

## Other Protistor® Fuses Ferrule Fuses 10x38 gRB - 690VAC

690V AC  
gRB - from 1 up to 30 A  
Size: 10x38



The fuse preselection table below indicates: 

- rated current (or rating)  $I_N$
- pre-arcing  $I^2t$  ( $I^2t_D$ ) at 1 ms
- total operating  $I^2t$  ( $I^2t_{tt}$ ) at 690V,  $\cos \varphi=0.15$ , and for a total operating time from 8 to 10 ms
- dissipated power  $P_N$  at the rated current  $I_N$ , and at  $0.8 I_N$ , in steady state
- Nominal breaking capacity, checked by tests made in accordance with IEC standard.

Voltage Rating (VAC)	Rated current $I_N$ (A)	Pre-arcing $I^2t$ $I^2t_p$ (A <sup>2</sup> s)	Total $I^2t$ at 660VAC $I^2t_{tt}$ (A <sup>2</sup> s)	Dissipated power		Peak arc voltage (V)	Breaking capacity I (kA)
				at $I_N$ (W)	at $0.8 I_N$ (W)		
690	1	0,075	0,28	0,9	0,52	2500	160 kA 690 V (IEC)
	1,25	0,115	0,36	1,25	0,7		
	1,5	0,185	0,57	1,5	0,81		
	2	0,42	1,3	2	1,1		
	2,5	0,88	2,7	2,1	1,15		
	3	1,55	4,6	2,3	1,25		
	4	4	12	2,6	1,35		
	5	8,6	25	2,7	1,4		
	6	15	44	2,9	1,5		
	8	3,3	33	2,4	1,35	1450	
	10	5,4	55	3,4	1,85		
	12,5	8,5	82	3,4	1,9		
	16	16	145	4,1	2,3		
	20	230	250	4,3	2,4		
	25	58	470	4,7	2,7		
30 (32*)	96	740	5	2,9			

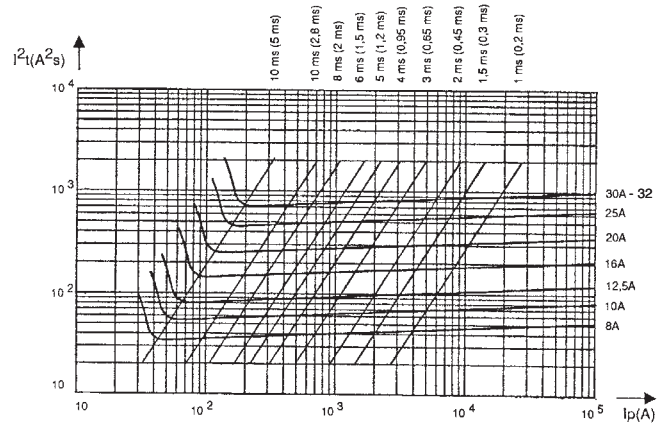
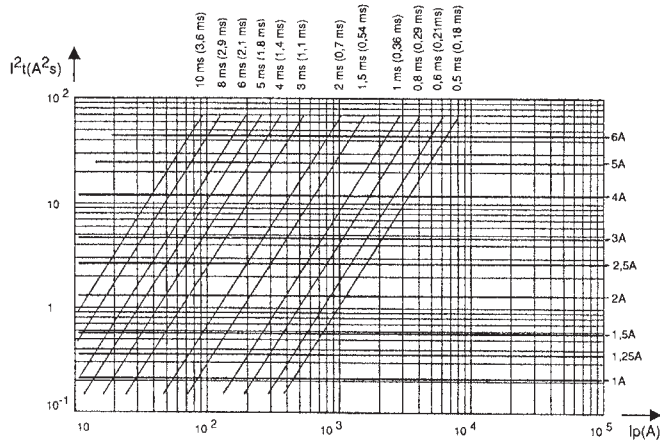
\* Non approval rating

# Semiconductor (AC) fuses

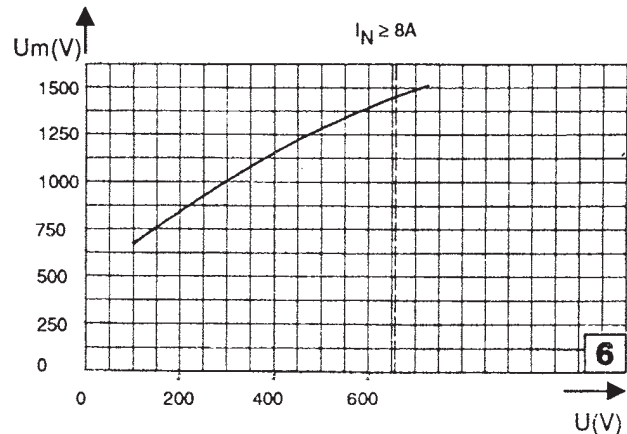
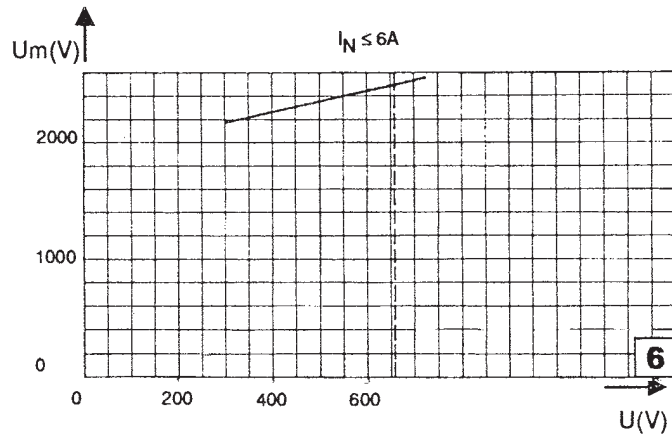


## Other Protistor® Fuses French Ferrule 10x38 gRB - 690VAC

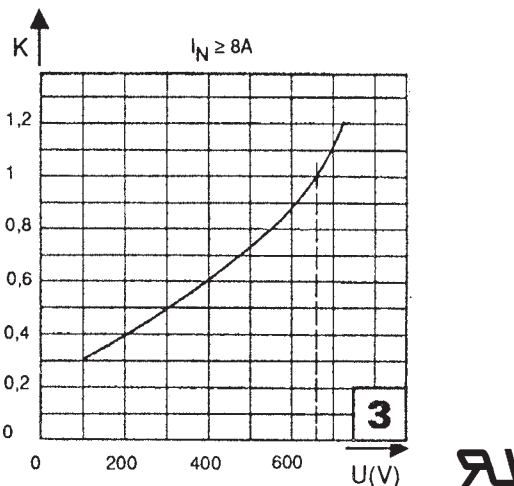
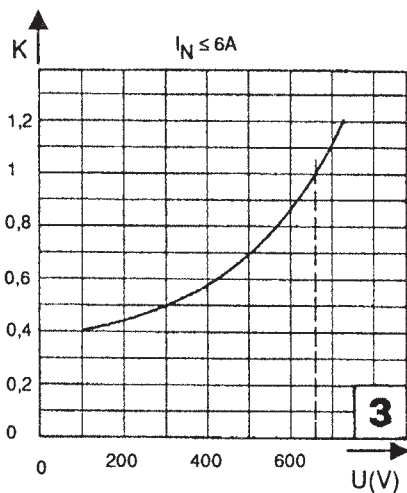
### Maximum values of total operating $I^2t$ and total operating times



### Arc voltage

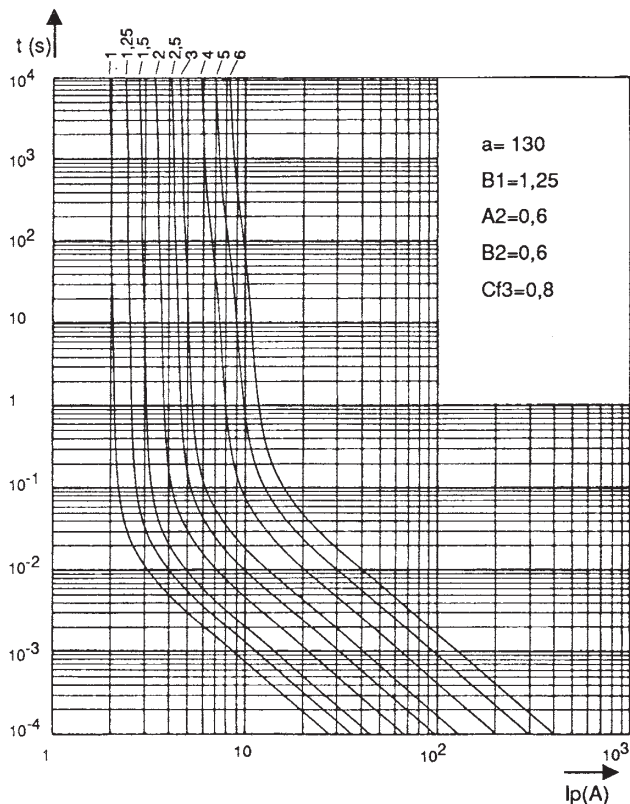


### Multiplier coefficient

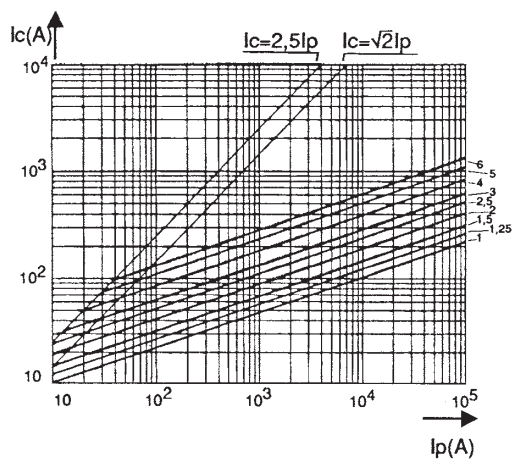


## Other Protistor® Fuses Ferrule Fuses 10x38 gRB - 690VAC

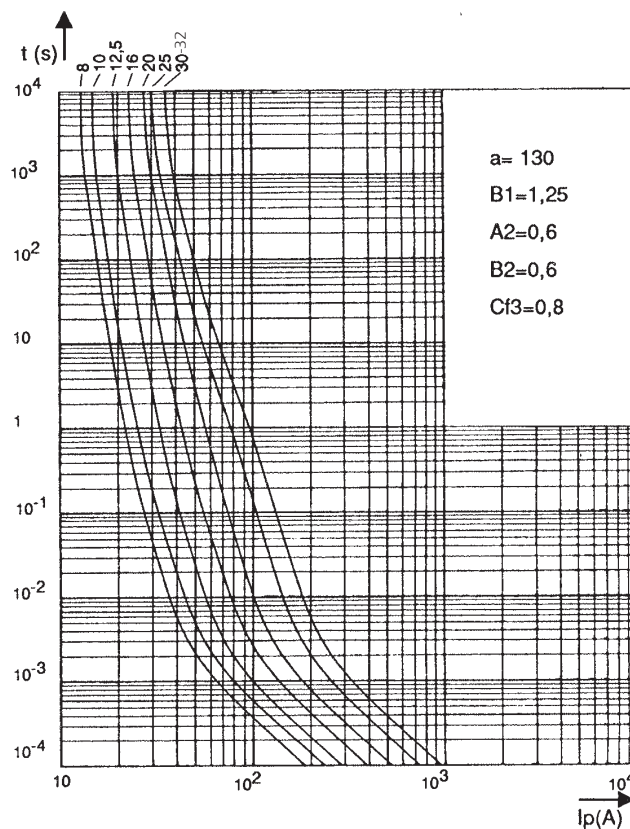
### Time-current characteristics (1 to 6 A)



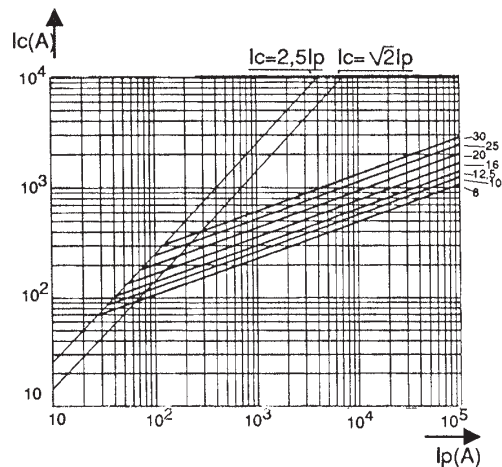
### Cut-off characteristics



### Time-current characteristics (8 to 30 A)



### Cut-off characteristics



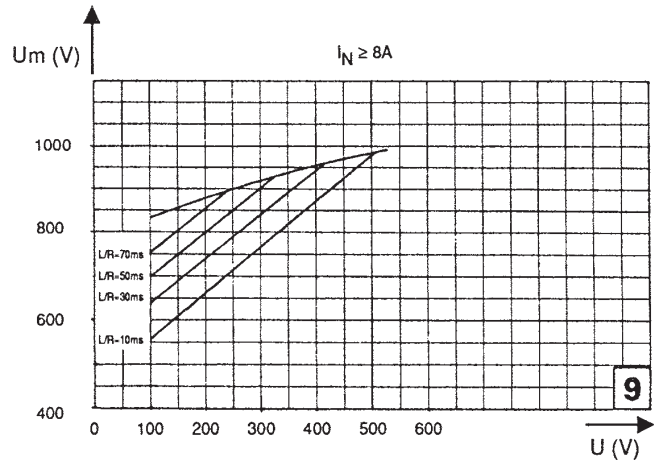
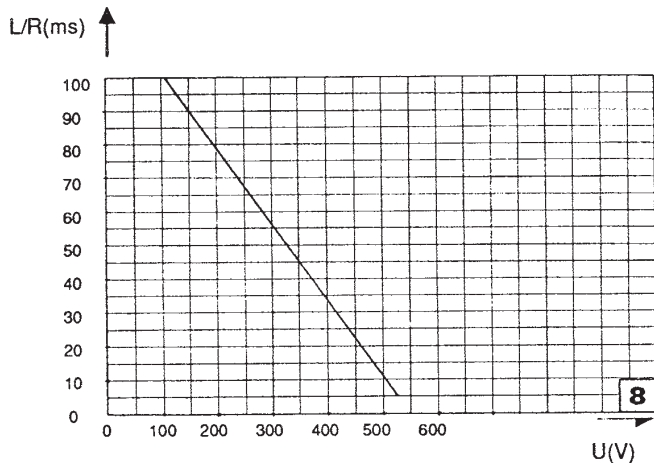
## Other Protistor® Fuses Ferrule Fuses 10x38 gRB - 690VAC

Dimensions / Reference / Ref. No. 

Rating (A)	Designation	Ref. Number	Catalog Number
1	6,9 gRC 10-01 - A070 gRC 01 T13	Z330279	FR10GB69V1
1,25	6,9 gRB 10-1,25 - A070 gRB 1.25 T13	X330001	FR10GB69V1.25
1,5	6,9 gRB 10-1,5 - A070 gRB 1.5 T13	Y330002	FR10GB69V1.5
2	6,9 gRB 10-02 - A070 gRB 02 T13	Z330003	FR10GB69V2
2,5	6,9 gRB 10-2,5 - A070 gRB 2.5 T13	A330004	FR10GB69V2.5
3	6,9 gRB 10-03 - A070 gRB 03 T13	B330005	FR10GB69V3
4	6,9 gRB 10-04 - A070 gRB 04 T13	C330006	FR10GB69V4
5	6,9 gRB 10-05 - A070 gRB 05 T13	D330007	FR10GB69V5
6	6,9 gRB 10-06 - A070 gRB 06 T13	E330008	FR10GB69V6
8	6,9 gRB 10-08 - A070 gRB 08 T13	F330009	FR10GB69V8
10	6,9 gRB 10-10 - A070 gRB 10 T13	G330010	FR10GB69V10
12,5	6,9 gRB 10-12,5 - A070 gRB 12.5 T13	H330011	FR10GB69V12.5
16	6,9 gRB 10-16 - A070 gRB 16 T13	J330012	FR10GB69V16
20	6,9 gRB 10-20 - A070 gRB 20 T13	K330013	FR10GB69V20
25	6,9 gRB 10-25 - A070 gRB 25 T13	L330014	FR10GB69V25
30	6,9 gRB 10-30 - A070 gRB 30T13	M330015	FR10GB69V30
32*	6,9 gRB 10-32 - A070 gRB 32T13	Y330278	FR10GB69V32

\* Non approval rating

### DC working voltage possibilities



↑ Above: Curve indicating the maximum time constant L/R of the fault path as a function of the DC voltage U, for the rated currents from 1 to 30 A of this range.

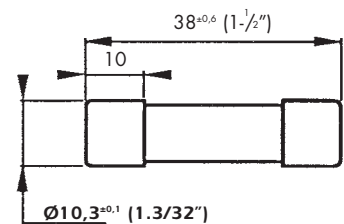
Time-current characteristics: Curves indicate, for each rated current, pre-arcing time as a function of RMS value of pre-arcing current I.

Tolerances on this current:  
±10% = ratings from 1 to 6 A  
±9% = ratings from 8 to 30 A

Fuses with "gR" characteristics can eliminate all overloads. They do not show any minimum breaking capacity but limit currents of non-operation or operation in compliance with standard VDE 636/23.

Cut off characteristics: Curves indicate, for each rated current, the peak value I<sub>c</sub> that the current may reach as a function of prospective fault current I<sub>p</sub>.

Without trip-indicator  
Max. weight 10g  
Packaging: per 10 pieces



## 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 $I^2t$ @ 1 ms $I^2tp$ ( A <sup>2</sup> s )	Total clearing $I^2t$ @ $U_N$ $I^2tt$ ( A <sup>2</sup> s )	Watts loss		Tested breaking capacity
					0.8 $I_N$	$I_N$	
600 V without blown fuse indicator	URD **	100 mA	/	1.2 10 <sup>-3</sup>	0.23	0.4	200 kA @ 600 V
		125 mA		2.3 10 <sup>-3</sup>	0.25	0.44	
		160 mA		5.2 10 <sup>-3</sup>	0.28	0.48	
		200 mA		8 10 <sup>-3</sup>	0.34	0.58	
		250 mA		18 10 <sup>-3</sup>	0.35	0.60	
		315 mA		33 10 <sup>-3</sup>	0.42	0.73	
		400 mA		56 10 <sup>-3</sup>	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