df Electric

RAPIDPLUS

HIGH SPEED FUSE LINKS FOR SEMICONDUCTORS

Rapidplus®



gR
CYLINDRICAL

semiconductor protection
fuse links

CYL 22x58



10x38 14x51 22x58

PROTECTING THE WORLD

dfelectric.es



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semiconductor protection fuse links

22x58

RAPIDPLUS

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RATED VOLTAGE
690V AC

RATED CURRENT
20A...100A

BREAKING CAPACITY
200kA

STANDARDS
IEC/EN 60269-1
IEC/EN 60269-4
UL248-1
UL248-13



Rapidplus®
Cylindrical fuse links for semiconductors

RAPIDPLUS CYL gR fuse links are capable to clearing all types of overcurrents, overloads as well as short-circuits, thus the fuse links protect semiconductors as well as cables and all switchgear of installation.

The range comprises the following fuse links:

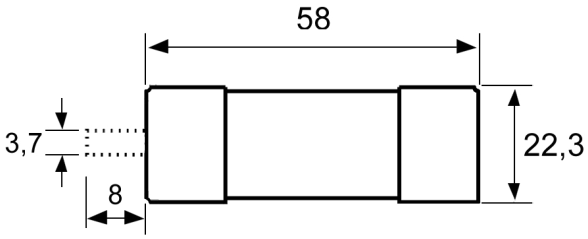
→ **Size 22x58 690V AC 20A to 100A**

Typical application comprise protection of semiconductors (diodes, thyristors, triacs, etc) used in power rectifiers, UPS, converters, motor drives (AC and DC), soft starters, solid state relays, photovoltaic inverters, welding inverters and any application where it is necessary to protect semiconductor devices.

UL certification according to UL248 standard. UL file Nr. E477155.

RoHS COMPLIANT

Dimensions



Weight 50gr

Range

In (A)	REFERENCE WITHOUT STRIKER	REFERENCE WITH STRIKER	PACKING Uni /BOX
			
20	**492033**	**492133**	10/50
25	**492034**	**492134**	10/50
32	**492035**	**492135**	10/50
40	**492036**	**492136**	10/50
50	**492037**	**492137**	10/50
63	**492038**	**492138**	10/50
80	**492039**	**492139**	10/50
100	**492040**	**492140**	10/50



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Technical data

Rated voltage	690V AC 440V DC (L/R=10ms)
Rated current	20A...100A
Rated breaking capacity	200kA @690V AC 30kA @440V DC
Utilization category	gR
Storage temperature	-40°C ... 90°C
Operating temperature *	-40°C ... 80°C

* For ambient temperatures higher than 25ºC it is necessary to apply a derating in maximum current.

Standards

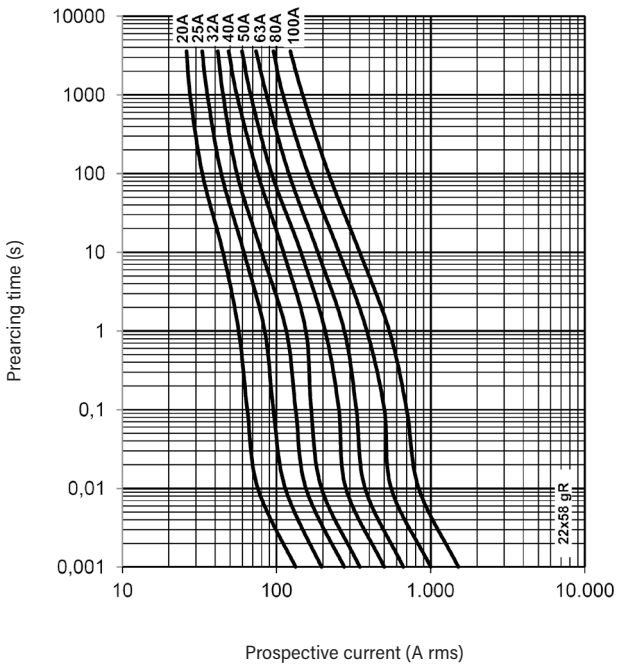
IEC/EN 60269-1
IEC/EN 60269-4
UL248-1
UL248-13
RoHS Compliant

Certifications

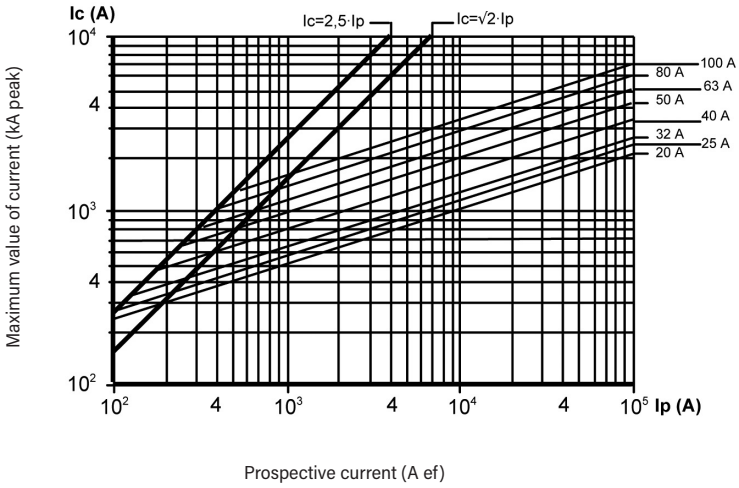
Power dissipation

I_n	POWER DISSIPATION I_n	POWER DISSIPATION 0.8 · I_n	PREARCING I^2t	I^2t 690V
(A)	(W)	(W)	(A^2S)	(A^2S)
20	5,25	3,00	19	103
25	5,85	3,40	34	182
32	8,20	4,50	60	324
40	10,80	6,10	94	506
50	13,70	7,50	158	856
63	14,00	7,70	375	2025
80	17,60	9,65	634	3422
100	18,00	10,30	1500	8100

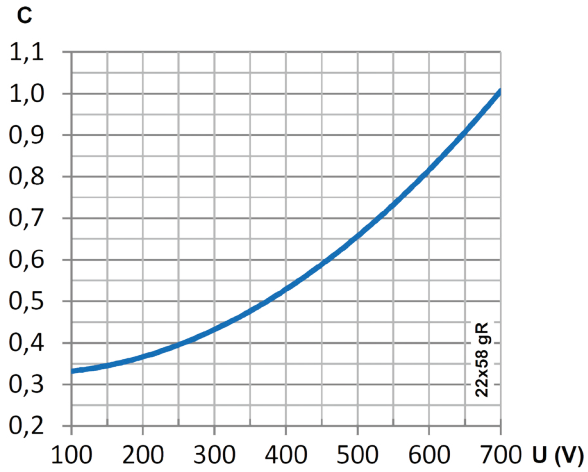
t-I characteristics



Cut-off characteristics



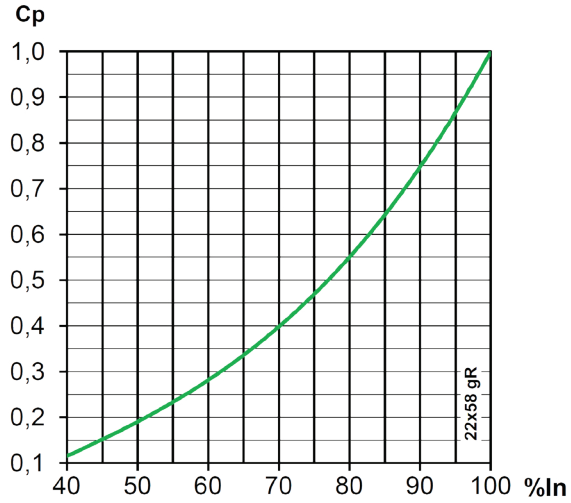




I²t Correction factor

The total clearing I²t at rated voltage and at power factor of 0,15 are given in the electrical characteristics.

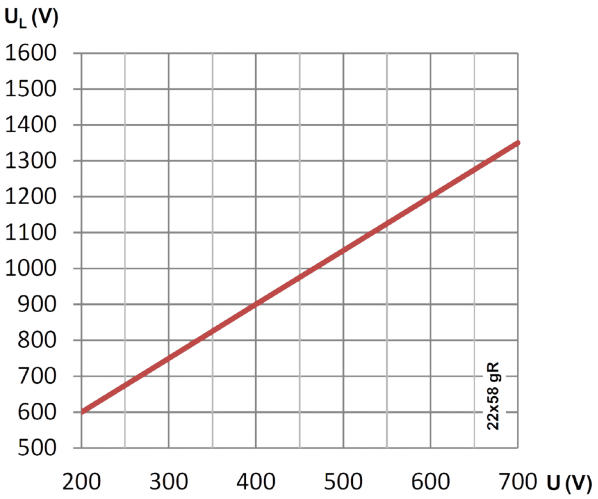
For other voltages, the clearing I²t is found by multipliying by correction factor, K.



Correction factor for power loss

Watts loss at rated current are given in the electrical characteristics. The curve allows the calculation of the power losses at load currents lower than the rated value.

The correction factor Cp, is given as a function of the RMS load current Ib in % of the rated current.



Peak arc voltage

This curve gives the peak arc voltage, U_L, wich may appear across the fuse during its operation as a function of the applied working voltage, Eg (RMS) at a power factor of 0,15.



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Use of Rapidplus® in PMX fuse holders

The modular fuse holders for cylindrical fuses have a rated power acceptance according to the maximum power dissipations allowed for the general use fuse links (gG) and back up fuse links.

These maximum values allowed for the fuse links (gG/aM) are regulated by standards (IEC/EN60269-2). In the same way, this standards specify the minimum power acceptance for the fuse holders. This power acceptance is the power dissipated by the fuse links (converted in heat) that the fuse holder can accept with an acceptable increase of the temperature (values also regulated by standards).

The fuse links for protection of semiconductors RAPIDPLUS have a rated power dissipation (or power loss) higher than the gG or aM types, and for this reason there are some limitations for the application of these fuses in closed modular fuse holders.

It is necessary to check that the fuse links have a power diissipation not higher than the maximum value admissible of the fuse holder indicated by the manufacturer.

When it is no possible to use modular fuse holders the solution is the use of an open fuse base where the heat can be appropriately dissipated.

In the following table are indicated the maximum values of power acceptance for DF ELECTRIC fuse holders. These limits should never be exceeded:



RATED POWER ACCEPTANCE IEC/EN60269-2	9,5W
MAX. POWER ACCEPTANCE DF ELECTRIC FUSE HOLDERS	12W

I_n (A)	MAXIMUM CURRENT
20	20A
25	25A
32	32A
40	40A
50	50A
63	59A
80	75A
100	86A

Use of Rapidplus® in BAC Open fuse bases

There are open type fuse bases (BAC) with high values of acceptable power disipations, where heat can be evacuated appropiately.



MAX. POWER ACCEPTANCE DF ELECTRIC FUSE HOLDERS	18W