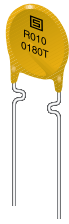


Radial Leaded Fuse, PTC, 60 VDC



16.0 - 60.0VDC · 0.1 - 11 A

See below:

[Approvals and Compliances](#)

**Description**

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


**Applications**

- Computer & Peripherals
- General electronics
- Automotive applications

**Weblinks**

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

**Technical Data**

V max	16.0 - 60.0VDC
I <sub>max</sub>	40 - 100A
I hold	0.1 - 11 A
Attachment	PCB, THT
Allowable Operation Temperature	-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 <a href="#">Soldering Profile</a>
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, Method 215
Flammability	UL 94V-0

**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: PFRA

Approval Logo	Certificates	Certification Body	Description
	<a href="#">TUEV Approvals</a>	TUEV	Technischer Überwachungsverein
	<a href="#">UL Approvals</a>	UL	UL File Number: E172175

**Product standards**

Product standards that are referenced

Organization	Design	Standard	Description
	Designed according to	62319-1-1	Polymeric thermistors. Part 1-1: Current limiting application
	Designed according to	IEC 62319-1-1	Miniature fuses. Part 2. Cartridge fuse links
	Designed according to	UL 1434	Thermistor-type devices
	Designed according to	CSA 22.2 No. 0 TIL No. CA-3A	General requirements - Canadian electrical code, part II






**Application standards**

Application standards where the product can be used

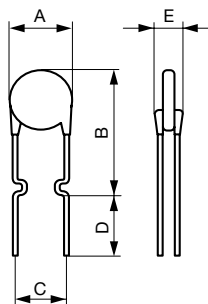
Organization	Design	Standard	Description
	Designed for applications acc.	IEC/UL 62368-1	Audio/video, information and communication technology equipment - Part 1: Safety requirements

**Compliances**

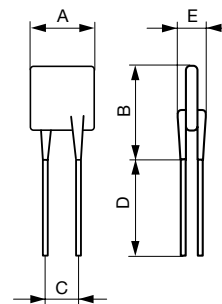
The product complies with following Guide Lines

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.
	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.
	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]**

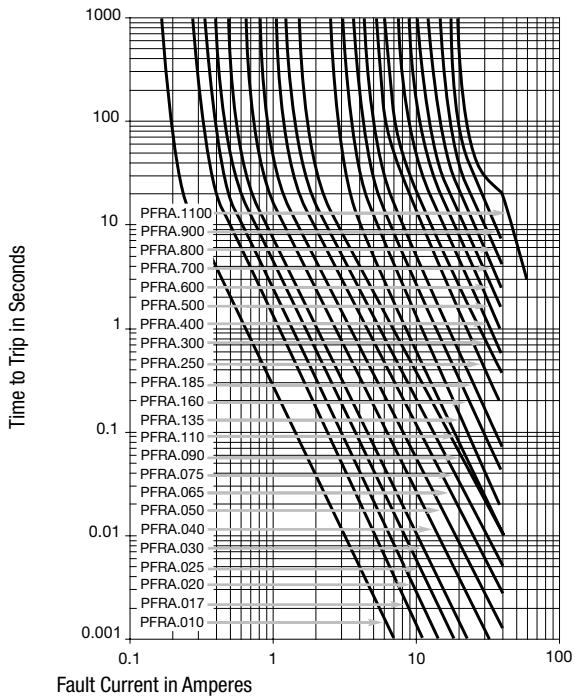


PFRA.010 - PFRA.185



PFRA.250 - PFRA.1100

Time-Current-Curves



Dimensions

A max [mm]	B max [mm]	C min [mm]	C max [mm]	D min [mm]	E max [mm]	Ø Lead [mm]	Terminal	Order Number
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Pated NiCu	PFRA.010
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Pated NiCu	PFRA.010.2
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.017
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.017.2
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.020
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.020.2
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.025
7.4	12.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.025.2
7.4	13.4	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.030
7.4	13.4	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.030.2
7.4	13.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.040
7.4	13.7	4.4	5.8	7.6	3.1	0.51	Tin-Plated CuFe	PFRA.040.2
7.9	13.7	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.050
7.9	13.7	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.050.2
9.7	15.2	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.065
9.7	15.2	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.065.2
10.4	16	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.075
10.4	16	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.075.2
11.7	16.7	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.090
11.7	16.7	4.4	5.8	7.6	3.1	0.51	see variants	PFRA.090.2
8.9	14	4.4	5.8	7.6	3	0.51	see variants	PFRA.110
8.9	14	4.4	5.8	7.6	3	0.51	see variants	PFRA.110.2
8.9	18.9	4.4	5.8	7.6	3	0.51	see variants	PFRA.135
8.9	18.9	4.4	5.8	7.6	3	0.51	see variants	PFRA.135.2
10.2	16.8	4.4	5.8	7.6	3	0.51	see variants	PFRA.160
10.2	16.8	4.4	5.8	7.6	3	0.51	see variants	PFRA.160.2
12	18.4	4.4	5.8	7.6	3	0.51	see variants	PFRA.185
12	18.4	4.4	5.8	7.6	3	0.51	see variants	PFRA.185.2
12	18.3	4.4	5.8	7.6	3	0.81	see variants	PFRA.250

A max [mm]	B max [mm]	C min [mm]	C max [mm]	D min [mm]	E max [mm]	Ø Lead [mm]	Terminal	Order Number
12	18.3	4.4	5.8	7.6	3	0.81	see variants	PFRA.250.2
12	18.3	4.4	5.8	7.6	3	0.81	see variants	PFRA.300
12	18.3	4.4	5.8	7.6	3	0.81	see variants	PFRA.300.2
14.4	24.8	4.4	5.8	7.6	3	0.81	see variants	PFRA.400
14.4	24.8	4.4	5.8	7.6	3	0.81	see variants	PFRA.400.2
17.4	24.9	9.5	10.9	7.6	3	0.81	see variants	PFRA.500
19.3	31.9	9.5	10.9	7.6	3	0.81	see variants	PFRA.600
22.1	29.8	9.5	10.9	7.6	3	0.81	see variants	PFRA.700
24.2	32.9	9.5	10.9	7.6	3	0.81	see variants	PFRA.800
24.2	32.9	9.5	10.9	7.6	3	0.81	see variants	PFRA.900
24.2	32.9	9.5	10.9	7.6	3	0.81	see variants	PFRA.1100

Most Popular.

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### Thermal Derating Chart Ihold [A]

-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
0.16	0.14	0.12	0.1	0.08	0.07	0.06	0.05	0.04	PFRA.010.2
0.26	0.23	0.2	0.17	0.14	0.12	0.11	0.09	0.07	PFRA.017
0.26	0.23	0.2	0.17	0.14	0.12	0.11	0.09	0.07	PFRA.017.2
0.31	0.27	0.24	0.2	0.16	0.14	0.13	0.11	0.08	PFRA.020
0.31	0.27	0.24	0.2	0.16	0.14	0.13	0.11	0.08	PFRA.020.2
0.39	0.34	0.3	0.25	0.2	0.18	0.16	0.14	0.1	PFRA.025
0.39	0.34	0.3	0.25	0.2	0.18	0.16	0.14	0.1	PFRA.025.2
0.47	0.41	0.36	0.3	0.24	0.22	0.19	0.16	0.12	PFRA.030
0.47	0.41	0.36	0.3	0.24	0.22	0.19	0.16	0.12	PFRA.030.2
0.62	0.54	0.48	0.4	0.32	0.29	0.25	0.22	0.16	PFRA.040
0.62	0.54	0.48	0.4	0.32	0.29	0.25	0.22	0.16	PFRA.040.2
0.78	0.68	0.6	0.5	0.41	0.36	0.32	0.27	0.2	PFRA.050
0.78	0.68	0.6	0.5	0.41	0.36	0.32	0.27	0.2	PFRA.050.2
1.01	0.88	0.77	0.65	0.53	0.47	0.41	0.35	0.26	PFRA.065
1.01	0.88	0.77	0.65	0.53	0.47	0.41	0.35	0.26	PFRA.065.2
1.16	1.02	0.89	0.75	0.61	0.54	0.47	0.41	0.3	PFRA.075
1.16	1.02	0.89	0.75	0.61	0.54	0.47	0.41	0.3	PFRA.075.2
1.4	1.22	1.07	0.9	0.73	0.65	0.57	0.49	0.36	PFRA.090
1.4	1.22	1.07	0.9	0.73	0.65	0.57	0.49	0.36	PFRA.090.2
1.6	1.43	1.27	1.1	0.91	0.85	0.75	0.67	0.57	PFRA.110
1.6	1.43	1.27	-	0.91	0.85	0.75	0.67	0.57	PFRA.110.2
1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.7	PFRA.135
1.96	1.76	1.55	1.35	1.12	1.04	0.92	0.82	0.7	PFRA.135.2
2.32	2.08	1.84	1.6	1.33	1.32	1.09	0.98	0.83	PFRA.160
2.32	2.08	1.84	1.6	1.33	1.32	1.09	0.98	0.83	PFRA.160.2
2.68	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96	PFRA.185
2.68	2.41	2.13	1.85	1.54	1.42	1.26	1.13	0.96	PFRA.185.2
3.63	3.25	2.88	2.5	2.08	1.93	1.7	1.53	1.3	PFRA.250
3.63	3.25	2.88	2.5	2.08	1.93	1.7	1.53	1.3	PFRA.250.2
4.35	3.9	3.45	3	2.49	2.31	2.04	1.83	1.56	PFRA.300
4.35	3.9	3.45	3	2.49	2.31	2.04	1.83	1.56	PFRA.300.2
5.8	5.2	4.6	4	3.32	3.08	2.72	2.44	2.08	PFRA.400
5.8	5.2	4.6	4	3.32	3.08	2.72	2.44	2.08	PFRA.400.2
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

-40 °C	-20 °C	0 °C	23 °C	40 °C	50 °C	60 °C	70 °C	85 °C	Order Number
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.1100

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### Electrical Characteristics at 23 °C

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	0.1	0.2	2.5	4.5	7.5	0.5	4	0.38	PFRA.010.2
60.0	40	0.17	0.34	2	3.2	8	0.85	3	0.48	PFRA.017
60.0	40	0.17	0.34	2	3.2	8	0.85	3	0.48	PFRA.017.2
60.0	40	0.2	0.4	1.5	2.84	4.4	1	2.2	0.40	PFRA.020
60.0	40	0.2	0.4	1.5	2.84	4.4	1	2.2	0.40	PFRA.020.2
60.0	40	0.25	0.5	1	1.95	3	1.25	2.5	0.45	PFRA.025
60.0	40	0.25	0.5	1	1.95	3	1.25	2.5	0.45	PFRA.025.2
60.0	40	0.3	0.6	0.76	1.36	2.1	1.5	3	0.50	PFRA.030
60.0	40	0.3	0.6	0.76	1.36	2.1	1.5	3	0.50	PFRA.030.2
60.0	40	0.4	0.8	0.52	0.86	1.29	2	3.8	0.55	PFRA.040
60.0	40	0.4	0.8	0.52	0.86	1.29	2	3.8	0.55	PFRA.040.2
60.0	40	0.5	1	0.41	0.77	1.17	2.5	4	0.75	PFRA.050
60.0	40	0.5	1	0.41	0.77	1.17	2.5	4	0.75	PFRA.050.2
60.0	40	0.65	1.3	0.27	0.48	0.72	3.25	5.3	0.90	PFRA.065
60.0	40	0.65	1.3	0.27	0.48	0.72	3.25	5.3	0.90	PFRA.065.2
60.0	40	0.75	1.5	0.18	0.4	0.6	3.75	6.3	0.90	PFRA.075
60.0	40	0.75	1.5	0.18	0.4	0.6	3.75	6.3	0.90	PFRA.075.2
60.0	40	0.9	1.8	0.14	0.31	0.47	4.5	7.2	1.00	PFRA.090
60.0	40	0.9	1.8	0.14	0.31	0.47	4.5	7.2	1.00	PFRA.090.2
30.0	40	1.1	2.2	0.1	0.18	0.27	5.5	6.6	0.70	PFRA.110
30.0	40	-	2.2	0.1	0.18	0.27	5.5	6.6	0.70	PFRA.110.2
30.0	40	1.35	2.7	0.065	0.115	0.17	6.75	7.3	0.80	PFRA.135
30.0	40	1.35	2.7	0.065	0.115	0.17	6.75	7.3	0.80	PFRA.135.2
30.0	40	1.6	3.2	0.055	0.105	0.15	8	8	0.90	PFRA.160
30.0	40	1.6	3.2	0.055	0.105	0.15	8	8	0.90	PFRA.160.2
30.0	40	1.85	3.7	0.04	0.07	0.11	9.25	8.7	1.00	PFRA.185
30.0	40	1.85	3.7	0.04	0.07	0.11	9.25	8.7	1.00	PFRA.185.2
30.0	40	2.5	5	0.025	0.048	0.07	12.5	10.3	1.20	PFRA.250
30.0	40	2.5	5	0.025	0.048	0.07	12.5	10.3	1.20	PFRA.250.2
30.0	40	3	6	0.02	0.05	0.08	15	10.8	2.00	PFRA.300
30.0	40	3	6	0.02	0.05	0.08	15	10.8	2.00	PFRA.300.2
30.0	40	4	8	0.01	0.03	0.05	20	12.7	2.50	PFRA.400
30.0	40	4	8	0.01	0.03	0.05	20	12.7	2.50	PFRA.400.2
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.1100

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**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.)

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[0ZCM0004FF2G](#) [BK60-017-DI](#) [BK60-075-DZ](#) [BK60-050-DI](#) [BSMD1210-050-13.2V](#) [SMD1206-200C-16V](#) [SMD1210-500-6V](#) [SMD1210-550-6V](#) [SMD0603-075-6V](#) [SMD0603-100-6V](#) [SMD0603-150-6V](#) [JK-SMD0805-300L](#) [JK-SMD1210-300L](#) [JK-SMD1210-400L](#) [JK-MSMD500L-12V](#) [BSMD0603-050-9V](#) [BSMD0603-050-12V](#) [BSMD0805-035-12V](#) [BSMD1812L-600-12V](#) [FTR1812-014](#) [FTR1206-150](#)  
[FTR1206-110](#) [FTR1812-260/16](#)