

Other Protistor® Fuses

Ferrule Fuses

10x38 URB/URD/URL - 500 to 600 VAC



Extremely high breaking capacity fuses:
Protection of power semiconductors complying with IEC standard 60269.1 and 4.

500 - 600 VAC voltage rating

aR-CLASS according to VDE 636-23 IEC 60269-4

Without blown fuse indication 0.10 up to 0,80 A**

With trip-indicator (1 to 30 A), a Ferraz Shawmut speciality*

Main Characteristics

Voltage rating U_N (VAC)	Class	Current rating I_N (A)	Pre-arcing $I^t @ 1 \text{ ms}$ I^{tp} (A ² s)	Total clearing $I^t @ U_N$ I^{tt} (A ² s)	Watts loss		Tested breaking capacity
					0.8 I_N	I_N	
600 V without blown fuse indicator	URD **	100 mA	/	1.2 10 ⁻³	0.23	0.4	200 kA @ 600 V
		125 mA		2.3 10 ⁻³	0.25	0.44	
		160 mA		5.2 10 ⁻³	0.28	0.48	
		200 mA		8 10 ⁻³	0.34	0.58	
		250 mA		18 10 ⁻³	0.35	0.60	
		315 mA		33 10 ⁻³	0.42	0.73	
		400 mA		56 10 ⁻³	0.46	0.80	
		500 mA		0.100	0.46	0.80	
		630 mA		0.18	0.52	0.90	
		800 mA		0.44	0.58	1	
500 V with trip-indicator	URD	1 A	0.40	3.6	2.8	0.5	50 kA @ 500 V
		1.25 A	0.13	1.7	0.52	0.91	
		1.6 A	0.31	2.2	0.58	1	
		2 A	0.65	3.1	0.63	1.1	
		2.5 A	1.65	5.9	0.63	1.1	
		3.15 A	2.80	9	0.86	1.5	
		4 A	5.30	16	1.1	1.8	
		5 A	12.7	36	1.1	1.8	
	URD	6 A	1.3	47	0.73	1.35	50 kA @ 500 V
		8 A	2.3	80	0.83	1.55	
		10 A	3.6	110	1	1.9	
		12 A	5.25	150	1.3	2.3	
		16 A	9.30	200	1.7	3.1	
		20 A	16	290	1.7	3.2	
	URL	25 A	37	580	2.9	4.25	50 kA @ 500 V
		30 A	58	900	3.5	5.1	

* minimum operating voltage for trip-indicator: 20 V

** higher ratings without blown fuse indicator see 10x38gRB - 690 VAC

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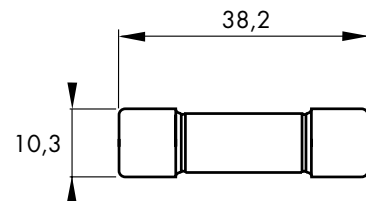
Other Protistor® Fuses

Ferrule Fuses

10x38 URB/URD - 500 to 600 VAC

10.3x38 - Without blown fuse indicator

Current Rating	Designation	Ref. Number	Catalog Number
100 mA	A 060 URD 0.100T13	H077632	A060UD0.100T13
125 mA	A 060 URD 0.125T13	J077633	A060UD0.125T13
160 mA	A 060 URD 0.160T13	K077634	A060UD0.160T13
200 mA	A 060 URD 0.200T13	L077635	A060UD0.200T13
250 mA	A 060 URD 0.250T13	M077636	A060UD0.250T13
315 mA	A 060 URD 0.315T13	N077637	A060UD0.315T13
400 mA	A 060 URD 0.400T13	P077638	A060UD0.400T13
500 mA	A 060 URD 0.500T13*	Q077639	A060UD0.500T13
630 mA	A 060 URD 0.630T13*	R077640	A060UD0.630T13
800 mA	A 060 URD 0.800T13*	S077641	A060UD0.800T13

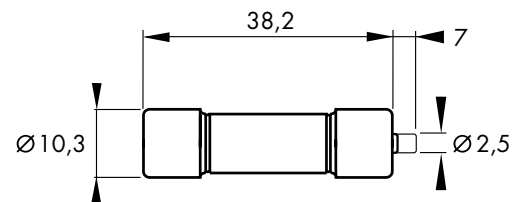


* UL Recognized 

Fuses mounted in clips or fuse disconnectors

10.3x38 - With trip-indicator

Current Rating	Designation	Ref. Number	Catalog Number
1 A	A 050 URD 001 T13 I	P076925	A050URD1T13I
1.25 A	A 050 URD 001.2 T13 I	H076597	A050URD1.2T13I
1.6 A	A 050 URD 001.6 T13 I	G076596	A050URD1.6T13I
2 A	A 050 URD 002 T13 I	Q076926	A050URD2T13I
2.5 A	A 050 URD 002.5 T13 I	F076595	A050URD2.5T13I
3.15 A	A 050 URD 003 T13 I	R076927	A050URD3T13I
4 A	A 050 URD 004 T13 I	S076928	A050URD4T13I
5 A	A 050 URD 005 T13 I	T076929	A050URD5T13I
6 A	A 050 URB 006 T13 I	V076930	A050URB6T13I
8 A	A 050 URB 008 T13 I	W076931	A050URB8T13I
10 A	A 050 URB 010 T13 I	X076932	A050URB10T13I
12 A	A 050 URB 012 T13 I	Y076933	A050URB12T13I
16 A	A 050 URB 016 T13 I	Z076934	A050URB16T13I
20 A	A 050 URB 020 T13 I	A076935	A050URB20T13I
25 A	A 050 URL 025 T13 I	B076936	A050URL25T13I
30 A	A 050 URL 030 T13 I	C076937	A050URL30T13I



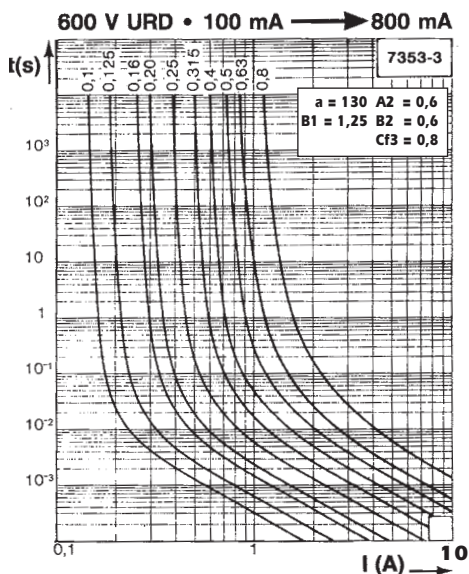
Fuses with trip indicator mounted in clips

Other Protistor® Fuses Ferrule Fuses 10x38 URB/URD - 500 to 600 VAC

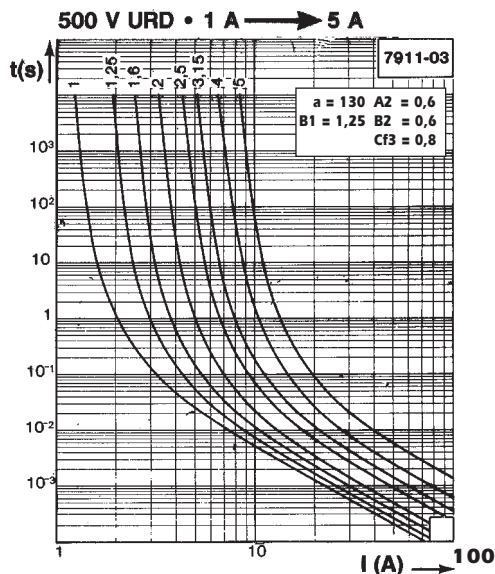
Electrical characteristics

Time vs current characteristics

WITHOUT BLOWN FUSE INDICATOR

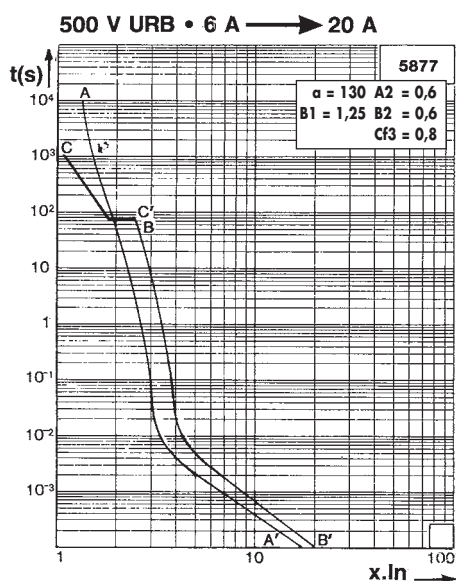


WITH TRIP INDICATOR

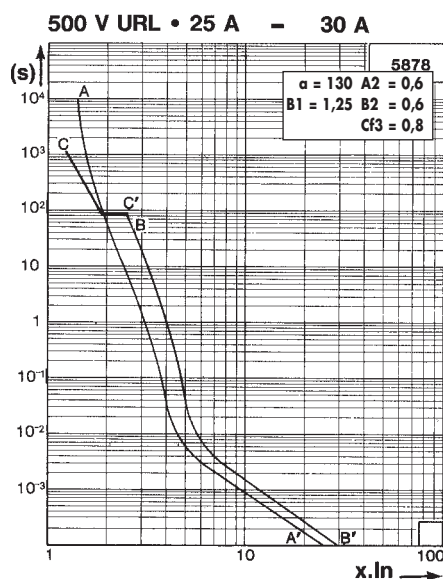


These curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.
Tolerance for mean pre-arcing current $\pm 10\%$

WITH TRIP INDICATOR



WITH TRIP INDICATOR



These curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.
as a multiple of current rating.





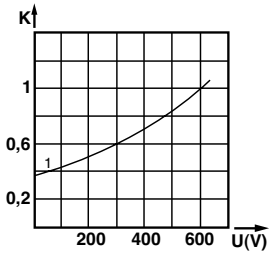
Other Protistor® Fuses

Ferrule Fuses

10x38 URB/URD - 500 to 600 VAC

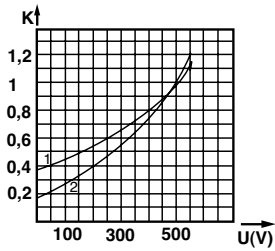
Corrective factor - Peak arc voltage

Corrective factor



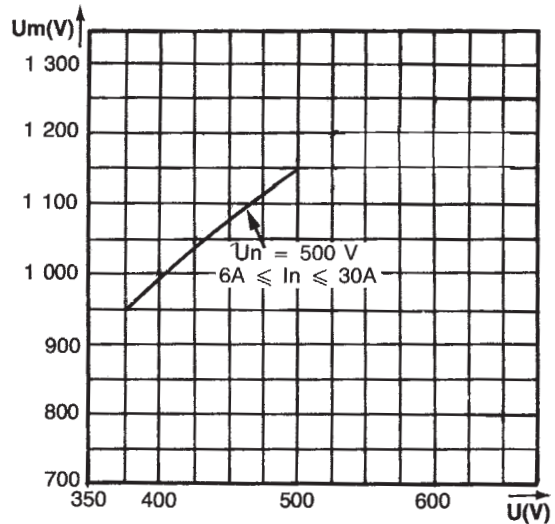
600 V UR
1 : 0.1 up to 0.8 A

These mean curves show the variation of the total clearing time (I^2t_t) and the total clearing duration t_t as a function of operating voltage U.



500 V UR
1 : 1 up to 5 A
2 : 6 up to 30 A

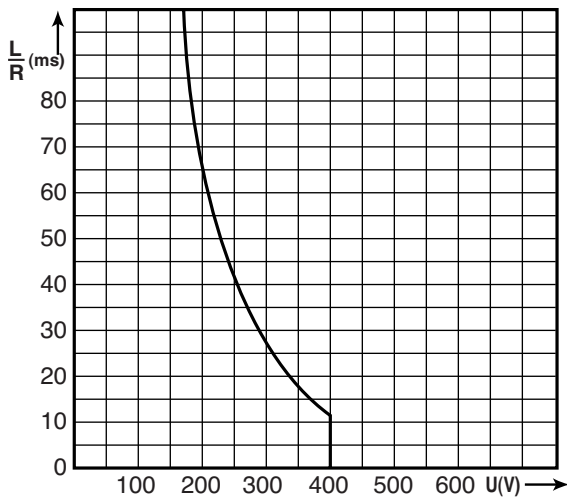
Peak arc voltage



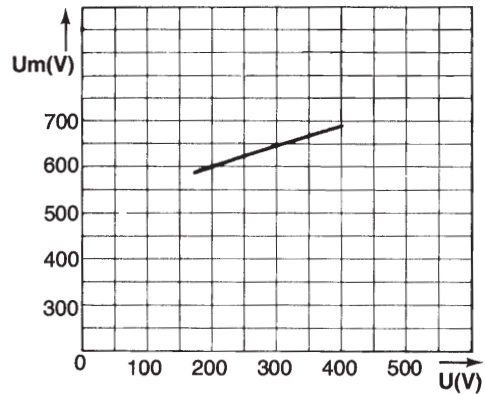
This curve shows the peak value U_m of the arc voltage which appears across the fuse link as a function of the operating voltage U @ $\cos \varphi = 0.15$.

D.C. Application data for fuses with trip indicator

500 V URD $I_N \geq 6A$



500 V URD $I_N \geq 6A$



This curve shows the peak value U_m of the arc voltage which appears across the fuse link as a function of the operating voltage U.

Protistor® size 14x51 aR (URC)

600VAC to 690VAC (IEC) / 700VAC (UL)

SEMICONDUCTOR PROTECTION FUSES

IEC HIGH-SPEED CYLINDRICAL FUSE-LINKS AC PROTECTION



These Protistor® size 14x51 have been designed to protect power semi conductors, complying with standard IEC 60269-1 and -4. They are extremely high interrupting rating fuses: 600-690VAC, with large band of ratings (current rating 6 to 50A).

Two models are existing, as per NF C 63210 and 63211: with or without trip-indicator.

TECHNICAL DATA OVERVIEW

Voltage Range AC	600 ... 690 VAC
Ampere Range (A)	6 ... 50 A
Speed/Characteristic	aR
I.R. AC (IEC)	100 kA
Product Size	14x51 mm

FEATURES & BENEFITS

- Low I^2t for improved semiconductor protection
- Eliminate all overloads
- Extremely fast acting
- Current limiting
- Excellent cycling capability
- UL recognized (except 6A)
- aR-class according to VDE 636-23 and IEC 60269-4

APPLICATIONS

- The URC 14x51 are fast acting fuses used in the protection of small inverters, UPS systems, variable speed drives and other similar 700V or less equipments.

STANDARDS

- VDE 636-23
- IEC 60269-4
- IEC 60269-1
- UL recognized



Protistor® size 14x51 aR (URC)

600VAC to 690VAC (IEC) / 700VAC (UL)

PRODUCT RANGE

Size 14x51 aR with trip-indicator



Catalog number	Reference number	Rated voltage AC (IEC)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
FR14UC69V6T	G081518	690 V	6 A	1.3 A ² s	15 A ² s	100 kA	2 W	20 g	10
FR14UC69V8T	C093911	690 V	8 A	2.4 A ² s	27.5 A ² s	100 kA	2.8 W	20 g	10
FR14UC69V10T	D093912	690 V	10 A	4.3 A ² s	40 A ² s	100 kA	3.5 W	20 g	10
FR14UC69V12T	E093913	690 V	12 A	5.4 A ² s	60 A ² s	100 kA	4.4 W	20 g	10
FR14UC69V16T	F093914	690 V	16 A	13.2 A ² s	100 A ² s	100 kA	4.8 W	20 g	10
FR14UC69V20T	G093915	690 V	20 A	27 A ² s	160 A ² s	100 kA	5.2 W	20 g	10
FR14UC69V25T	H093916	690 V	25 A	53 A ² s	275 A ² s	100 kA	5.8 W	20 g	10
FR14UC69V32T	J093917	690 V	32 A	98 A ² s	500 A ² s	100 kA	7 W	20 g	10
FR14UD69V40T	T100136	690 V	40 A	130 A ² s	700 A ² s	100 kA	10.7 W	20 g	10
FR14UD69V50T	V100137	690 V	50 A	280 A ² s	1500 A ² s	100 kA	11.6 W	20 g	10
FR14UC60V63T	V220910	600 V	63 A	440 A ² s	2200 A ² s	100 kA	16 W	20 g	10

Size 14x51 aR without trip-indicator

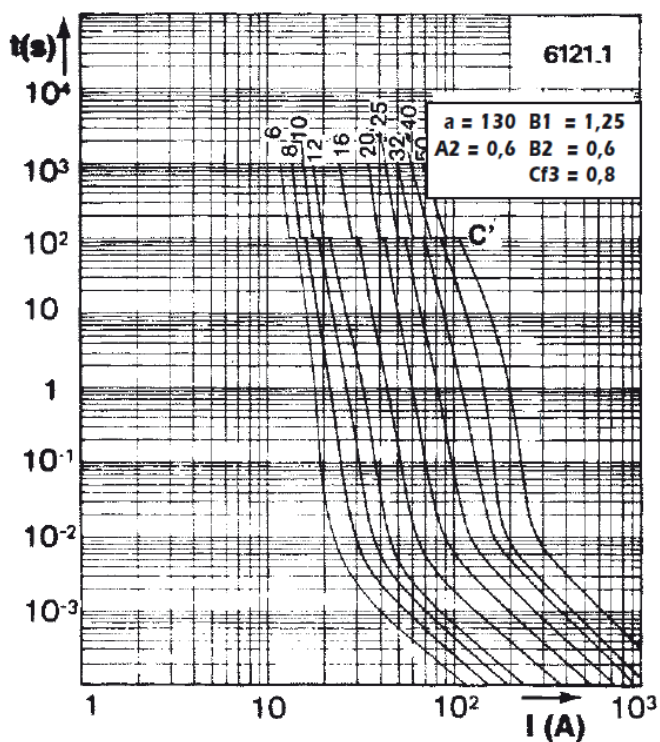


Catalog number	Reference number	Rated voltage AC (IEC)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
FR14UC69V6	K081475	690 V	6 A	1.3 A ² s	15 A ² s	100 kA	2 W	20 g	10
FR14UC69V8	S093902	690 V	8 A	2.4 A ² s	27.5 A ² s	100 kA	2.8 W	20 g	10
FR14UC69V10	T093903	690 V	10 A	4.3 A ² s	40 A ² s	100 kA	3.5 W	20 g	10
FR14UC69V12	V093904	690 V	12 A	5.4 A ² s	60 A ² s	100 kA	4.4 W	20 g	10
FR14UC69V16	W093905	690 V	16 A	13.2 A ² s	100 A ² s	100 kA	4.8 W	20 g	10
FR14UC69V20	X093906	690 V	20 A	27 A ² s	160 A ² s	100 kA	5.2 W	20 g	10
FR14UC69V25	Y093907	690 V	25 A	53 A ² s	275 A ² s	100 kA	5.8 W	20 g	10
FR14UC69V32	Z093908	690 V	32 A	98 A ² s	500 A ² s	100 kA	7 W	20 g	10
FR14UC69V40	A093909	690 V	40 A	130 A ² s	700 A ² s	100 kA	10.7 W	20 g	10
FR14UC69V50	B093910	690 V	50 A	280 A ² s	1500 A ² s	100 kA	11.6 W	20 g	10

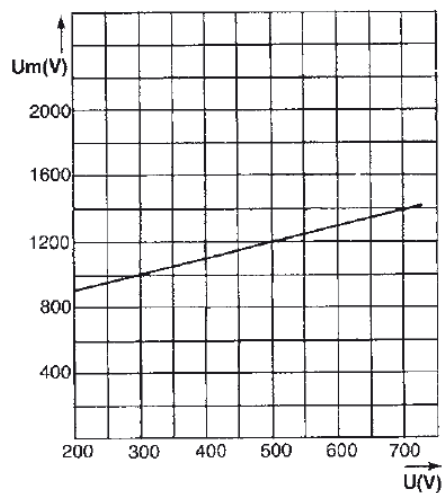
Protistor® size 14x51 aR (URC)

600VAC to 690VAC (IEC) / 700VAC (UL)

TIME CURRENT CHARACTERISTIC CURVES



PEAK ARC VOLTAGE

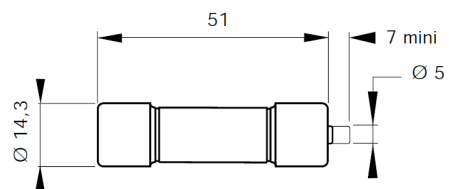


Protistor® size 14x51 aR (URC)

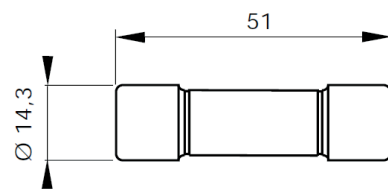
600VAC to 690VAC (IEC) / 700VAC (UL)

DIMENSIONS

Size 14x51 with trip-indicator



Size 14x51 without trip-indicator



Dimensions in mm

Protistor® size 22x58 aR (URD)

600VAC to 690VAC (IEC) / 700VAC (UL)

SEMICONDUCTOR PROTECTION FUSES

IEC HIGH-SPEED CYLINDRICAL FUSE-LINKS AC PROTECTION



These Protistor® size 22x58 have been designed to protect power semi conductors, complying with standard IEC 60269-1 and -4. They are extremely high interrupting rating fuses: 600-690VAC, with large band of ratings (current rating 25 to 135A).

Two models are existing, as per NF C 63210 and 63211: with or without trip-indicator.

TECHNICAL DATA OVERVIEW

Voltage Range AC	600 ... 690 VAC
Ampere Range (A)	25 ... 130 A
Size per Standard	22x58
Speed/Characteristic	aR
I.R. AC (IEC)	100 kA

FEATURES & BENEFITS

- Low I²t for improved semiconductor protection
- Eliminate all overloads
- Extremely fast acting
- Current limiting
- Excellent cycling capability
- UL recognized
- aR-class according to VDE 636-23 and IEC 60269-4

APPLICATIONS

- The URD 22x58 are fast acting fuses used in the protection of small inverters, UPS systems, variable speed drives and other similar 700V or less equipments.

STANDARDS

- VDE 636-23
- IEC 60269-4
- IEC 60269-1
- UL recognized



Protistor® size 22x58 aR (URD)

600VAC to 690VAC (IEC) / 700VAC (UL)

PRODUCT RANGE

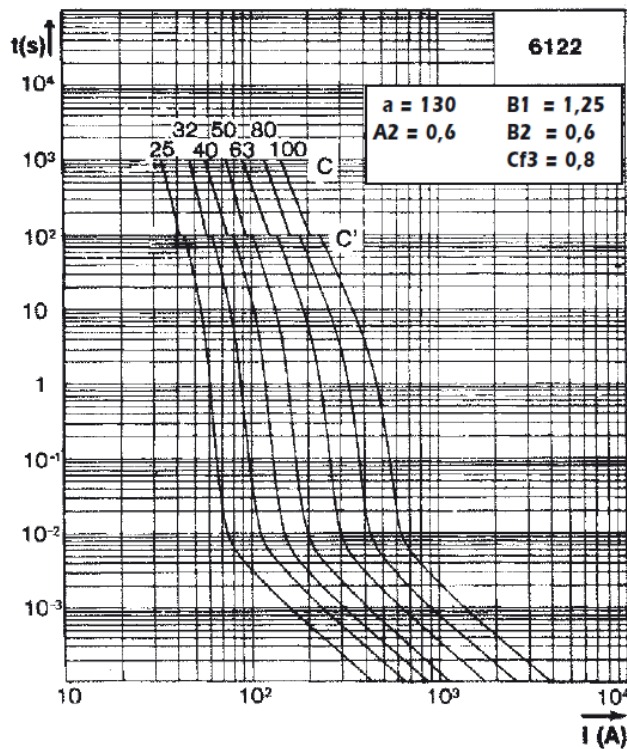
Size 22x58 aR with trip-indicator

Catalog number	Reference number	Rated voltage AC (IEC)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
FR22UD69V25T	H093801	690 V	25 A	22 A ² s	125 A ² s	100 kA	10 W	57 g	10
FR22UD69V32T	C093957	690 V	32 A	49 A ² s	275 A ² s	100 kA	11 W	57 g	10
FR22UD69V40T	J093802	690 V	40 A	88 A ² s	480 A ² s	100 kA	13 W	57 g	10
FR22UD69V50T	D093958	690 V	50 A	155 A ² s	800 A ² s	100 kA	14.9 W	57 g	10
FR22UD69V63T	K093803	690 V	63 A	350 A ² s	1850 A ² s	100 kA	16 W	57 g	10
FR22UD69V80T	E093959	690 V	80 A	730 A ² s	3800 A ² s	100 kA	17.8 W	57 g	10
FR22UD69V100T	F093960	690 V	100 A	1560 A ² s	8000 A ² s	100 kA	19 W	57 g	10
FR22UD60V125T	A220708	600 V	125 A	2900 A ² s	14000 A ² s	100 kA	22 W	57 g	10
FR22UD60V135T	B220709	600 V	135 A	3360 A ² s	17700 A ² s	100 kA	25 W	57 g	10

Size 22x58 aR without indicator

Catalog number	Reference number	Rated voltage AC (IEC)	Rated current I _n	Pre-arcing I ² t	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Weight	Package
FR22UD69V25	B093956	690 V	25 A	22 A ² s	125 A ² s	100 kA	10 W	57 g	10
FR22UD69V32	Z094828	690 V	32 A	49 A ² s	275 A ² s	100 kA	11 W	57 g	10
FR22UD69V40	S094822	690 V	40 A	88 A ² s	480 A ² s	100 kA	13 W	57 g	10
FR22UD69V50	W094779	690 V	50 A	155 A ² s	800 A ² s	100 kA	14.9 W	57 g	10
FR22UD69V63	T094823	690 V	63 A	350 A ² s	1850 A ² s	100 kA	16 W	57 g	10
FR22UD69V80	A094829	690 V	80 A	730 A ² s	3800 A ² s	100 kA	17.8 W	57 g	10
FR22UD69V100	Y094827	690 V	100 A	1560 A ² s	8000 A ² s	100 kA	19 W	57 g	10

TIME CURRENT CHARACTERISTIC CURVES

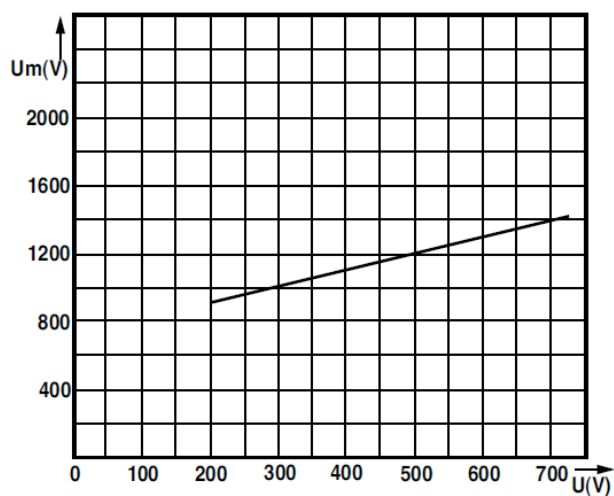


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Protistor® size 22x58 aR (URD)

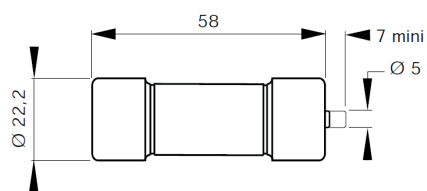
600VAC to 690VAC (IEC) / 700VAC (UL)

PEAK ARC VOLTAGE

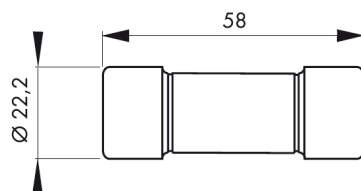


DIMENSIONS

Size 22x58 with trip-indicator



Size 22x58 without trip-indicator



Dimensions in mm