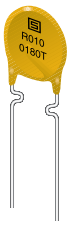
Radial Leaded Fuse, PTC, 60 VDC



16.0 - 60.0 VDC · 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 - 60.0 VDC
Imax	40 - 100 A
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 Soldering Profile
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
	TUEV Approvals	TUEV	Technischer Überwachungsverein
c US	UL Approvals	UL	UL File Number: E172175

Product standards

Product standards that are referenced

Organization	Design	Standard	Description
IEC	Designed according to	62319-1-1	Polymeric thermistors. Part 1-1: Current limiting application
IEC	Designed according to	IEC 62319-1-1	Miniature fuses. Part 2. Cartridge fuse links
UL	Designed according to	UL 1434	Thermistor-type devices
CSA Group	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

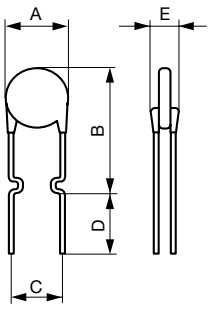
Organization	Design	Standard	Description
IEC	Designed for applications acc.	IEC/UL 62368-1	Audio/video, information and communication technology equipment - Part 1: Safety requirements

Compliances

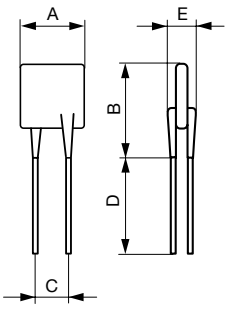
The product complies with following Guide Lines

Identification	Details	Initiator	Description
CE	CE declaration of conformity	SCHURTER AG	The CE marking declares that the product complies with the applicable requirements laid down in the harmonisation of Community legislation on its affixing in accordance with EU Regulation 765/2008.
UKCA	UKCA declaration of conformity	SCHURTER AG	The UKCA marking declares that the product complies with the applicable requirements laid down in the British Amendment of Regulation (EC) 765/2008.
RoHS	RoHS	SCHURTER AG	Directive RoHS 2011/65/EU, Amendment (EU) 2015/863
China RoHS	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	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]

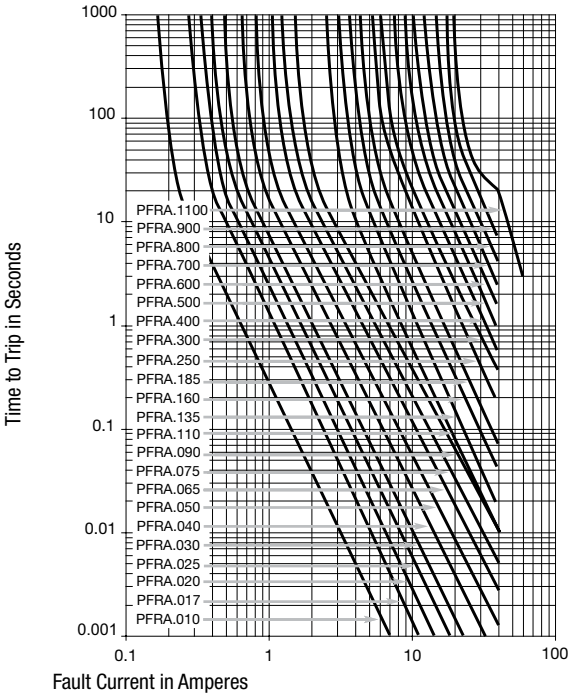


PFRA.010 - PFRA.185



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.

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

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

Most Popular.

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

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

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.)

04.01.2022

The specifications, descriptions and illustrations indicated in this document are based on current information. All content is subject to modifications and amendments. Information furnished is believed to be accurate and reliable. However, users should independently evaluate the suitability and test each product selected for their own applications.