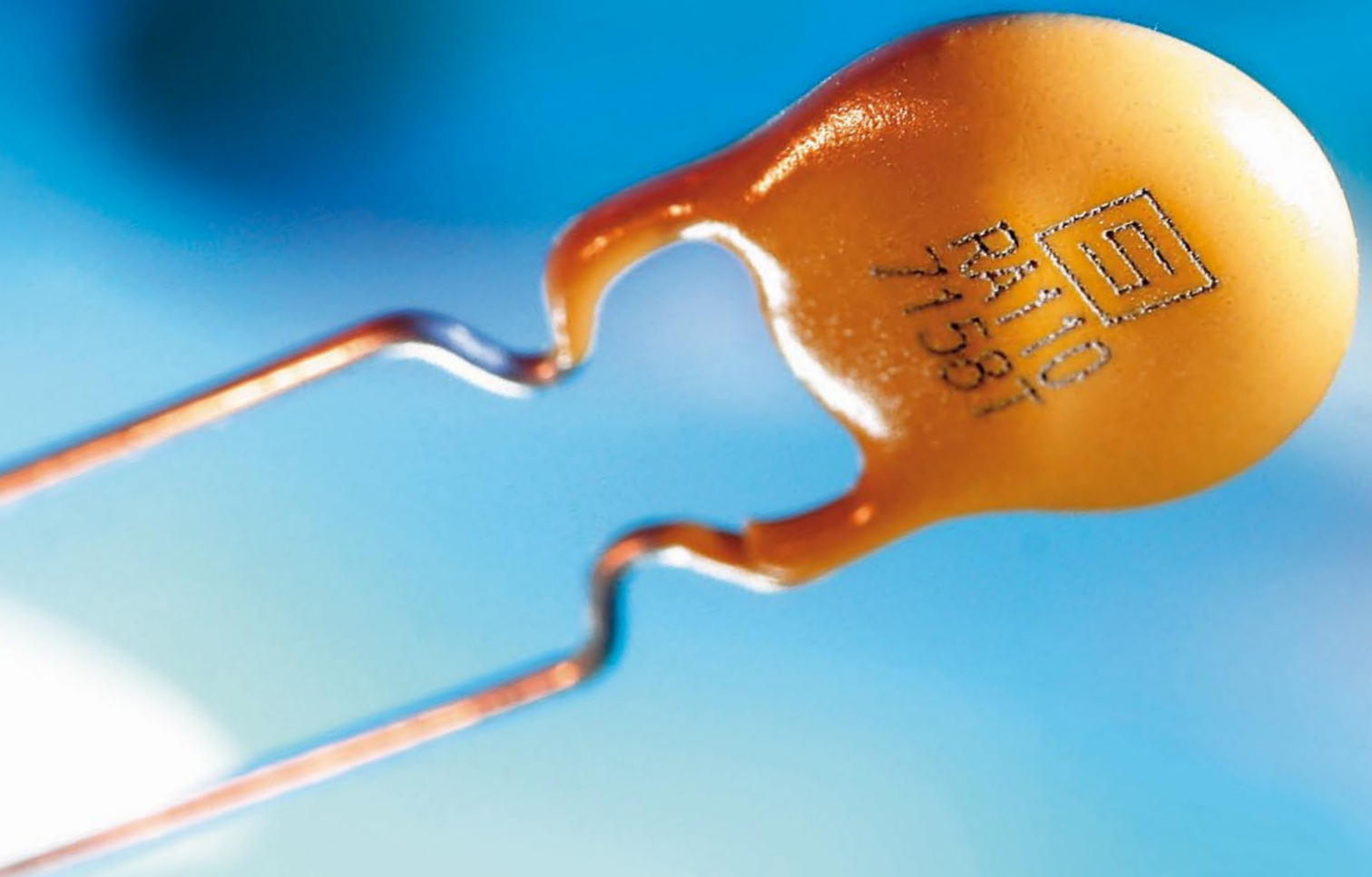
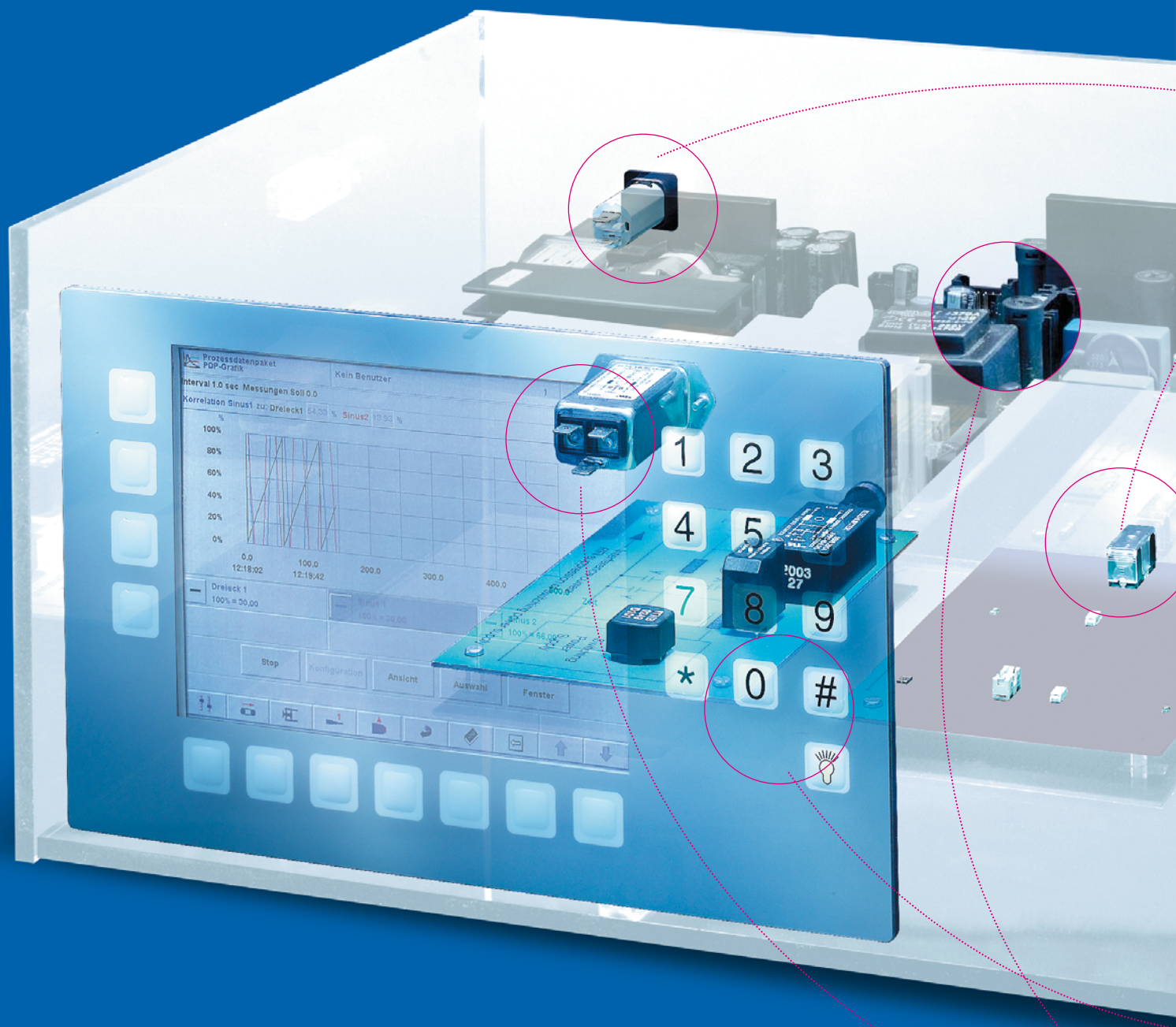


Resettable Fuses



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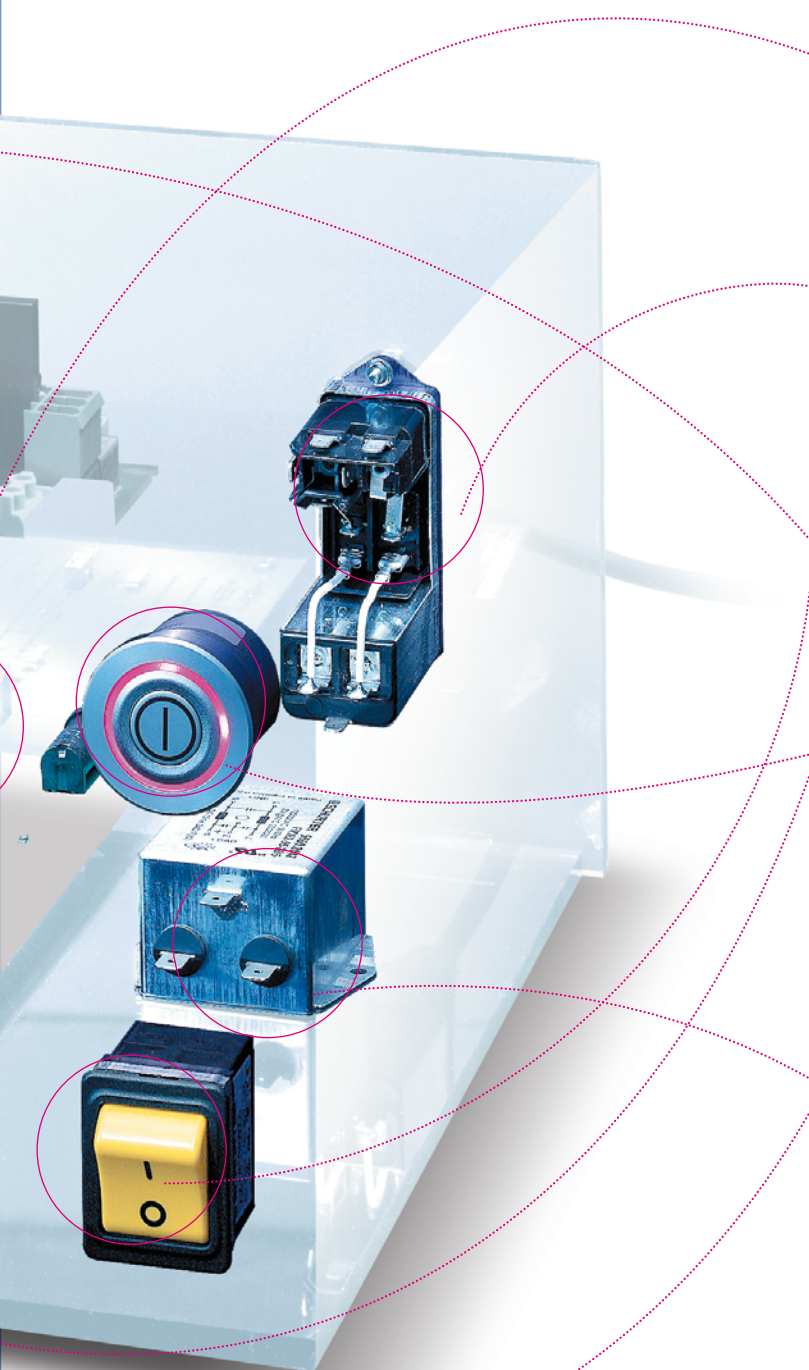


“We rely on reliability and flexibility; that is why we produce your products by our qualified and motivated employee.”

Battista Filippini, CEO Ticomel SA (a member of the SCHURTER Group)

> the Schurter Range at the Glance

SCHURTER is a progressive innovator and manufacturer of fuses, connectors, circuit breakers, input systems, EMC products and manufacturing services for the electronics industry. We focus on components that ensure safe supply of power and make the interface between human and machine easier.



■ fuses

- non resettable fuses
- telecom fuses
- resettable fuses
- fuseholders
- fuseholders blocks & clips

■ connectors

- power entry modules without line filter
- power entry modules with line filter
- appliance couplers
- cord connectors (rewireable)
- distribution units
- cord sets

■ circuit breakers

- thermal (t- and ta-line)
- thermal-magnetic (tm- and as-line)
- undervoltage protection
- power entry modules with CBE

■ input systems

- printmount switches
- frontpanel switches
- public transport switch
- metal line switches
- sensor switches
- membrane keypads
- sensor keypad
- metal line keypads
- touch panel / touch screen
- housing systems and front panels

■ EMC products

- power entry modules with line filter
- 1-phase line filters
- 3-phase line filters
- chokes
- pulse transformers
- power stage driver modules

■ other products

- voltage selector
- test jacks & probes
- indicators
- data & signal, audio, dc/ din connectors

■ EMS

- Electronic Manufacturing Services

Description Approvals	Dimensions	I hold	V max	Temperature	Web Reference or Type
SURFACE MOUNT FUSE					
 Surface Mount Fuse, PTC, 1206 footprint, 3.2 x 1.6 mm, 30 VDC 	3.2 x 1.6 mm	0.12 - 2A	6.0 - 30.0VDC	-40 to 85 °C	PFNF 8
 Surface Mount Fuse, PTC, 1210 footprint, 3.2 x 2.6 mm, 30 VDC 	3.2 x 2.6 mm	0.05 - 1.5A	6.0 - 30.0VDC	-40 to 85 °C	PFUF 10
 Surface Mount Fuse, PTC, 1812 footprint, 4.6 x 3.2 mm, 60 VDC 	4.6 x 3.2 mm	0.1 - 2.6A	6.0 - 60.0VDC	-40 to 85 °C	PFMF 12
 Surface Mount Fuse, PTC, 2018 footprint, 5.1 x 4.6 mm, 60 VDC 	5.1 x 4.6 mm	0.55A	60.0VDC	-40 to 85 °C	PFDF 15
 Surface Mount Fuse, PTC, 2029 or 3425 footprint, 60 VDC 	-	0.3 - 2.6A	6.0 - 60.0VDC	-40 to 85 °C	PFSM 17
 Surface Mount Fuse, PTC, 2029 or 3425 footprint, 16 VDC, up to 125 °C 	-	1.36 - 1.6A	16.0VDC	-40 to 125 °C	PFHT 20
RADIAL LEADED PTC-FUSE					
 Radial Leaded Fuse, PTC, 60 VDC 	-	0.1 - 11A	16.0 - 60.0VDC	-40 to 85 °C	PFRA 22
 Radial Leaded Fuse, PTC, 72 VDC 	-	1.1 - 3.75A	72.0VDC	-40 to 85 °C	PFRY 25

General Product Information see PTC-Circuit Protection page 30



Resettables PTC's for Overcurrent and Overtemperature Protection

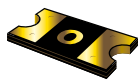
PTC Fuses are available as SMD or THT components and cover most of the requirements of industrial applications.



A market leader's statement

With the development, production and sales of active and passive components for electronic and electromechanical applications SCHURTER is a leading global industry partner. The SCHURTER Group leads the way in its four strategic business areas, using its innovative strength and cutting-edge technology to provide customers with intelligent practical solutions.

Surface Mount Fuse, PTC, 1206 footprint, 3.2 x 1.6 mm, 30 VDC



6.0 - 30.0 VDC · 0.12 - 2 A



Description

- Directly solderable on printed circuit boards

Standards

- UL 1434
- CSA C22.2 no. 0, TIL no. CA-3A

Approvals

- UL File Number: E172175

Applications

- USB port protection
- PC motherboards
- PDA's / Digital Cameras
- Game console port protection

References

[General Product Information](#)

[Packaging Details](#)

Weblinks

[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)

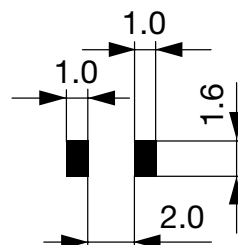
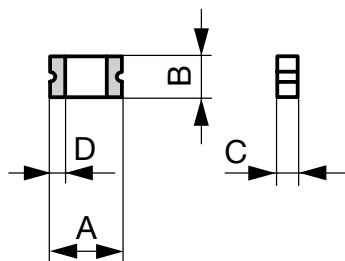
Technical Data

V max	6.0 - 30.0VDC
I max	10 - 100 A
I hold	0.12 - 2 A
Fastening	PCB, SMT
Allowable Operation Temp.	-40 °C to 85 °C
Material: Terminals	Electroless Nickel under Immersion Gold
Weight	0.011 g
Storage Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold

Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

Dimensions

Length  3.2 mm



Solder pads

[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Thermal Derating Chart I_{hold} [A][Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
PFNF.012.2	0.19	0.17	0.15	0.12	0.11	0.1	0.09	0.08	0.07	PFNF.012.2
PFNF.020.2	0.3	0.27	0.24	0.2	0.18	0.16	0.14	0.12	0.11	PFNF.020.2
PFNF.035.2	0.51	0.46	0.4	0.35	0.3	0.27	0.24	0.22	0.18	PFNF.035.2
PFNF.050.2	0.76	0.68	0.59	0.5	0.44	0.4	0.35	0.32	0.26	PFNF.050.2
PFNF.075.2	1.11	1	0.85	0.75	0.67	0.61	0.52	0.5	0.42	PFNF.075.2
PFNF.110.2	1.64	1.46	1.3	1.1	0.92	0.83	0.8	0.65	0.52	PFNF.110.2
PFNF.150.2	2.2	1.99	1.77	1.5	1.34	1.23	1.1	1.01	0.84	PFNF.150.2
PFNF.200.2	2.88	2.61	2.28	2	1.8	1.66	1.51	1.39	1.19	PFNF.200.2

Electrical Characteristics at 23 °C

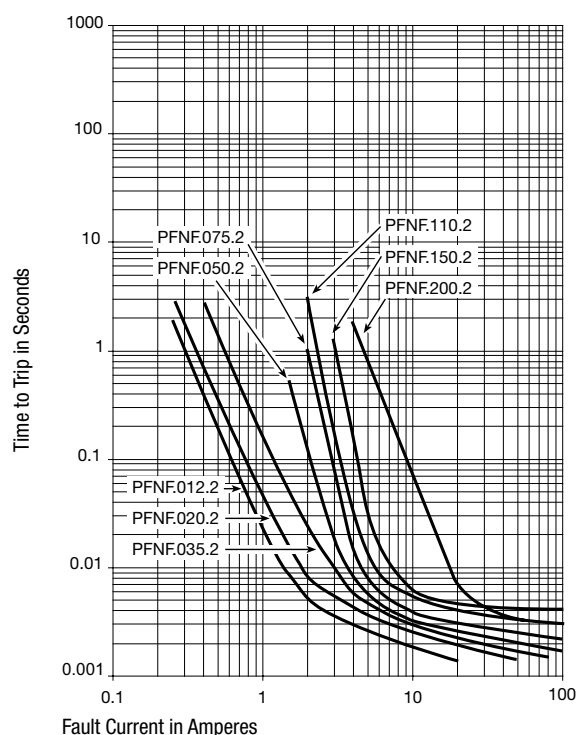
[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
30.0	10	0.12	0.29	1.35	8.5	1	0.2	0.40	PFNF.012.2
24.0	10	0.2	0.46	0.6	2.6	1	0.6	0.60	PFNF.020.2
6.0	100	0.35	0.75	0.3	1.2	8	0.1	0.60	PFNF.035.2
13.2	100	0.5	1	0.15	0.7	8	0.1	0.40	PFNF.050.2
6.0	100	0.75	1.5	0.1	0.4	8	0.1	0.40	PFNF.075.2
6.0	100	1.1	2.2	0.06	0.2	8	0.3	0.60	PFNF.110.2
6.0	100	1.5	3	0.03	0.13	8	1	0.60	PFNF.150.2
6.0	100	2	4	0.02	0.085	8	1	0.70	PFNF.200.2

Packaging Unit

Blister Tape 18 cm Reel (3000 pcs.)

Time-Current Curves



Surface Mount Fuse, PTC, 1210 footprint, 3.2 x 2.6 mm, 30 VDC

new



6.0 - 30.0 VDC · 0.05 - 1.5 A

**Description**

- Directly solderable on printed circuit boards
- 100% compatible with the PFMU type

Standards

- UL 1434
- CSA C22.2 no. 0, TIL no. CA-3A

Approvals

- UL File Number: E172175

Applications

- Game console port protection
- PC motherboards
- Cellular Phone

References

[General Product Information](#)
[Packaging Details](#)

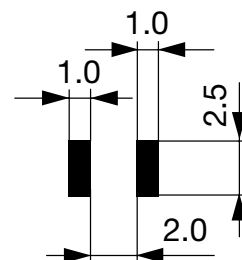
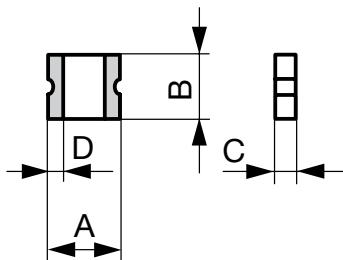
Weblinks

[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)

Technical Data

V max	6.0 - 30.0 VDC
I max	10 - 40 A
I hold	0.05 - 1.5 A
Fastening	PCB, SMT
Allowable Operation Temp.	-40 °C to 85 °C
Material: Terminals	Electroless Nickel under Immersion Gold
Storage Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold, Date code

Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

DimensionsLength  3.2 mm

[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Thermal Derating Chart I_{hold} [A]

Distributor-Stock-Check | SCHURTER-Stock-Check | e-Store

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
PFUF.005.2	0.08	0.07	0.06	0.05	0.04	0.04	0.03	0.03	0.02	PFUF.005.2
PFUF.010.2	0.15	0.13	0.12	0.1	0.09	0.08	0.07	0.06	0.05	PFUF.010.2
PFUF.020.2	0.32	0.28	0.24	0.2	0.18	0.16	0.14	0.12	0.1	PFUF.020.2
PFUF.035.2	0.51	0.46	0.4	0.35	0.3	0.27	0.24	0.22	0.18	PFUF.035.2
PFUF.050.2	0.76	0.66	0.58	0.5	0.42	0.38	0.35	0.29	0.23	PFUF.050.2
PFUF.075.2	1.1	0.97	0.86	0.75	0.64	0.58	0.55	0.47	0.39	PFUF.075.2
PFUF.110.2	1.6	1.42	1.26	1.1	0.94	0.86	0.8	0.7	0.58	PFUF.110.2
PFUF.150.2	2.3	2.02	1.76	1.5	1.24	1.11	1	0.85	0.65	PFUF.150.2

Electrical Characteristics at 23 °C

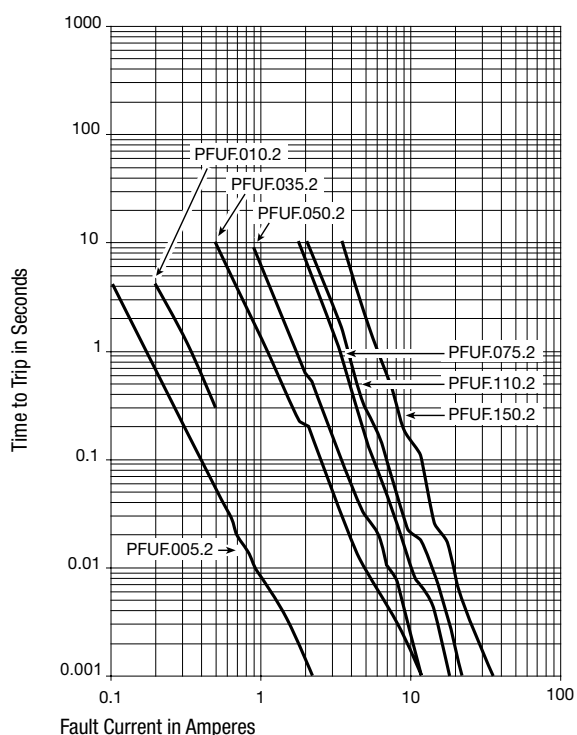
Distributor-Stock-Check | SCHURTER-Stock-Check | e-Store

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
30.0	10	0.05	0.15	2.8	50	0.25	1.5	0.60	PFUF.005.2
30.0	10	0.1	0.3	0.8	15	0.5	0.6	0.60	PFUF.010.2
30.0	10	0.2	0.4	0.4	5	8	0.02	0.60	PFUF.020.2
6.0	40	0.35	0.75	0.2	1.3	8	0.2	0.60	PFUF.035.2
13.2	40	0.5	1	0.18	0.9	8	0.1	0.60	PFUF.050.2
6.0	40	0.75	1.5	0.07	0.45	8	0.1	0.60	PFUF.075.2
6.0	40	1.1	2.2	0.05	0.21	5	1	0.60	PFUF.110.2
6.0	40	1.5	3	0.03	0.11	5	5	0.60	PFUF.150.2

Packaging Unit

Blister Tape 18 cm Reel (3000 pcs.)

Time-Current Curves



Surface Mount Fuse, PTC, 1812 footprint, 4.6 x 3.2 mm, 60 VDC



6.0 - 60.0 VDC · 0.1 - 2.6 A

**Description**

- 100% compatible with the PFMD type
- Directly solderable on printed circuit boards

Standards

- UL 1434
- CSA C22.2 no. 0, TIL no. CA-3A

Approvals

- UL File Number: E172175

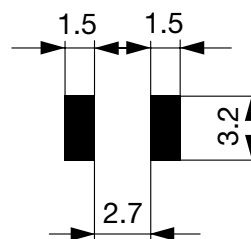
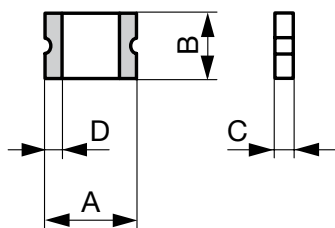
Applications

- Hard disk drives
- PC motherboards
- PC peripherals
- PCMCIA cards
- USB port protection

References
[General Product Information](#)
[Packaging Details](#)
Weblinks
[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)
Technical Data

V max	6.0 - 60.0 VDC
I max	10 - 100 A
I hold	0.1 - 2.6 A
Fastening	PCB, SMT
Allowable Operation Temp.	-40 °C to 85 °C
Material: Terminals	Electroless Nickel under Immersion Gold
Weight	0.025 g
Storage Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold, Data Code

Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

DimensionsLength  4.6 mm

Solder pads

[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Thermal Derating Chart I_{hold} [A][Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
PFMF.010.2	0.16	0.14	0.12	0.1	0.08	0.07	0.06	0.05	0.03	PFMF.010.2
PFMF.014.2	0.23	0.19	0.17	0.14	0.12	0.1	0.09	0.08	0.06	PFMF.014.2
PFMF.020.2	0.29	0.26	0.23	0.2	0.17	0.15	0.14	0.12	0.1	PFMF.020.2
PFMF.030.2	0.44	0.39	0.35	0.3	0.26	0.23	0.21	0.18	0.15	PFMF.030.2
PFMF.050.2	0.77	0.68	0.59	0.5	0.44	0.4	0.37	0.33	0.29	PFMF.050.2
PFMF.075.2	1.15	1.01	0.88	0.75	0.65	0.6	0.55	0.49	0.43	PFMF.075.2
PFMF.075.24.2	1.15	1.01	0.88	0.75	0.65	0.6	0.55	0.49	0.43	PFMF.075.24.2
PFMF.110.2	1.59	1.43	1.26	1.1	0.95	0.87	0.8	0.71	0.6	PFMF.110.2
PFMF.125.2	1.8	1.63	1.43	1.25	1.08	0.99	0.91	0.81	0.68	PFMF.125.2
PFMF.150.2	2.17	1.95	1.72	1.5	1.3	1.18	1.09	0.97	0.82	PFMF.150.2
PFMF.160.2	2.3	2.2	1.9	1.6	1.45	1.3	1.15	1.03	0.91	PFMF.160.2
PFMF.200.2	3.08	2.71	2.35	2	1.8	1.6	1.5	1.4	1.25	PFMF.200.2
PFMF.260.2	4	3.52	3.6	2.6	2.34	2.08	1.95	1.39	1.04	PFMF.260.2

Electrical Characteristics at 23 °C

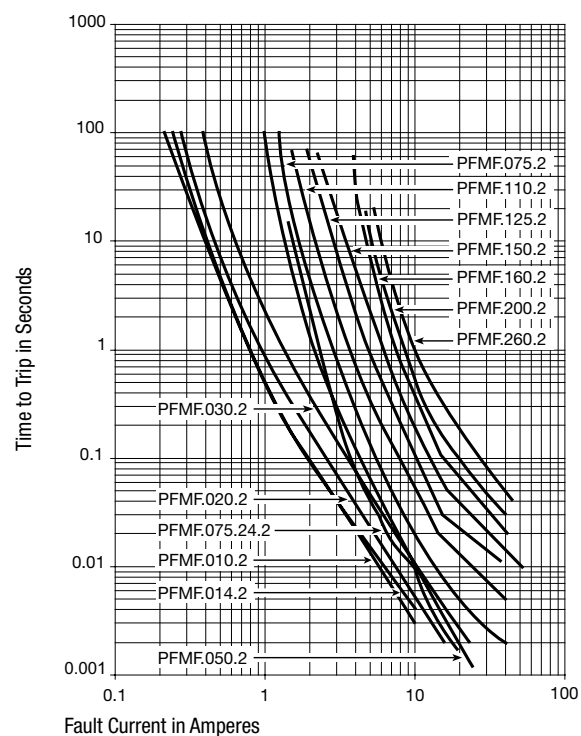
[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
60.0	40	0.1	0.3	0.7	15	0.5	1.5	0.80	PFMF.010.2
60.0	40	0.14	0.34	0.4	6.5	1.5	0.15	0.80	PFMF.014.2
30.0	80	0.2	0.4	0.4	6	6	0.06	0.80	PFMF.020.2
30.0	10	0.3	0.6	0.3	3	8	0.1	0.80	PFMF.030.2
15.0	100	0.5	1	0.15	1	8	0.15	0.80	PFMF.050.2
13.2	100	0.75	1.5	0.11	0.45	8	0.2	0.80	PFMF.075.2
24.0	40	0.75	1.5	0.11	0.45	8	0.2	0.80	PFMF.075.24.2
6.0	100	1.1	2.2	0.04	0.21	8	0.3	0.80	PFMF.110.2
6.0	100	1.25	2.5	0.035	0.14	8	0.4	0.80	PFMF.125.2
6.0	100	1.5	3	0.03	0.12	8	0.5	0.80	PFMF.150.2
8.0	100	1.6	2.8	0.035	0.099	8	2	0.80	PFMF.160.2
8.0	40	2	4	0.2	0.08	8	3	0.80	PFMF.200.2
6.0	100	2.6	5.2	0.015	0.08	8	5	0.80	PFMF.260.2

Packaging Unit

PFMF.010.2 - PFMF.030.2 Blister Tape 18 cm Reel (1500 pcs.)
 PFMF.050.2 + PFMF.260.2 Blister Tape 18 cm Reel (2000 pcs.)

Time-Current Curves



Surface Mount Fuse, PTC, 2018 footprint, 5.1 x 4.6 mm, 60 VDC

new



60.0 VDC · 0.55 A

**Description**

- Directly solderable on printed circuit boards

Standards

- UL 1434
- CSA C22.2 no. 0, TIL no. CA-3A

Approvals

- UL File Number: E172175

Applications

- Power Over Ethernet (IEEE 802.3 af) port protection
- Automotive electronic control module protection
- Telecom equipment low voltage protection

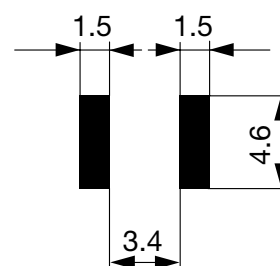
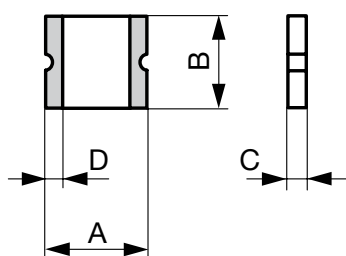
References
[General Product Information](#)
[Packaging Details](#)
Weblinks
[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)
Technical Data

V max	60.0 VDC
I max	10 A
I hold	0.55 A
Fastening	PCB, SMT
Allowable Operation Temp.	-40 °C to 85 °C
Material: Terminals	Electroless Nickel under Immersion Gold
Weight	0.03 g
Storage Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold, Data Code

Soldering Methods	Reflow
Solderability	245 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -40 °C, 20 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

Dimensions

Length 5.1 mm



Solder pads

Thermal Derating Chart Ihold [A]
[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
PFD050.2	0.86	0.77	0.7	0.55	0.48	0.43	0.38	0.36	0.26	PFD050.2

[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Electrical Characteristics at 23 °C

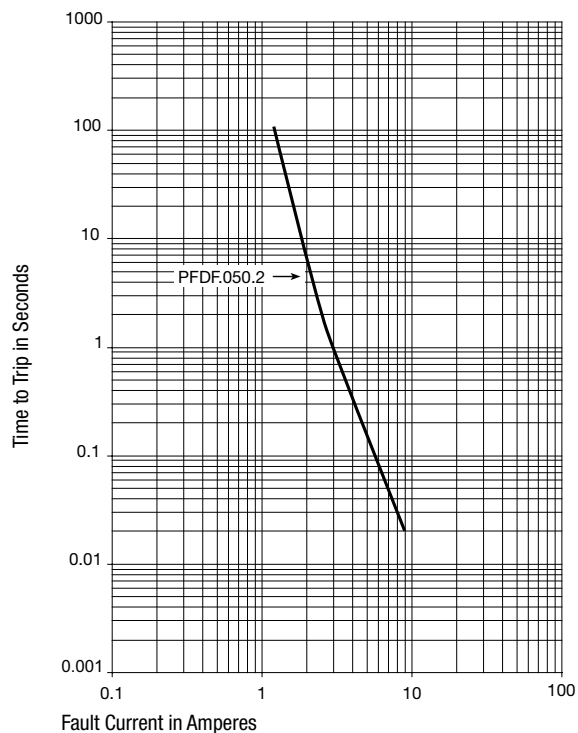
[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
60.0	10	0.55	1.2	0.2	0.09	2.5	3	1.00	PFDF.050.2

Packaging Unit

Blister Tape 36 cm Reel (3000 pcs.)

Time-Current Curves



Surface Mount Fuse, PTC, 2029 or 3425 footprint, 60 VDC



6.0 - 60.0VDC · 0.3 - 2.6A

**Description**

- Directly solderable on printed circuit boards

Standards

- UL 1434
- CSA C22.2 no. 0, TIL no. CA-3A

Approvals

- UL File Number: E172175

Applications

- Computer & Peripherals
- General electronics
- Automotive applications

References

[General Product Information](#)
[Packaging Details](#)

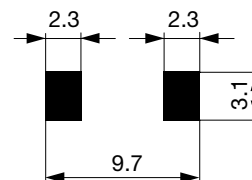
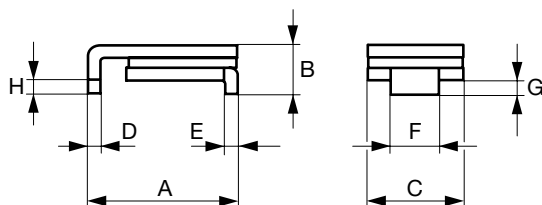
Weblinks

[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)

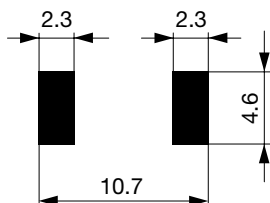
Technical Data

V max	6.0 - 60.0VDC
I max	40 - 100A
I hold	0.3 - 2.6A
Fastening	PCB,SMT
Allowable Operation Temp.	-40°C to 85 °C
Material: Terminals	Tin-Plated Brass
Weight	0.4 g
Storage Conditions	0°C to 40 °C, max. 70% r.h.
Product Marking	I hold, Date code

Soldering Methods	Reflow
Solderability	245 °C / 3sec
Resistance to Soldering Heat	260 °C / 10sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 7 Days -> +/- 5% Typical Resistance Change
Thermal Shock	MIL-STD-202, Method 107 (+125 °C to -55 °C, 10 Cycles) -> +/- 15% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A

Dimensions

Solder pads PFSM.030.2 - PFSM.125.2 and PFSM.260.2



Solder pads PFSM.150.2 and PFSM.200.2

Thermal Derating Chart Ihold [A]

[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
0.45	0.4	0.35	0.3	0.25	0.23	0.2	0.17	0.14	PFSM.030.2
0.76	0.67	0.59	0.5	0.42	0.38	0.33	0.29	0.23	PFSM.050.2
1.13	1.01	0.88	0.75	0.62	0.56	0.5	0.44	0.34	PFSM.075.2
1.66	1.47	1.29	1.1	0.91	0.83	0.73	0.64	0.5	PFSM.100.2
1.66	1.47	1.29	1.1	0.91	0.83	0.73	0.64	0.5	PFSM.100.33.2
1.89	1.68	1.46	1.25	1.04	0.94	0.83	0.73	0.56	PFSM.125.2
2.27	2.01	1.76	1.5	1.25	1.13	0.99	0.87	0.68	PFSM.150.2
2.27	2.01	1.76	1.5	1.25	1.13	0.99	0.87	0.68	PFSM.150.33.2
3.02	2.68	2.34	2	1.66	1.5	1.32	1.16	0.9	PFSM.200.2
3.78	3.35	2.93	2.5	2.08	1.88	1.65	1.45	1.13	PFSM.250.2
3.64	3.25	2.91	2.6	2.26	2.08	1.95	1.74	1.48	PFSM.260.2

Electrical Characteristics at 23 °C

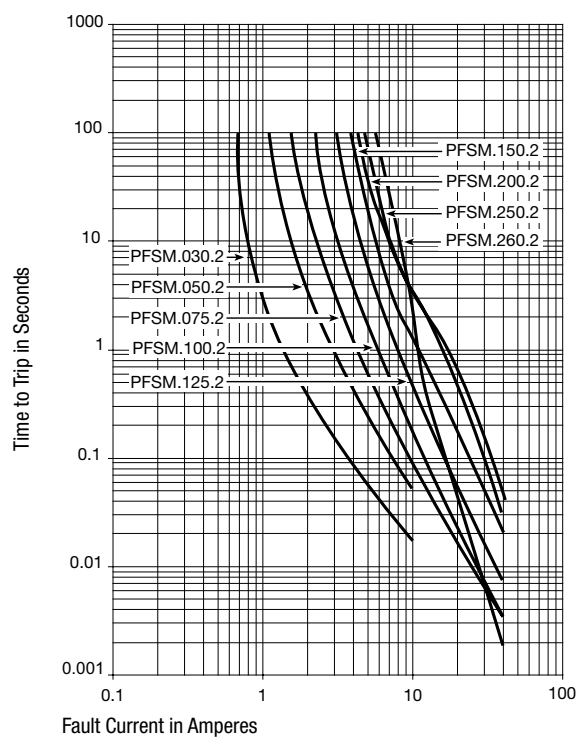
[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
60.0	40	0.3	0.6	0.9	4.8	1.5	3	1.70	PFSM.030.2
60.0	40	0.5	1	0.35	1.4	2.5	4	1.70	PFSM.050.2
30.0	80	0.75	1.5	0.23	1	8	0.3	1.70	PFSM.075.2
30.0	80	1.1	2.2	0.12	0.48	8	0.5	1.70	PFSM.100.2
33.0	40	1.1	2.2	0.12	0.41	8	0.5	1.70	PFSM.100.33.2
15.0	100	1.25	2.5	0.07	0.25	8	2	1.70	PFSM.125.2
15.0	100	1.5	3	0.06	0.25	8	5	1.90	PFSM.150.2
33.0	40	1.5	3	0.06	0.23	8	5	1.90	PFSM.150.33.2
15.0	100	2	4	0.045	0.125	8	12	1.90	PFSM.200.2
15.0	100	2.5	5	0.024	0.085	8	25	1.90	PFSM.250.2
6.0	100	2.6	5.2	0.025	0.075	8	20	1.70	PFSM.260.2

Packaging Unit

PFSM.030.2 - PFSM.125.2 Blister Tape 36 cm Reel (2000 pcs.)
PFSM.150.2 - PFSM.250.2 Blister Tape 36 cm Reel (1500 pcs.)
PFSM.260.2 Blister Tape 36 cm Reel (2000 pcs.)

Time-Current Curves



Surface Mount Fuse, PTC, 2029 or 3425 footprint, 16 VDC, up to 125 °C

new



16.0VDC · 1.36 - 1.6A

**Description**

- Operating temperature range up to 125 °C

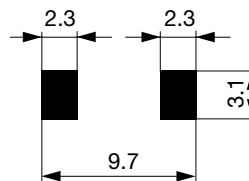
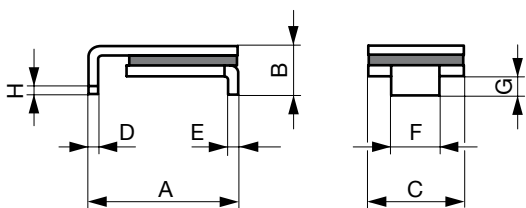
Applications

- Overcurrent protection at operating temperature over 85 °C

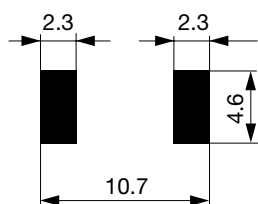
References[General Product Information](#)[Packaging Details](#)**Weblinks**[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)**Technical Data**

V max	16.0VDC
I max	100A
I hold	1.36 - 1.6A
Fastening	PCB,SMT
Allowable Operation Temp.	-40 °C to 125 °C
Material: Terminals	Tin-Plated Brass
Weight	0.4 g
Storage Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	I hold

Soldering Methods	Reflow
Solderability	215 °C / 3 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+125 °C, 1000 Hours -> +/- 15% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 7 Days -> +/- 15% Typical Resistance Change
Thermal Shock	MIL-STD-202, Method 107 (+125 °C to -55 °C, 10 Cycles) -> +/- 15% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A

Dimensions

Solder pads PFHT.136.2



Solder pads PFHT.160.2

Thermal Derating Chart I_{hold} [A][Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

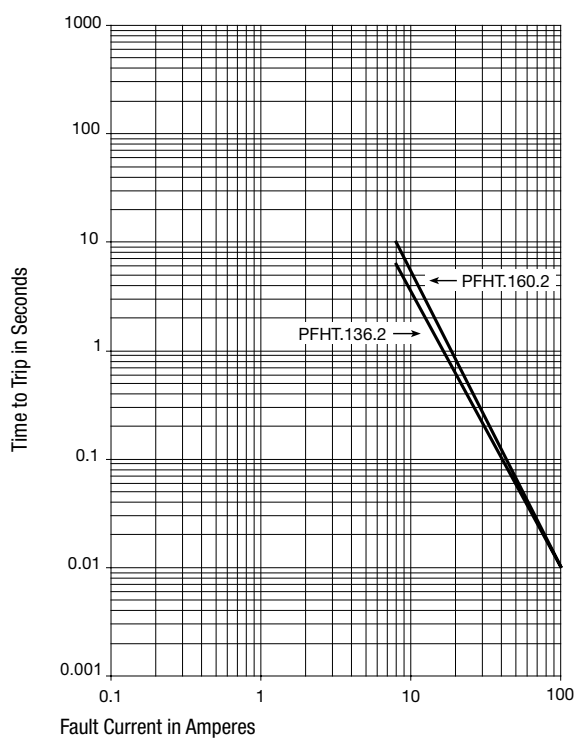
Order Number	-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	125 °C	Order Number
PFHT.136.2	1.91	1.72	1.54	1.36	1.18	1.09	1	0.91	0.77	0.4	PFHT.136.2
PFHT.160.2	2.15	1.96	1.78	1.6	1.42	1.33	1.24	1.15	1.02	0.64	PFHT.160.2

Electrical Characteristics at 23 °C[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

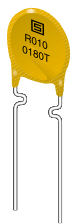
V _{max} [VDC]	I _{max} [A]	I _{hold} [A]	I _{trip} [A]	R _{initial} min [Ω]	R _{1hour} max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
16.0	100	1.36	2.72	0.104	0.3	8	10	2.10	PFHT.136.2
16.0	100	1.6	3.2	0.05	0.15	8	10	2.10	PFHT.160.2

Packaging Unit

PFHT.136.2 Blister Tape 36 cm Reel (2000 pcs.)
 PFHT.160.2 Blister Tape 36 cm Reel (1500 pcs.)

Time-Current Curves

Radial Leaded Fuse, PTC, 60 VDC



16.0 - 60.0VDC · 0.1 - 11 A



Description

- THT standard industry type
- Directly solderable on printed circuit boards

Standards

- UL 1434
- CSA C22.2 no. 0, TIL no. CA-3A

Approvals

- UL File Number: E172175

Applications

- Computer & Peripherals
- General electronics
- Automotive applications

References

[General Product Information](#)
[Packaging Details](#)

Weblinks

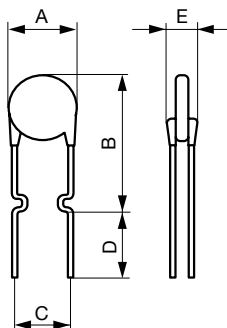
[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)

Technical Data

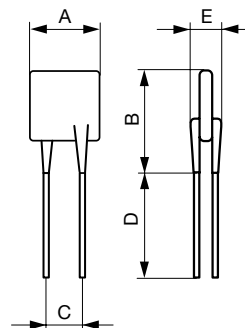
V max	16.0 - 60.0VDC
I max	40 - 100A
I hold	0.1 - 11A
Fastening	PCB,THT
Allowable Operation Temp.	-40 °C to 85 °C
Material: Terminals	see variants
Weight	0.35 g
Storage Conditions	0 °C to 40 °C, max. 70% r.h.
Product Marking	 Type, I hold

Soldering Methods	Wave
Solderability	235 °C / 2 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	MIL-STD-202, Method 107 (+125 °C to -55 °C, 10 Cycles) -> +/- 15% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215
Flammability	UL 94V-0

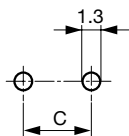
Dimensions



PFRA.010 - PFRA.185



PFRA.250 - PFRA.1100



Drilling holes

Thermal Derating Chart I_{hold} [A]

Distributor-Stock-Check | SCHURTER-Stock-Check | e-Store

-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
0.16	0.14	0.12	0.1	0.08	0.07	0.06	0.05	0.04	PFRA.010
0.26	0.23	0.2	0.17	0.14	0.12	0.11	0.09	0.07	PFRA.017
0.31	0.27	0.24	0.2	0.16	0.14	0.13	0.11	0.08	PFRA.020
0.39	0.34	0.3	0.25	0.2	0.18	0.16	0.14	0.1	PFRA.025
0.47	0.41	0.36	0.3	0.24	0.22	0.19	0.16	0.12	PFRA.030
0.62	0.54	0.48	0.4	0.32	0.29	0.25	0.22	0.16	PFRA.040
0.78	0.68	0.6	0.5	0.41	0.36	0.32	0.27	0.2	PFRA.050
1.01	0.88	0.77	0.65	0.53	0.47	0.41	0.35	0.26	PFRA.065
1.16	1.02	0.89	0.75	0.61	0.54	0.47	0.41	0.3	PFRA.075
1.4	1.22	1.07	0.9	0.73	0.65	0.57	0.49	0.36	PFRA.090
1.6	1.43	1.27	1.1	0.91	0.85	0.75	0.67	0.57	PFRA.110
1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.7	PFRA.135
2.32	2.08	1.84	1.6	1.33	1.32	1.09	0.98	0.83	PFRA.160
2.68	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96	PFRA.185
3.63	3.25	2.88	2.5	2.08	1.93	1.7	1.53	1.3	PFRA.250
4.35	3.9	3.45	3	2.49	2.31	2.04	1.83	1.56	PFRA.300
5.8	5.2	4.6	4	3.32	3.08	2.72	2.44	2.08	PFRA.400
7.25	6.5	5.75	5	4.15	3.85	3.4	3.05	2.6	PFRA.500
8.7	7.8	6.9	6	4.98	4.62	4.08	3.66	3.12	PFRA.600
10.1	9.1	8.05	7	5.81	5.39	4.76	4.27	3.64	PFRA.700
11.6	10.4	9.2	8	6.64	6.16	5.44	4.88	4.16	PFRA.800
13	11.7	10.3	9	7.47	6.93	6.12	5.49	4.68	PFRA.900
16.1	14.6	13.1	11	9.4	8.8	7.8	6.9	5.2	PFRA.110

Electrical Characteristics at 23 °C

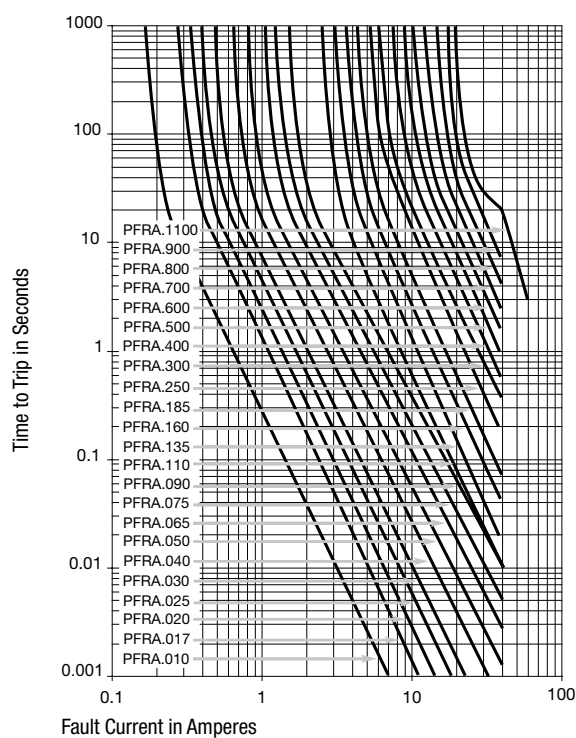
Distributor-Stock-Check | SCHURTER-Stock-Check | e-Store

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R initial max [Ω]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
60.0	40	0.1	0.2	2.5	4.5	7.5	0.5	4	0.38	PFRA.010
60.0	40	0.17	0.34	2	3.2	8	0.85	3	0.48	PFRA.017
60.0	40	0.2	0.4	1.5	2.84	4.4	1	2.2	0.40	PFRA.020
60.0	40	0.25	0.5	1	1.95	3	1.25	2.5	0.45	PFRA.025
60.0	40	0.3	0.6	0.76	1.36	2.1	1.5	3	0.50	PFRA.030
60.0	40	0.4	0.8	0.52	0.86	1.29	2	3.8	0.55	PFRA.040
60.0	40	0.5	1	0.41	0.77	1.17	2.5	4	0.75	PFRA.050
60.0	40	0.65	1.3	0.27	0.48	0.72	3.25	5.3	0.90	PFRA.065
60.0	40	0.75	1.5	0.18	0.4	0.6	3.75	6.3	0.90	PFRA.075
60.0	40	0.9	1.8	0.14	0.31	0.47	4.5	7.2	1.00	PFRA.090
30.0	40	1.1	2.2	0.1	0.18	0.27	5.5	6.6	0.70	PFRA.110
30.0	40	1.35	2.7	0.065	0.115	0.17	6.75	7.3	0.80	PFRA.135

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R initial max [Ω]	R 1 hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
30.0	40	1.6	3.2	0.055	0.105	0.15	8	8	0.90	PFRA.160
30.0	40	1.85	3.7	0.04	0.07	0.11	9.25	8.7	1.00	PFRA.185
30.0	40	2.5	5	0.025	0.048	0.07	12.5	10.3	1.20	PFRA.250
30.0	40	3	6	0.02	0.05	0.08	15	10.8	2.00	PFRA.300
30.0	40	4	8	0.01	0.03	0.05	20	12.7	2.50	PFRA.400
30.0	40	5	10	0.01	0.03	0.05	25	14.5	3.00	PFRA.500
30.0	40	6	12	0.005	0.02	0.04	30	16	3.50	PFRA.600
30.0	40	7	14	0.005	0.02	0.03	35	17.5	3.80	PFRA.700
30.0	40	8	16	0.005	0.02	0.03	40	18.8	4.00	PFRA.800
30.0	40	9	18	0.005	0.01	0.02	45	20	4.20	PFRA.900
16.0	100	11	22	0.003	0.01	0.01	40	20	4.50	PFRA.110

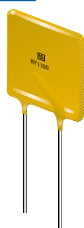
Packaging Unit

PFRA.xxxx Bulk (500 pcs.)
 PFRA.010.2 - PFRA.160.2 Taped 34 cm Reel (3000 pcs.)
 PFRA.185.2 - PFRA.400.2 Taped 34 cm Reel (1500 pcs.)

Time-Current Curves

Radial Leaded Fuse, PTC, 72 VDC

new



72.0VDC · 1.1 - 3.75A

**Description**

- Replacement for PFRX type
- Max. rated voltage 72 VDC

Standards

- UL 1434
- CSA C22.2 no. 0, TIL no. CA-3A

Approvals

- UL File Number: E172175

Applications

- Security and fire alarm systems
- Loud speakers
- Power transformers

References

[General Product Information](#)
[Packaging Details](#)

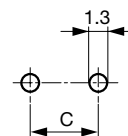
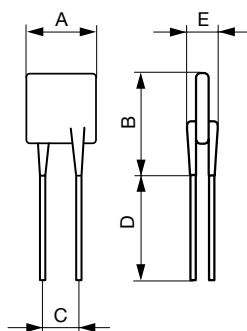
Weblinks

[Approvals](#), [RoHS](#), [CHINA-RoHS](#), [e-Store](#), [SCHURTER-Stock-Check](#), [Distributor-Stock-Check](#)

Technical Data

V max	72.0VDC
I max	40A
I hold	1.1 - 3.75A
Fastening	PCB,THT
Allowable Operation Temp.	-40°C to 85 °C
Material: Terminals	Tin-Plated Copper
Weight	3 g
Storage Conditions	0°C to 40 °C, max. 70% r.h.
Product Marking	 Type, Current Rating

Soldering Methods	Wave
Solderability	235 °C / 2 sec
Resistance to Soldering Heat	260 °C / 10 sec
Passing Aging	+85 °C, 1000 Hours -> +/- 5% Typical Resistance Change
Humidity Aging	+85 °C, 85% r.h., 1000 Hours -> +/- 5% Typical Resistance Change
Thermal Shock	+85 °C to -55 °C, 10 Times -> +/- 10% Typical Resistance Change
Vibration	MIL-STD-883C, Method 2007.1, Test Condition A
Resistance to Solvents	MIL-STD-202, Methode 215

Dimensions

[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

Thermal Derating Chart Ihold [A]

[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
1.71	1.5	1.31	1.1	0.89	0.79	0.69	0.59	0.44	PFRY.110
2.09	1.84	1.61	1.35	1.09	0.97	0.85	0.73	0.54	PFRY.135
2.48	2.18	1.9	1.6	1.3	1.15	1.01	0.86	0.64	PFRY.160
2.87	2.52	2.2	1.85	1.5	1.33	1.17	1	0.74	PFRY.185
3.88	3.4	2.98	2.5	2.03	1.8	1.58	1.35	1	PFRY.250
4.65	4.08	3.57	3	2.43	2.16	1.89	1.62	1.2	PFRY.300
5.81	5.1	4.46	3.75	3.04	2.7	2.36	2.03	1.5	PFRY.375

Electrical Characteristics at 23 °C

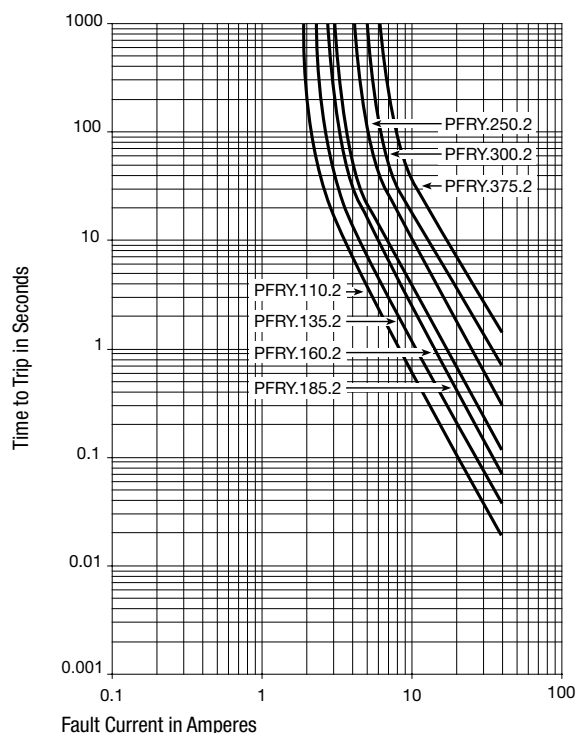
[Distributor-Stock-Check](#) | [SCHURTER-Stock-Check](#) | [e-Store](#)

V max [VDC]	I max [A]	I hold [A]	I trip [A]	R initial min [Ω]	R initial max [Ω]	R 1hour max [Ω]	Max Time to trip [A]	Max Time to Trip [s]	Tripped Power Dissipation [W]	Order Number
72.0	40	1.1	2.2	0.15	0.25	0.38	5.5	8.2	-	PFRY.110
72.0	40	1.35	2.7	0.12	0.19	0.3	6.75	9.6	1.70	PFRY.135
72.0	40	1.6	3.2	0.09	0.14	0.22	8	11.4	1.90	PFRY.160
72.0	40	1.85	3.7	0.08	0.12	0.19	9.25	12.6	2.10	PFRY.185
72.0	40	2.5	5	0.05	0.08	0.13	12.5	15.6	2.50	PFRY.250
72.0	40	3	6	0.04	0.06	0.1	15	19.8	2.80	PFRY.300
72.0	40	3.75	7.5	0.03	0.05	0.08	18.75	24	3.20	PFRY.375

Packaging Unit

PFRY.xxx Bulk (500 pcs.)

Time-Current Curves



Product Standard / Definitions / CE-Marking / Conformity	28
National approvals	28
Electrical Protection	29
PTC-Circuit Protection	30



general product information

Product standard equipment standard

The product standard only contains minimum requirements. Attention is drawn to the fact that appliance specifications might contain requirements additional to or deviating from those specified in the relevant product standards.

Comments on definitions used

Please be aware that the specifications nominal value used in the German part of the Schurter catalogue and the data sheets, is synonymous with rated value.
The difference between these two values is a pure matter of definition. In order to avoid any unnecessary complications we will continue to use the specifications nominal value.

CE marking acc. to EU-directives

CE marking is the only marking which indicates that a product conforms to the relevant EU-directive.
This means that the CE-mark is no quality or standard conformity mark but only an administration mark.
SCHURTER products are covered by the low voltage directives 72/23/EEC and 93/68/EEC. Those are valid for equipment and appliances with rated voltage values between AC 50 V to AC 1000 V as well as DC 75 V to DC 1500 V.
The CE marking of SCHURTER parts will be found on the label of the smallest packing unit. On request we will submit a CE conformity statement for each component. CE conformity statements and approvals can also be retrieved from the internet under www.schurter.com.

Conformity to component standards, national approvals

National testing institutions are testing according to national and international standards or other generally recognized rules of technology. Their certification/approval-marks confirm the observance of the safety requirements which electric appliances must fulfil.

National approvals

	(Mark)	European Norms Electrical Certification
	(Mark)	VDE Verband Deutscher Elektrotechniker
		(Certificate of conformity with factory surveillance)
	UMF	Universal Modular Fuse meets the standard IEC 60127-4
	(Recognition)	UL Underwriters Laboratories (USA, Canada)
	(Listing)	UL Underwriters Laboratories (USA, Canada)
	(Recognition)	UL Underwriters Laboratories (USA)
	(Listing)	UL Underwriters Laboratories (USA, Canada)
	CSA	Canadian Standard Association, Component Acceptance Service
	CSA	Canadian Standard Association
	CCC	China Compulsory Certification
	PSE	Japan Electrical Safety & Environment technology Laboratories
	KTL	Korea Testing Laboratory
	TÜV	Technischer Überwachungs Verein
	NF	Norme française
	NNO	Numéro de nomenclature Otan (OTAN = NATO = North Atlantic Treaty Organisation)
	GAM T1	Liste interarmées AIR MER TERRE de composants électroniques

In addition to the combined UL/CSA approvals, most of the SCHURTER components are also approved by one of the European Certification Bodies like VDE (Germany), Electrosuisse (Switzerland) or SEMKO (Sweden). The safety testing of all these European Certification Bodies are based on the common European Safety Standards. With the harmonisation effort in Europe, the different National European Certification Bodies have lost their importance and SCHURTER has decided to maintain only one European approval (e.g. VDE, SEV or SEMKO) in future. The others will not be renewed once they have expired.

Because UL and CSA are not members of the CENELEC, the standards of UL and CSA are not harmonised yet with the European Standards. However, UL and CSA are trying to harmonize their standards with each other. Where possible, SCHURTER will apply for the combined cULus or cURus approval.

Further to development in Asia, SCHURTER has obtained national approvals from China, Japan and Korea.



general product information

IP degrees of protection provided by enclosures (IP code)

Standards IEC 60529; EN 60529

Scope

These standards apply to the classification of degrees of protection provided by enclosures for electrical equipment with a rated voltage not exceeding 72.5 kV.

Object

The object of these standards is to give:

- a) Definitions** for degrees of protection provided by enclosures of electrical equipment as regards:
 - 1. Protection of persons against access to hazardous parts inside the enclosure
 - 2. Protection of the equipment inside the enclosure against ingress of solid foreign objects
 - 3. Protection of the equipment inside the enclosure against harmful effects due to the ingress of water.
- b) Designations** for these degrees of protection.
- c) Requirements** for each designation.
- d) Tests** to be performed to verify that the enclosure meets the requirements of these standards.

Designations

The degree of protection provided by an enclosure is indicated by the IP Code.

Elements of the IP Code and their meanings

A brief description of the IP Code elements is given in the following table.

IP xy	Meaning for the protection of equipment	Meaning for the protection of persons
	Against ingress of solid foreign objectif	Against access to hazardous parts with
x = 0	(non-protected)	(non-protected)
x = 1	50 mm diameter	back of hand
x = 2	12.5 mm diameter	finger
x = 3	2.5 mm diameter	tool
x = 4	1.0 mm diameter	wire
x = 5	dust-protected	wire
x = 6	dust-tight	wire
	Against ingress of water with harmful effects	
y = 0	(non protected)	
y = 1	vertically dripping	
y = 2	dripping (15° tilted)	
y = 3	spraying	
y = 4	splashing	
y = 5	jetting	
y = 6	powerful jetting	
y = 7	temporary immersion	
y = 8	continuous immersion	

Protection against electric shock

1. Protection against direct and indirect contact General terms

The protection against electric shock on electric equipment as well as their components are divided into the following parts:

- Protection against direct contact with live parts concerns all measures for the protection of human beings and animals against hazards which result from direct contact with live parts of electric equipment and their components.
- Protection against indirect contact is the protection of human beings and animals against hazards which result from contact of live parts 1 of electric equipment as well as components thereof, which have become live due to an insulation failure.

¹⁾ Accessible, conductive part, which is not conductive normally but which may be conductive due to a failure.

2. Protection against direct contact with live parts e.g. of a fuseholder

The data sheets of the relevant components inform about the taken measures.

3. Protection against indirect contact

Measures for the protection against indirect contact on electrical equipment are defined according to IEC 61140 by the 4 protection classes 0, I, II, III. Each protection class includes two protection measures. Even if one of these measures should fail, no electric shocks will occur.

Protection class	Main protective measures
0	1. Basic insulation between live parts and accessible conductive parts. 2. Earth-free location, non-conducting environment.
I 	1. Basic insulation between live parts and accessible conductive parts. 2. Means are provided for the connection of accessible conductive parts of the equipment to the protective (earthing) conductor in the fixed wiring of the installation in such a way that accessible conductive parts cannot become live in the event of a failure of the basic insulation.
II 	1. Basic insulation between live parts and accessible conductive parts. 2. Additional insulation. Basic and supplementary insulation are summarised under the term "double insulation". Under certain circumstances also a "reinforced insulation" (single insulation system) may guarantee an equivalent protection against electric shock as a "double-insulation" does. No terminal for a protective conductor is allowable. A possibly existing protective conductor must not be connected and has to be insulated like any live part.
III 	1. Functional insulation. 2. Supply at safety extra-low voltage SELV (the circuit is isolated from the mains supply by such means as a safety isolating transformer). The protection against electric shock is in this case completely based on the supplying by SELV-circuits ($U \leq 42$ V). Higher voltages are not generated in the equipment. No terminal for a protective conductor is allowable.



general product information

PTC-circuit protection

When it comes to Polymeric Positive Temperature Coefficient (PPTC) circuit protection, you now have a choice. If you need a reliable source, look to SCHURTER Resettable Overcurrent Protectors. SCHURTER S PTC products are made from a conductive plastic formed into thin sheets, with electrodes attached to either side. The conductive plastic is manufactured from a nonconductive crystalline polymer and a highly conductive carbon black. The electrodes ensure even distribution of power through the device, and provide a surface for leads to be attached or for custom mounting. The phenomenon that allows conductive plastic materials to be used for resettable overcurrent protection devices is that they exhibit a very large non-linear Positive Temperature Coefficient (PTC) effect when heated. PTC is a characteristic that many materials exhibit whereby resistance increases with temperature. What makes the SCHURTER PTC conductive plastic material unique is the magnitude of its resistance increase. At a specific transition temperature, the increase in resistance is so great that it is typically expressed on a log scale.



How SCHURTER resettable overcurrent protectors work

The conductive carbon black filler material in the PTC fuse device is dispersed in a polymer that has a crystalline structure. The crystalline structure densely packs the carbon particles into its crystalline boundary so they are close enough together to allow current to flow through the polymer insulator via these carbon "chains".

When the conductive plastic material is at normal room temperature, there are numerous carbon chains forming conductive paths through the material.

Under fault conditions, excessive current flows through the PTC fuse device. I^2R heating causes the conductive plastic material's temperature to rise. As this self heating continues, the material's temperature continues to rise until it exceeds its phase transformation temperature.



As the material passes through this phase transformation tempera-

ture, the densely packed crystalline polymer matrix changes to an amorphous structure. This phase change is accompanied by a small expansion. As the conductive particles move apart from each other, most of them no longer conduct current and the resistance of the device increases sharply.

The material will stay "hot", remaining in this high resistance state as long as the power is applied. The device will remain latched, providing continuous protection, until the fault is cleared and the power is removed. Reversing the phase transformation allows the carbon chains to re-form as the polymer re-crystallizes. The resistance quickly returns to its original value.

Product selection

To select the correct SCHURTER PTC circuit protection device, complete the information listed below for the application and then refer to the resettable overcurrent protector data sheets.

1. Determine the normal operating current:
_____ amps
2. Determine the maximum circuit voltage
(V_{max}): _____ volts
3. Determine the fault current (I_{max}):
_____ amps
4. Determine the operating temperature range:
Minimum Temperature: _____ °C
Maximum Temperature: _____ °C
5. Select a product family so that the maximum rating for V_{max} and I_{max} is higher than the maximum circuit voltage and fault current in the application.
6. Using the I_{hold} vs. Temperature Table on the product family data sheet, select the SCHURTER PTC device at the maximum operating temperature with an I_{hold} greater than or equal to the normal operating current.
7. Verify that the selected device will trip under fault conditions by checking in the I_{trip} table that the fault current is greater than I_{trip} for the selected device, at the lowest operating temperature.
8. Order samples and test in application.

Applications

The benefits of SCHURTER Resettable Overcurrent Protectors are being recognized by more and more design engineers and new applications are being discovered every day. The use of polymeric fuses has been widely accepted in the following applications and industries:

- Personal computers
- Laptop computers
- Personal digital assistants
- Transformers
- Small and medium electric motor
- Audio equipment and speakers
- Test and measurement equipment
- Security and fire alarm systems
- Medical electronic
- Personal care products
- Point-of-sale equipment
- Industrial controls
- Automotive electronics and harness protection
- Marine electronic
- Battery-operated toys
- Telecom Electronics

Web Reference or Type	Product group	page
P		
PFDF	■ Fuses	15
PFHT	■ Fuses	20
PFMF	■ Fuses	12
PFNF	■ Fuses	8
PFRA	■ Fuses	22
PFRY	■ Fuses	25
PFSM	■ Fuses	17
PFUF	■ Fuses	10



index by order numbers

Order Number from	to	Web Reference or Type	page
PFDF.050.2		PFDF	15
PFHT.136.2	PFHT.160.2	PFHT	20
PFMF.010.2	PFMF.260.2	PFMF	12
PFNF.012.2	PFNF.200.2	PFNF	8
PFRA.010	PFRA.1100	PFRA	22
PFRY.110	PFRY.375	PFRY	25
PFSM.030.2	PFSM.260.2	PFSM	17
PFUF.005.2	PFUF.150.2	PFUF	10

SCHURTER develops, manufactures and markets components for the electronics industries worldwide.



safe&easy

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