       | 2)                | 60  | 13                        | 0.72  | ●   | 3413.0123.11 |
| 4                 | 32                  | 63                  | S       | 2)                | 60  | 13                        | 0.72  | ●   | 3413.0123.22 |
| 4                 | 32                  | 63                  | S       | 2)                | 60  | 13                        | 0.72  | ●   | 3413.0123.24 |
| 4                 | 32                  | 63                  | S       | 2)                | 60  | 13                        | 0.72  | ●   | 3413.0123.26 |

Most Popular.

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

1) UL: 50 A @ 125 VAC/DC

2) UL: 50 A @ 32 VAC / 50 A @ 63 VDC

1) + 2) Additional internal testing: 150 A @ 24 VAC/DC, 400 A @ 12 VDC, 600 A @ 9 VDC

### Packaging Unit

|           |   |
|-----------|---|
| .xx = .11 | Blister Tape of 100 pcs. in Plastic Bag |
| .xx = .22 | Blister Tape 18 cm Reel (1000 pcs.)     |
| .xx = .24 | Blister Tape 25.4 cm Reel (5000 pcs.)   |
| .xx = .26 | Blister Tape 33 cm Reel (15000 pcs.)    |

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[3413.0117.26](#) [3413.0120.24](#) [3413.0115.24](#) [3413.0121.22](#) [3413.0114.26](#) [3413.0115.22](#) [3413.0119.26](#) [3413.0121.24](#)  
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