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Semiconductor (AC) fuses

Other Protistor® Fuses Ferrule Fuses

14x51 & 22x58 URC / URD - 600 to 690 VAC



EXTREMELY BREAKING CAPACITY RATING FUSES:
 PROTECTION OF POWER SEMI CONDUCTORS COMPLYING WITH IEC STANDARD 60269.1 AND 4
 600 - 690 V AC VOLTAGE RATING
 aR-CLASS ACCORDING TO VDE 636-23 AND IEC 60269.4
 WITH AND WITHOUT TRIP-INDICATOR FOR SIZES 14 x 51 AND 22 x 58
 UL RECOGNIZED (EXCEPT 6 A)*

Main Characteristics

Voltage rating U_N (VAC)	Size	Class	Current rating I_N (A)	Pre-arcing $2t @ 1 \text{ ms}$ I^2t_p (A ² s)	Total clearing $I^2t @$ (A ² s)		Watts loss		Breaking Capacity
					$7 I_N < I_p < 30 I_N$	$I_p \geq 30 I_N$	$0.8 I_N$	I_N	
690 V	14 x 51	URC	6	1.3	17.5* @ 660V		1.1	2	100 kA @ 690 V
			8	2.4	27.5@ 660V		1.6	2.8	
			10	4.3	40@ 660V		2	3.5	
			12	5.4	60@ 660V		2.45	4.4	
			16	13.2	100@ 660V		2.7	4.8	
			20	27	160@ 660V		2.9	5.2	
			25	53	275@ 660V		3.2	5.8	
			32	98	500@ 660V		3.9	7	
690 V	14 x 51	URD	40 (2)	130	7 $I_N < I_p < 30 I_N$		6	10.7	100 kA @ 690 V
					$I_p \geq 30 I_N$				
			50 (2)	280	850@660	700@660	6.3	11.6	
					1850@660	1500@660			
690 V	22 x 58	URD	25	22	125@ 660V		5.2	10	100 kA @ 690 V
			32	49	275@ 660V		5.7	11	
			40	88	480@ 660V		6.8	13	
			50	155	800@ 660V		7.8	14.9	
			63	350	1850@ 660V		8.4	16	
			80	730	3800@ 660V		9.4	17.8	
			100	1560	8000@ 660V		10	19	
600 V	22X58	URD	125	2900	14000@600V		14	22	100 kA @ 600 V
			130	3360	17700@600V		15	25	

* Without trip-indicator $I^2t : 15 \text{ A}^2\text{s}$.
 (1) No trip-indicator available for this model.
 (2) Models available only with trip-indicator.

Other Protistor® Fuses

Ferrule Fuses

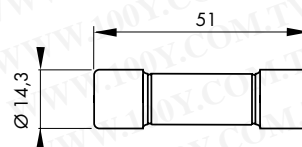
14x51 & 22x58 URC / URD - 600 to 690 VAC

All the fuses presented on this page are (except 6 A)*



14x51 - Without blown fuse indication

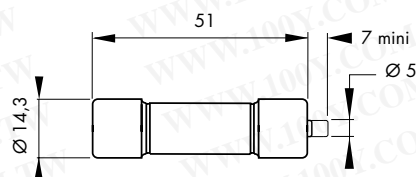
Current Rating	Designation	Ref. Number	Catalog Number
6 A	6.900 CP URC 14.51/6*	K081475	FR14UC69V6
8 A	6.900 CP URC 14.51/8	S093902	FR14UC69V8
10 A	6.900 CP URC 14.51/10	T093903	FR14UC69V10
12 A	6.900 CP URC 14.51/12	V093904	FR14UC69V12
16 A	6.900 CP URC 14.51/16	W093905	FR14UC69V16
20 A	6.900 CP URC 14.51/20	X093906	FR14UC69V20
25 A	6.900 CP URC 14.51/25	Y093907	FR14UC69V25
32 A	6.900 CP URC 14.51/32	Z093908	FR14UC69V32
40 A	6.900 CP URC 14.51/40	A093909	FR14UC69V40
50 A	6.900 CP URC 14.51/50	B093910	FR14UC69V50



Weight : 18g
Packaging : 10 pieces

14x51 - With trip-indicator

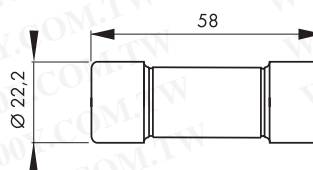
Current Rating	Designation	Ref. Number	Catalog Number
6 A	6.921 CP URC 14.51/6*	G081518	FR14UC69V6T
8 A	6.921 CP URC 14.51/8	C093911	FR14UC69V8T
10 A	6.921 CP URC 14.51/10	D093912	FR14UC69V10T
12 A	6.921 CP URC 14.51/12	E093913	FR14UC69V12T
16 A	6.921 CP URC 14.51/16	F093914	FR14UC69V16T
20 A	6.921 CP URC 14.51/20	G093915	FR14UC69V20T
25 A	6.921 CP URC 14.51/25	H093916	FR14UC69V25T
32 A	6.921 CP URC 14.51/32	J093917	FR14UC69V32T
40 A	6.921 CP URD 14.51/40	T100136	FR14UD69V40T
50 A	6.921 CP URD 14.51/50	V100137	FR14UD69V50T



Weight : 18g
Packaging : 10 pieces

22x58 - Without blown fuse indication

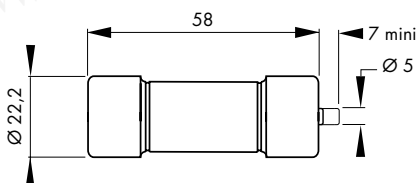
Current Rating	Designation	Ref. Number	Catalog Number
25 A	6.900 CP URD 22x58/25	B093956	FR22UD69V25
32 A	6.900 CP URD 22x58/32	Z094828	FR22UD69V32
40 A	6.900 CP URD 22x58/40	S094822	FR22UD69V40
50 A	6.900 CP URD 22x58/50	W094779	FR22UD69V50
63 A	6.900 CP URD 22x58/63	T094823	FR22UD69V63
80 A	6.900 CP URD 22x58/80	A094829	FR22UD69V80
100 A	6.900 CP URD 22x58/100	Y094827	FR22UD69V100



Weight: 57 g
Packaging: 10 pieces

22x58 - With trip-indicator

Current Rating	Designation	Ref. Number	Catalog Number
25 A	6,921 CP URD 22x58/ 25	H093801	FR22UD69V25T
32 A	6,921 CP URD 22x58/ 32	C093957	FR22UD69V32T
40 A	6,921 CP URD 22x58/ 40	J093802	FR22UD69V40T
50 A	6,921 CP URD 22x58/ 50	D093958	FR22UD69V50T
63 A	6,921 CP URD 22x58/ 63	K093803	FR22UD69V63T
80 A	6,921 CP URD 22x58/ 80	E093959	FR22UD69V80T
100 A	6,921 CP URD 22x58/100	F093960	FR22UD69V100T
125 A	621 CP URD 22x58/125	A220708	FR22UD60V125T
135 A	621 CP URD 22x58/135	B220709	FR22UD60V135T



Weight: 57 g
Packaging: 10 pieces

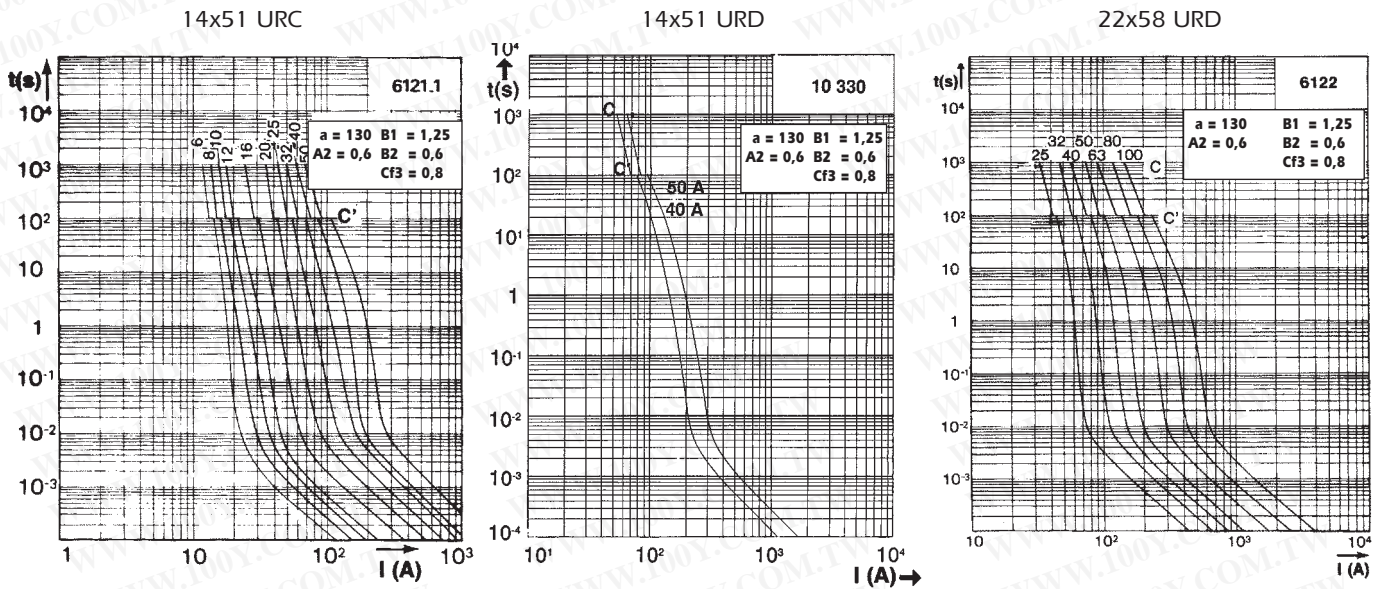
See Gears and Fuse gears section

Semiconductor (AC) fuses

Other Protistor® Fuses Ferrule Fuses

14x51 & 22x58 URC / URD - 600 to 690 VAC

Time vs current characteristics

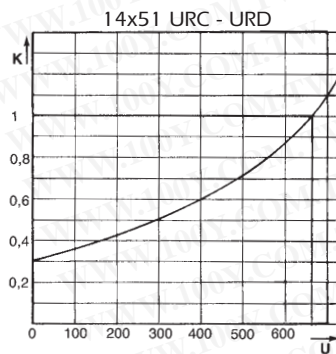


These curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.

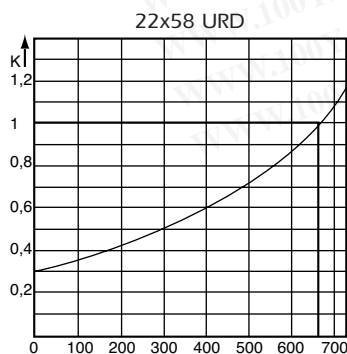
Tolerance for mean pre-arcing current $\pm 10\%$

Corrective factor - Peak arc voltage

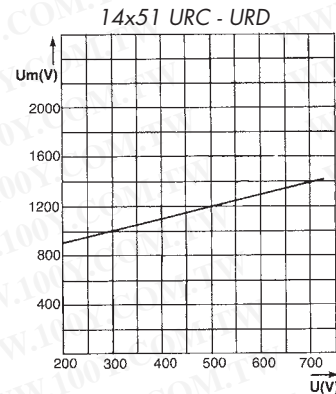
Corrective factor



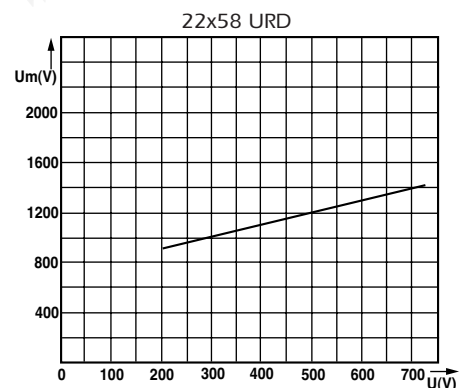
The mean curves show the variation of the total clearing time (I_2t) and the total clearing duration t as a function of operating voltage U .



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 $U @ \cos j = 0.15$.



Semiconductor (AC) fuses

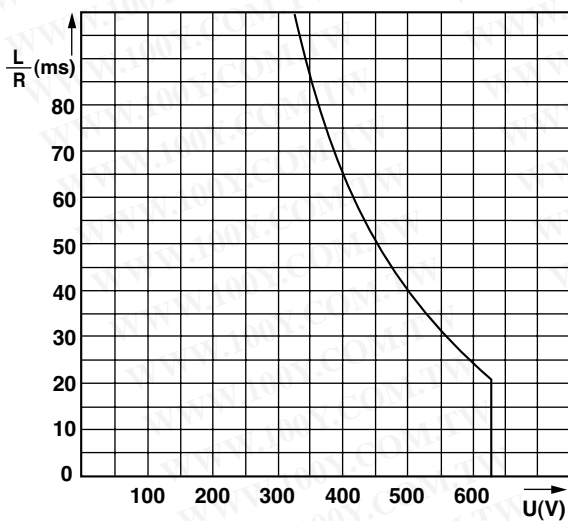
Other Protistor® Fuses

Ferrule Fuses

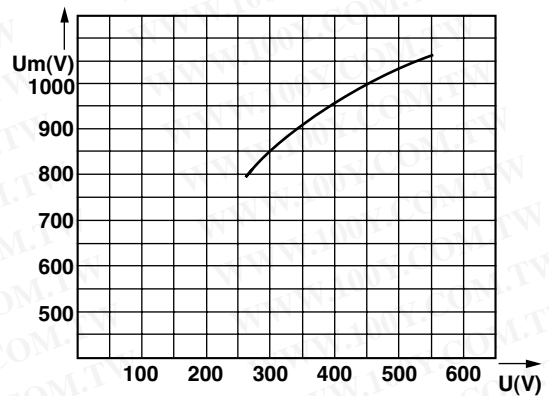
14x51 & 22x58 URC / URD - 600 to 690 VAC

DC Application data

14x51 URC - URD

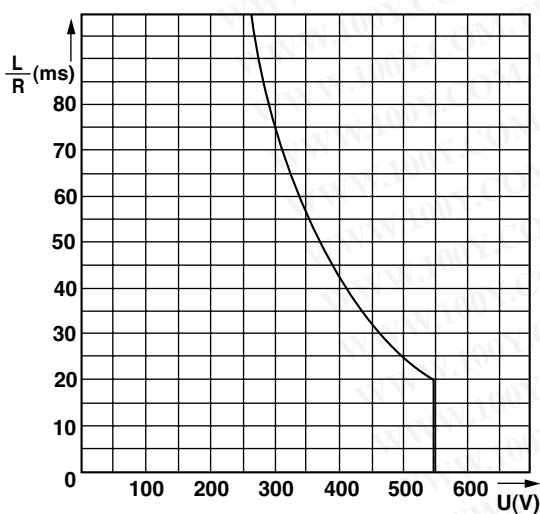


14x51 URC - URD

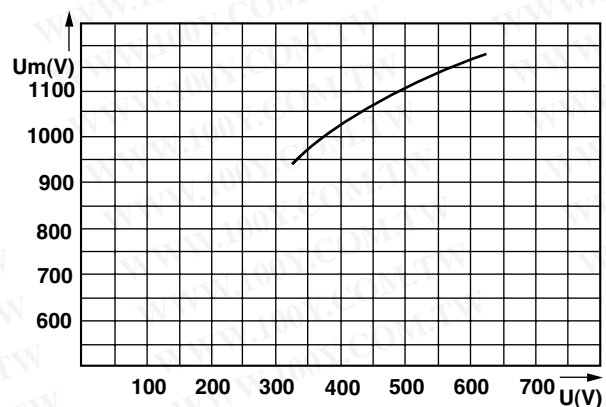


Minimum breaking current: see time-current characteristics

22x58 URD



22x58 URD



This curve indicates the permissible value of time constant L/r as a function of DC working 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 .

Other Protistor® Fuses Ferrule Fuses 14x51 URGB & 22x58 URGA - 600 V to 690 VAC



EXTREMELY HIGH BREAKING CAPACITY FUSES:
PROTECTION OF POWER SEMICONDUCTORS AS PER
IEC STANDARD 60269.1 AND 4

600 V - 690 V AC VOLTAGE RATING

aR CLASS AS PER VDE 636-23 AND IEC 60269.4

WITH AND WITHOUT TRIP-INDICATOR
FOR SIZES 14 x 51 AND 22 x 58

Main Characteristics

Voltage rating U_N (VAC)	Size	Class	Current rating I_N (A)	Pre-arcing $I^2t @ 1 \text{ ms}$ I^2tp (A ² s)	Total clearing $I^2t @ A^2s$		Watts loss		Tested Breaking capacity
					660 V		0,8 I_N	I_N	
					$I_p \leq 30 I_N$	$I_p > 30 I_N$			
690 V	14 x 51	URGB	8	3.3	20	17	1.45	2.7	200 kA @ 690 V
			10	6.0	37	30	1.85	3.4	
			12	9.3	75	60	2.5	4.6	
			16	15.6	95	75	3.4	6.2	
			20	30.0	175	145	4	7.4	
			25	53.5	300	250	4.7	8.6	
			32	100	550	460	5.7	10.6	
			40	214	1150	940	6.2	11.5	
	50	480	2550	2070	7	13			
	22 x 58	URGA	25	45	210		4.7	8.5	
			32	84	400		5.7	10.3	
			40	150	700		7.1	12.8	
			50	270	1270		8.7	15.7	
			63	595	2770		9.8	17.7	
80			1165	5500		12	21.7		
600* - 690 V	22 x 58	URGA	100*	2150	9000*		14.2	25.6	200 kA @600 V

*Operating voltage limited to 600 V for the model with blown fuse trip-indicator / Total clearing $I^2t @ 600 \text{ V} = 9000 \text{ A}^2s$
Minimum operating voltage for built-in trip-indicator: 20 V

Semiconductor (AC) fuses

Other Protistor® Fuses

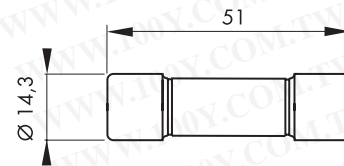
Ferrule Fuses

14x51 URGB & 22x58 URGA - 600 V to 690 VAC

References

14x51 - Without blown fuse trip-indicator

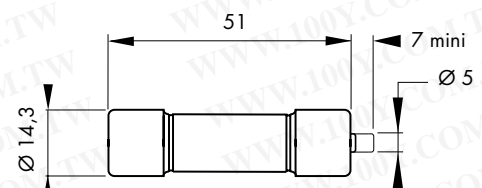
Current Rating	Designation	Ref. Number	Catalog Number
8 A	6.900 CP URGB 14.51/8	T078033	FR14UB69V8
10 A	6.900 CP URGB 14.51/10	V078034	FR14UB69V10
12 A	6.900 CP URGB 14.51/12	W078035	FR14UB69V12
16 A	6.900 CP URGB 14.51/16	X078036	FR14UB69V16
20 A	6.900 CP URGB 14.51/20	Y078037	FR14UB69V20
25 A	6.900 CP URGB 14.51/25	Z078038	FR14UB69V25
32 A	6.900 CP URGB 14.51/32	A078039	FR14UB69V32
40 A	6.900 CP URGB 14.51/40	B078040	FR14UB69V40
50 A	6.900 CP URGB 14.51/50	C078041	FR14UB69V50



Weight: 18 g
Packaging: 10 pieces

14x51 - With trip-indicator

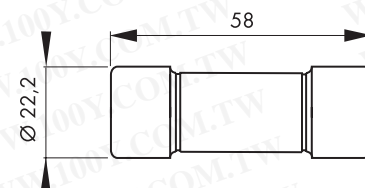
Current Rating	Designation	Ref. Number	Catalog Number
8 A	6.921 CP URGB 14.51/8	D078042	FR14UB69V8T
10 A	6.921 CP URGB 14.51/10	E078043	FR14UB69V10T
12 A	6.921 CP URGB 14.51/12	F078044	FR14UB69V12T
16 A	6.921 CP URGB 14.51/16	G078045	FR14UB69V16T
20 A	6.921 CP URGB 14.51/20	H078046	FR14UB69V20T
25 A	6.921 CP URGB 14.51/25	J078047	FR14UB69V25T
32 A	6.921 CP URGB 14.51/32	K078048	FR14UB69V32T
40 A	6.921 CP URGB 14.51/40	L078049	FR14UB69V40T
50 A	6.921 CP URGB 14.51/50	M078050	FR14UB69V50T



Weight: 18 g
Packaging: 10 pieces

22x58 - Without blown fuse trip-indicator

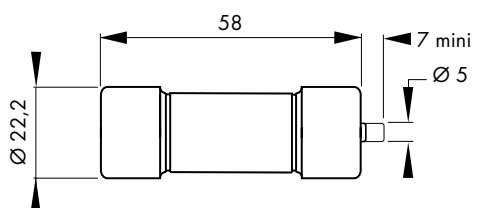
Current Rating	Designation	Ref. Number	Catalog Number
25 A	6.900 CP URGA 22.58/25	C095245	FR22UA69V25
32 A	6.900 CP URGA 22.58/32	D095246	FR22UA69V32
40 A	6.900 CP URGA 22.58/40	E095247	FR22UA69V40
50 A	6.900 CP URGA 22.58/50	F095248	FR22UA69V50
63 A	6.900 CP URGA 22.58/63	G095249	FR22UA69V63
80 A	6.900 CP URGA 22.58/80	H095250	FR22UA69V80
100 A	6.900 CP URGA 22.58/100	N078051	FR22UA69V100



Weight: 57 g
Packaging: 10 pieces

22x58 - With trip-indicator

Current Rating	Designation	Ref. Number	Catalog Number
25 A	6.921 CP URGA 22.58/25	T095260	FR22UA69V25T
32 A	6.921 CP URGA 22.58/32	V095261	FR22UA69V32T
40 A	6.921 CP URGA 22.58/40	W095262	FR22UA69V40T
50 A	6.921 CP URGA 22.58/50	X095263	FR22UA69V50T
63 A	6.921 CP URGA 22.58/63	Y095264	FR22UA69V63T
80 A	6.921 CP URGA 22.58/80	Z095265	FR22UA69V80T
100 A	6.21 CP URGA 22.58/100	N098222	FR22UA60V100T



Weight: 57 g
Packaging: 10 pieces

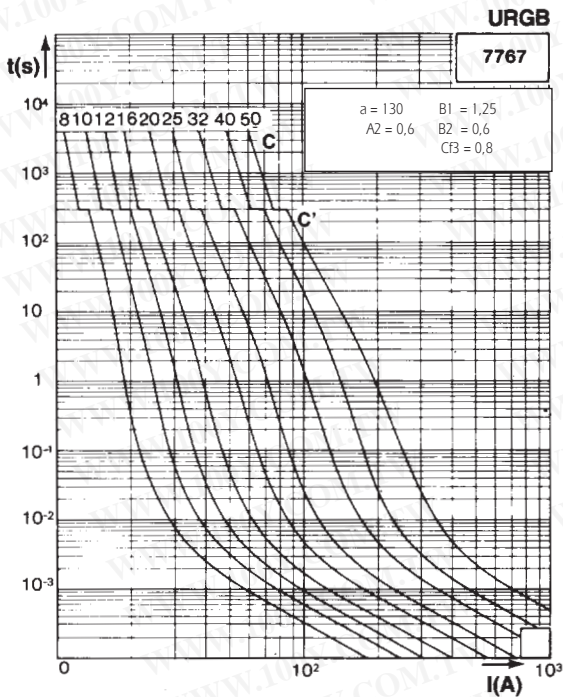
See Gears and Fuse gears section

Other Protistor® Fuses Ferrule Fuses

14x51 URGB & 22x58 URGA - 600 V to 690 VAC

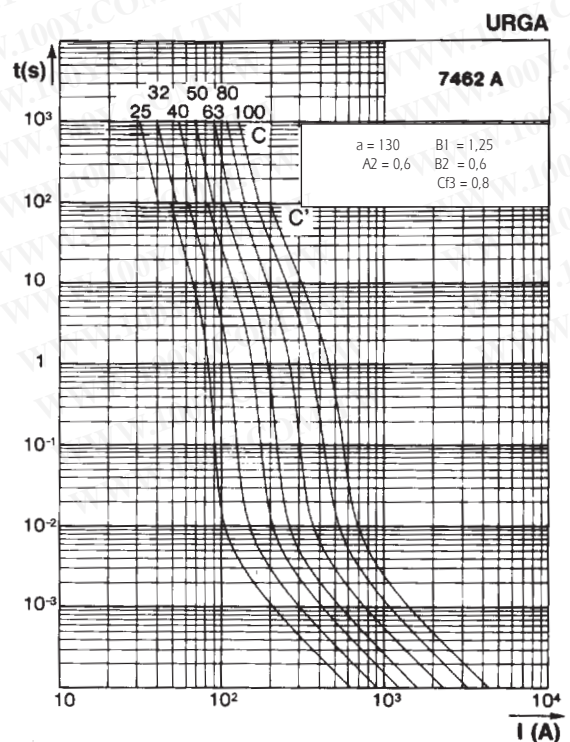
Electrical Characteristics

Time vs current characteristics



TOLERANCE OF MEAN PRE-ARCING CURRENT $\pm 10\%$

These curves indicate, for each rated current, pre-arcing time vs. R.M.S. pre-arcing current.



TOLERANCE FOR MEAN PRE-ARCING CURRENT $\pm 8\%$.

Semiconductor (AC) fuses

Other Protistor® Fuses

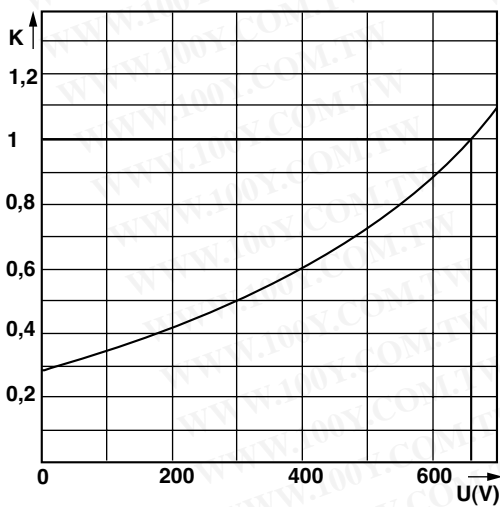
Ferrule Fuses

14x51 URGB & 22x58 URGA - 600 V to 690 VAC

Corrective factor - Peak arc voltage

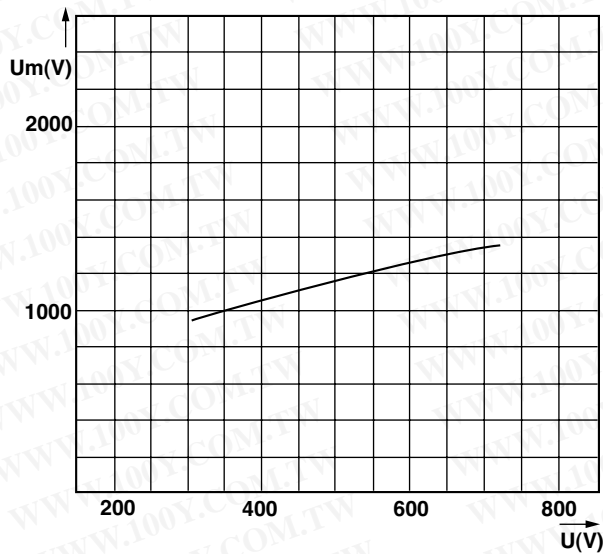
Corrective factor

URGB



Peak arc voltage

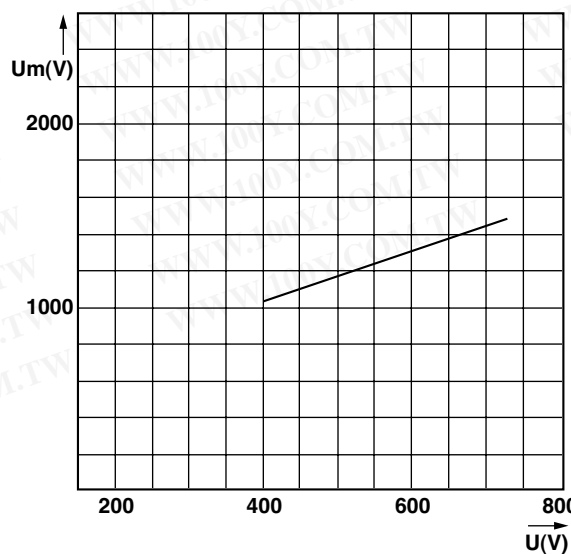
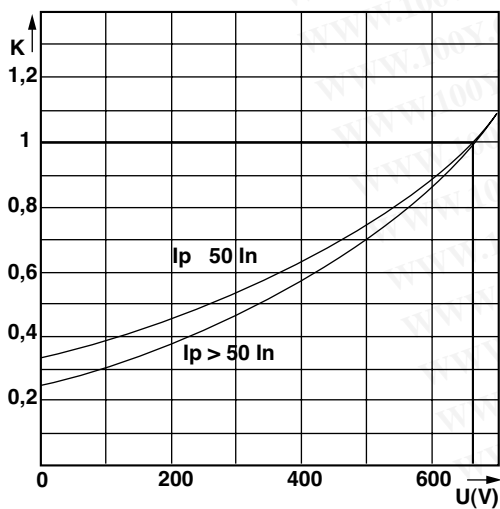
URGB



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URGA

URGA



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 .

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