

Semiconductor (AC) fuses

Other Protistor® Fuses

Ferrule Fuses

27x60 URGD - 600 V to 690 VAC



EXTREMELY BREAKING CAPACITY RATING FUSES:
PROTECTION OF POWER SEMICONDUCTORS ACCORDING TO
IEC STANDARD 60269.1 AND 4

600 V - 690 V AC VOLTAGE RATING

aR- CLASS ACCORDING TO VDE 636-23 AND IEC 60269.4

Main Characteristics

Voltage rating U_N (VAC)	Class	Current rating I_N (A)	Pre-arcing $i^2t @ 1 \text{ ms}$ I^2t_p (A ² s)	Total clearing I^2t I^2t_t (A ² s)	Watts loss		Tested Breaking capacity
					$0.8 I_N$	I_N	
690 V	URGD	63	405	1840 @ 660 V	12	22	200 kA @ 690 V
		80	860	3750 @ 660 V	13.5	24.6	
		100	1620	6800 @ 660 V	15	27	
		125	3425	13600 @ 660 V	16	29.5	
		160	6480	24600 @ 660 V	17	32.5	
		200	13700	61500 @ 660 V	18.5	35.7	
600 V	URGD	250	29600	107000 @ 600 V	21	40	200 kA @ 600 V

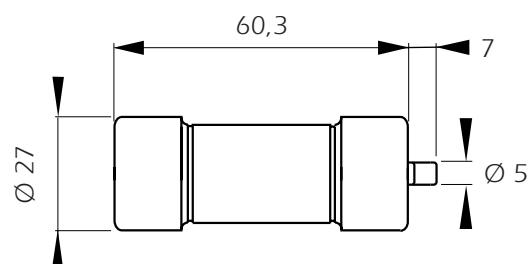
Minimum operating voltage for trip-indicator: 20 V

Ref. Numbers

27x60 - With trip-indicator

Type	Voltage	Current rating	Designation	Ref. Number	Catalog Number
URGD	690 V	63 A	6.921 CP URGD 27x60/ 63	A076820	FR27UD69V63T
		80 A	6.921 CP URGD 27x60/ 80	B076821	FR27UD69V80T
		100 A	6.921 CP URGD 27x60/100	C076822	FR27UD69V100T
		125 A	6.921 CP URGD 27x60/125	D076823	FR27UD69V125T
		160 A	6.921 CP URGD 27x60/160	E076824	FR27UD69V160T
		200 A	6.921 CP URGD 27x60/200	F076825	FR27UD69V200T
URGD	600 V	250 A	621 CP URGD 27x60/250	W076264	FR27UD60V250T

Fuseholder Solution: See Gears and Fuse gears section



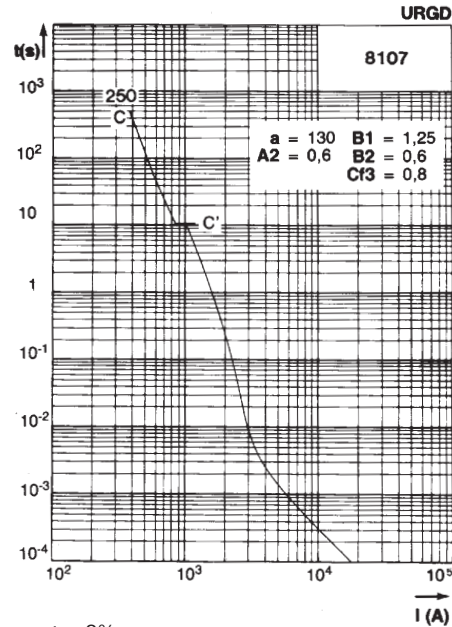
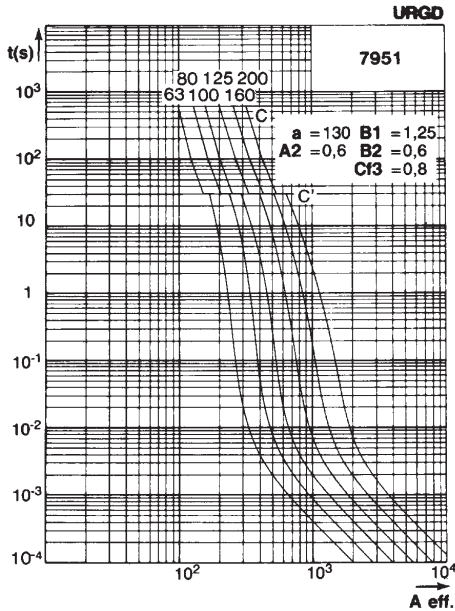
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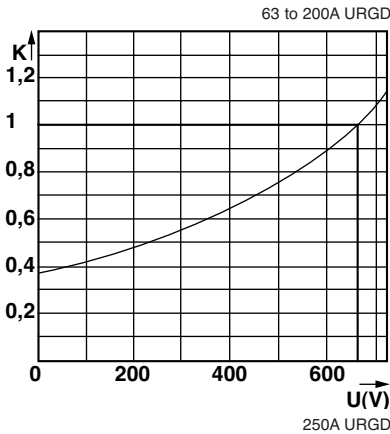
Time vs current characteristics



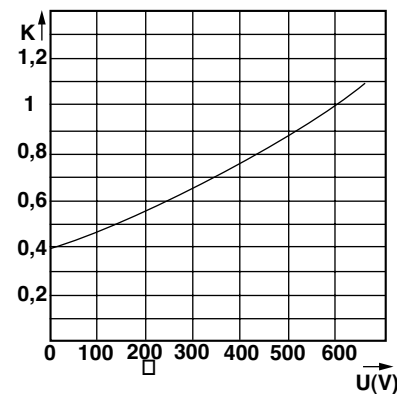
Tolerance for mean pre-arcing current $\pm 8\%$

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

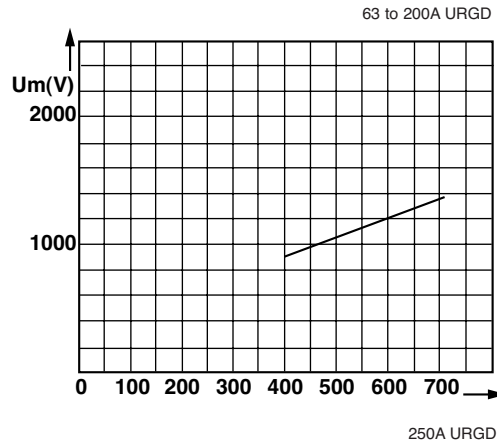
Corrective factor



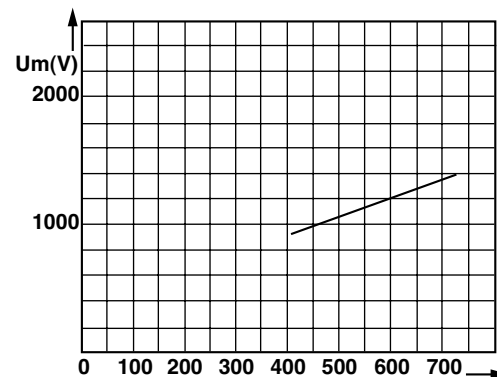
Left: Mean curves showing variation of total clearing time ($I^2 t_t$) and the total clearing duration t_t as a function of the operating voltage U



Peak arc voltage



Left: Curves show peak value U_m of arc voltage which appears across the fuse-link as a function of operating voltage U @ $\cos \varphi = 0.15$.



Protistor® size 27x60 gR (gRB)

800VAC (IEC)

SEMICONDUCTOR PROTECTION FUSES

IEC HIGH-SPEED CYLINDRICAL FUSE-LINKS AC PROTECTION



The 800VAC Protistor® BS88-4 fuse-link provides maximum flexibility in equipment design and ultimate protection for small power conversion equipment. These fast acting gR fuses have been engineered to provide full range protection to eliminate all overloads and semiconductor fault. They are assembled with die-cut elements embedded in solidified sand, which helps control arcing characteristics for a lower I^2t and high interrupting rating level. Each fuse-link is embedded with a trip-indicator.

TECHNICAL DATA OVERVIEW

Rated voltage AC (IEC)	800 V
Ampere Range (A)	0.8 ... 110 A
Size per Standard	27x60mm
Speed/Characteristic	gR
I.R. AC (IEC)	90 kA

FEATURES & BENEFITS

- International size 27x60 mm for worldwide acceptance
- Extremely fast acting
- Eliminate all overloads
- Low I^2t for improved semiconductor protection
- Excellent cycling capability
- Selective coordination with other fuses

APPLICATIONS

- Protection of small inverters
- Protection of UPS systems
- Protection of motor drives
- Protection of similar 800VAC or less equipment

STANDARDS

- IEC 60269-4 Compliance



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Protistor® size 27x60 gR (gRB)

800VAC (IEC)

PRODUCT RANGE



FR27GB80V110T

Size 27x60 gRB 800VAC with trip-indicator

Catalog number	Item number	Size	Rated voltage AC (IEC)	Rated current I _n	Clearing I ² t at Rated Voltage	Rated breaking capacity AC	Power dissipation at I _n	Package	Weight
FR27GB80V8T	R221436	27x60	800 V	8 A	70 A ² s	90 kA	2 W	3/10	80 g
FR27GB80V10T	S221437	27x60	800 V	10 A	100 A ² s	90 kA	2.3 W	3/10	80 g
FR27GB80V12T	T221438	27x60	800 V	12 A	180 A ² s	90 kA	2.5 W	3/10	80 g
FR27GB80V16T	V221439	27x60	800 V	16 A	250 A ² s	90 kA	3.5 W	3/10	80 g
FR27GB80V20T	W221440	27x60	800 V	20 A	350 A ² s	90 kA	4 W	3/10	80 g
FR27GB80V25T	X221441	27x60	800 V	25 A	600 A ² s	90 kA	5 W	3/10	80 g
FR27GB80V32T	Y221442	27x60	800 V	32 A	1000 A ² s	90 kA	6 W	3/10	80 g
FR27GB80V40T	Z221443	27x60	800 V	40 A	1400 A ² s	90 kA	8 W	3/10	80 g
FR27GB80V50T	A221444	27x60	800 V	50 A	2700 A ² s	90 kA	8.5 W	3/10	80 g
FR27GB80V63T	B221445	27x60	800 V	63 A	5500 A ² s	90 kA	10 W	3/10	80 g
FR27GB80V80T	C221446	27x60	800 V	80 A	11000 A ² s	90 kA	11.5 W	3/10	80 g
FR27GB80V100T	D221447	27x60	800 V	100 A	19000 A ² s	90 kA	13 W	3/10	80 g
FR27GB80V110T	E221448	27x60	800 V	110 A	27000 A ² s	90 kA	14 W	3/10	80 g

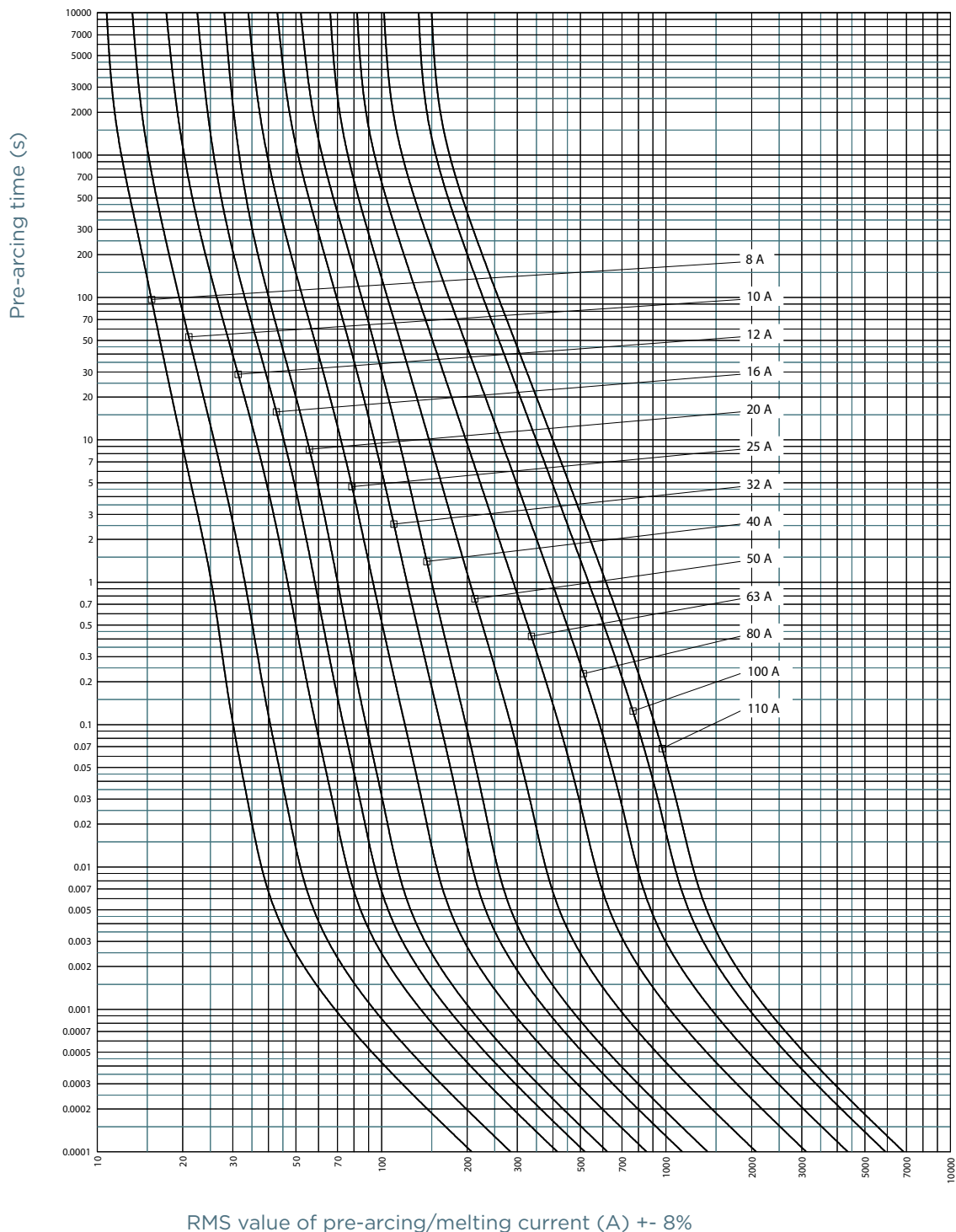
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Protistor® size 27x60 gR (gRB)

800VAC (IEC)

TIME CURRENT CHARACTERISTIC CURVES

CP 27x60 gRB 800VAC



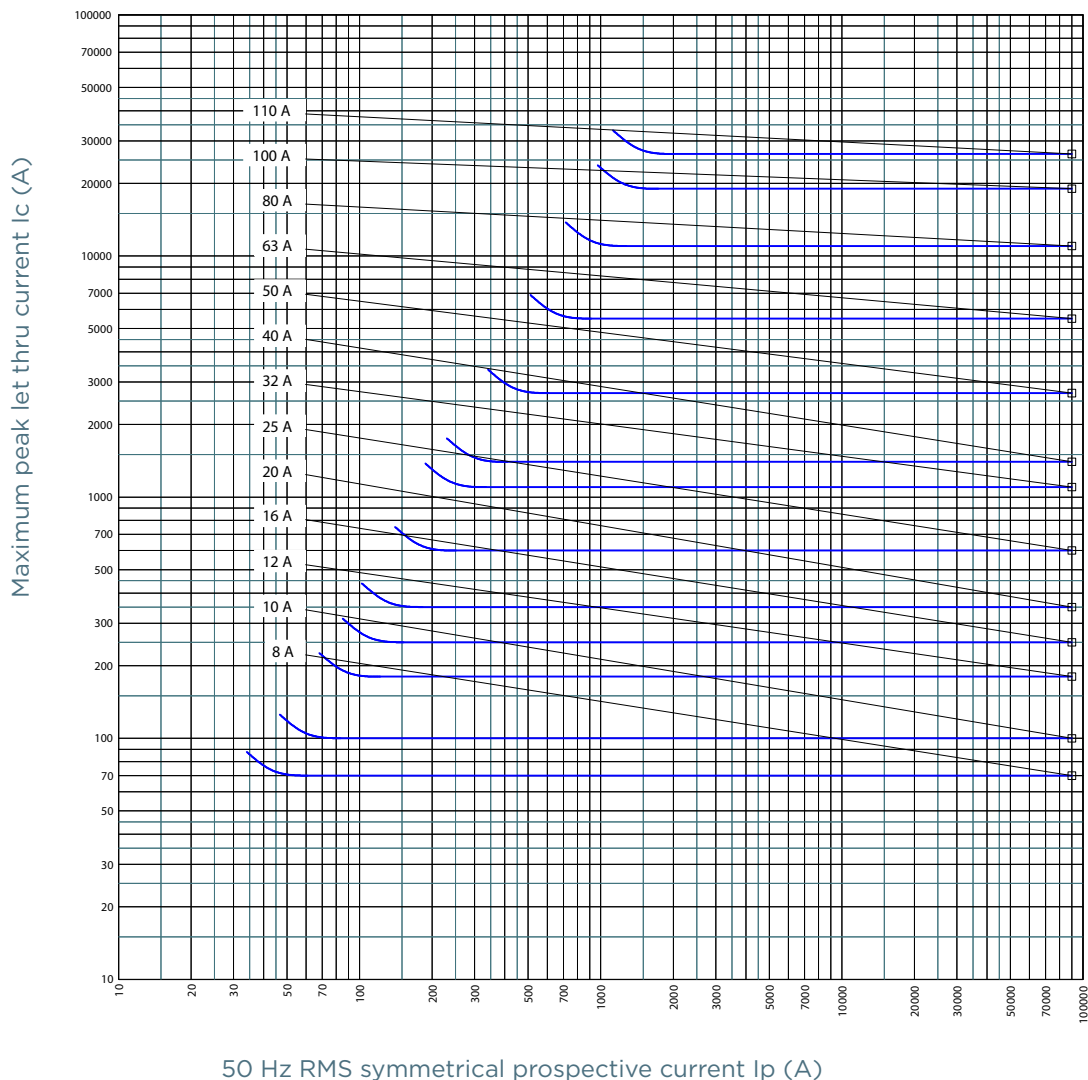
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Protistor® size 27x60 gR (gRB)

800VAC (IEC)

CUT-OFF CURRENT CHARACTERISTIC

CP 27x60 gRB 800VAC



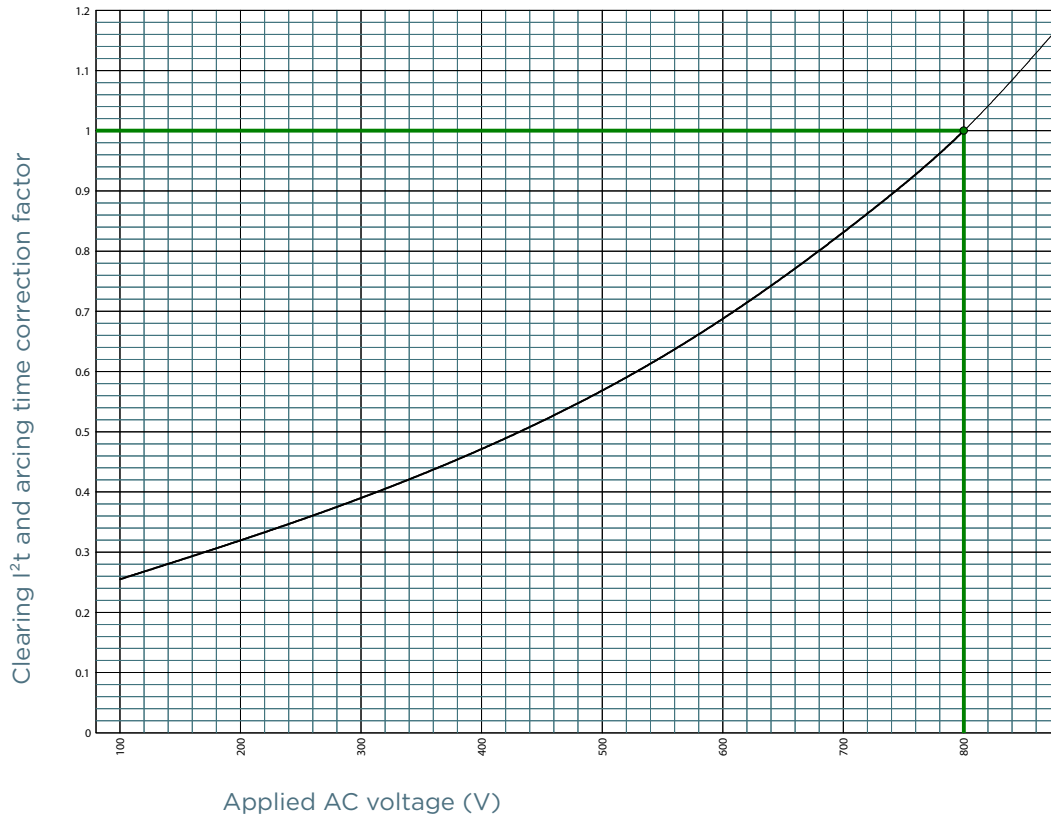
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Protistor® size 27x60 gR (gRB)

800VAC (IEC)

I²T MULTIPLIER COEFFICIENT

CP 27x60 gRB 800VAC



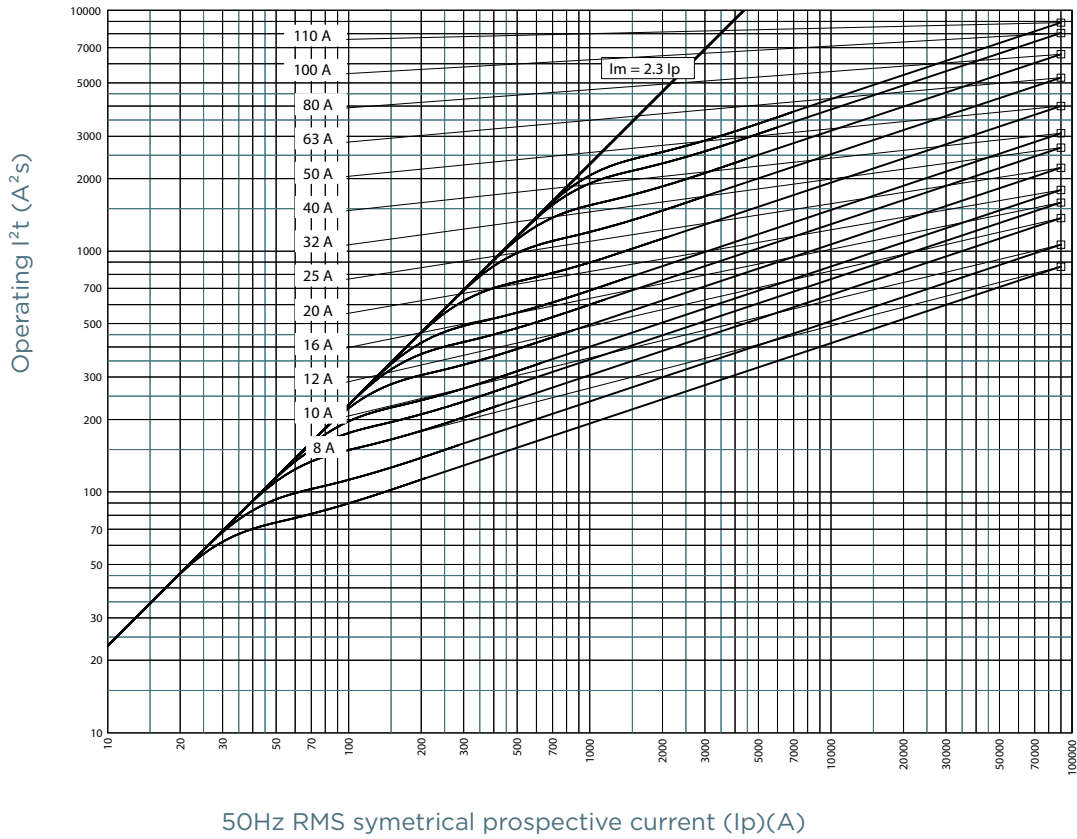
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Protistor® size 27x60 gR (gRB)

800VAC (IEC)

CHARACTERISTICS TOTAL I²T CURVE

CP 27x60 gRB 800VAC



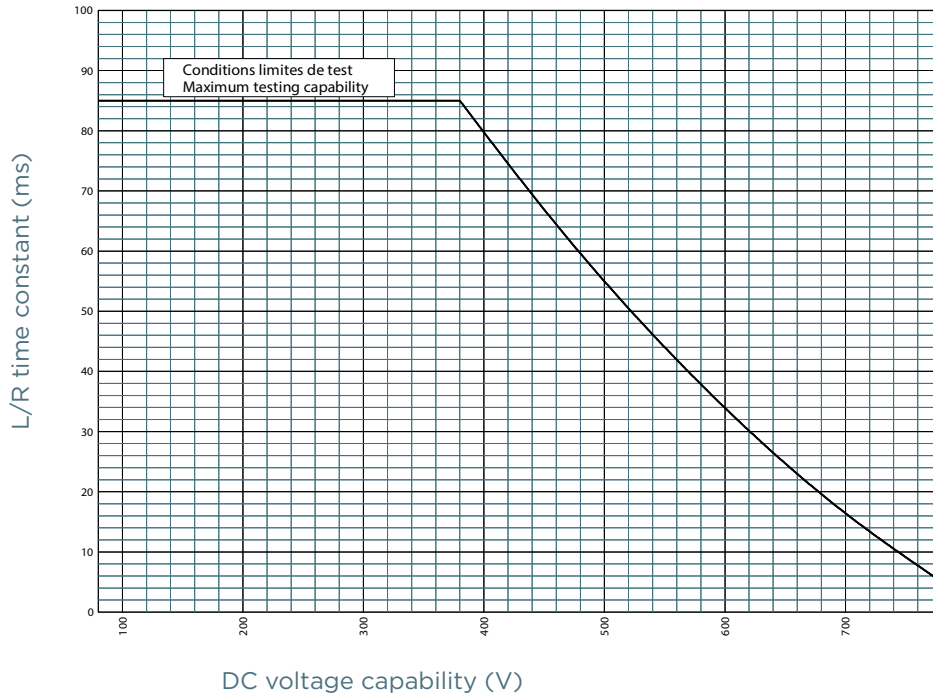
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Protistor® size 27x60 gR (gRB)

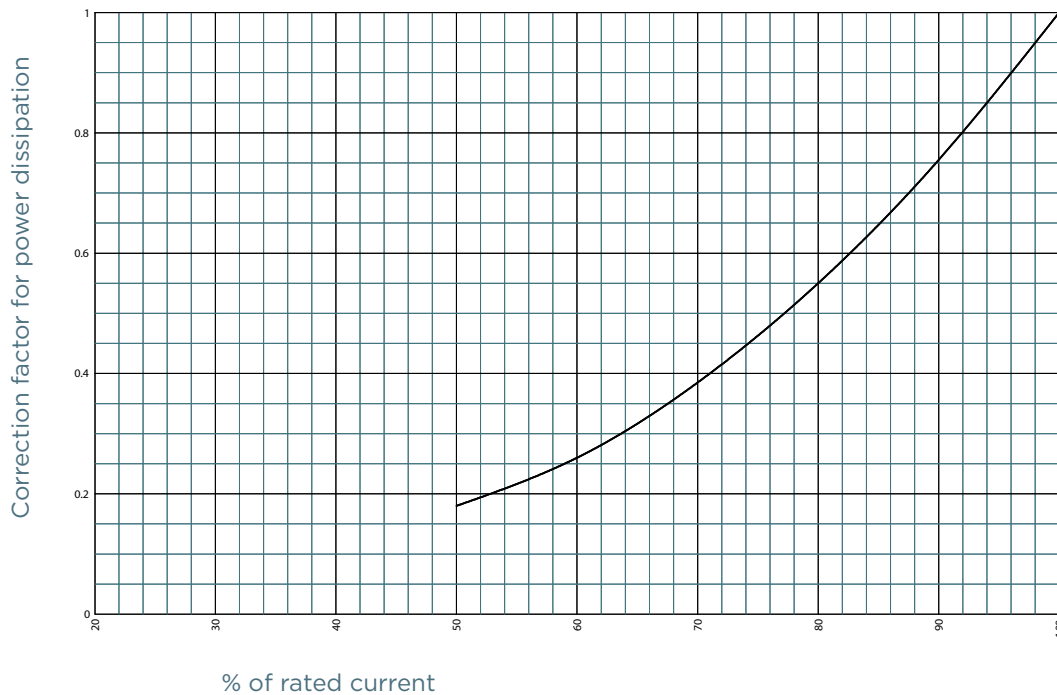
800VAC (IEC)

L/R TIME CONSTANT VS DC VOLTAGE CAPABILITY

CP 27x60 gRB 800VAC



POWER DISSIPATION

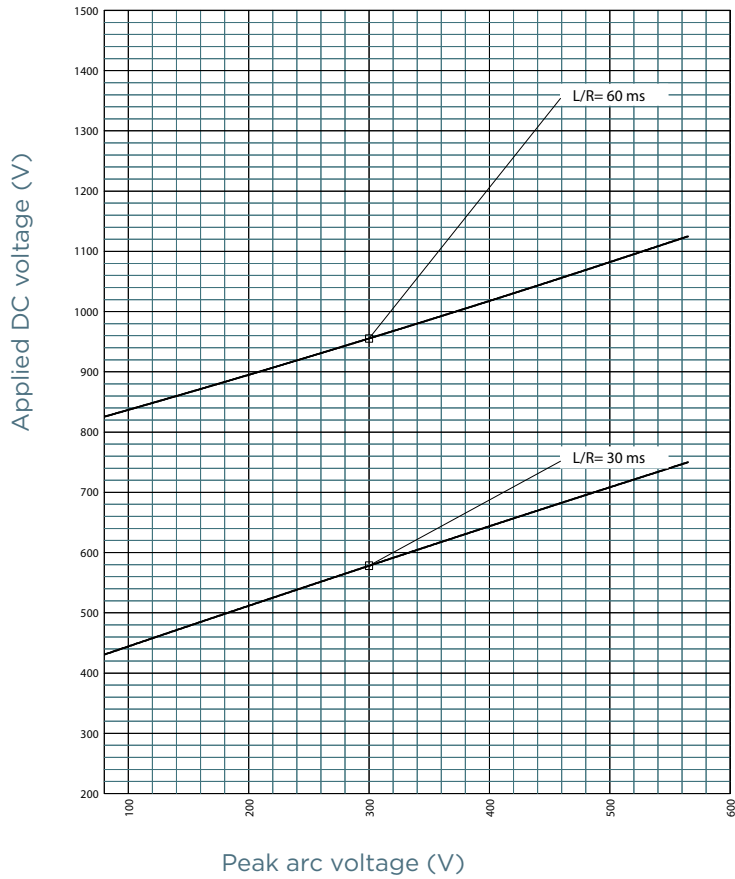


Protistor® size 27x60 gR (gRB)

800VAC (IEC)

PEAK ARC VOLTAGE

CP 27x60 gRB 800VAC



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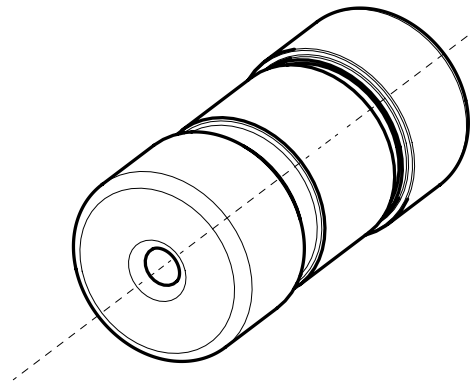
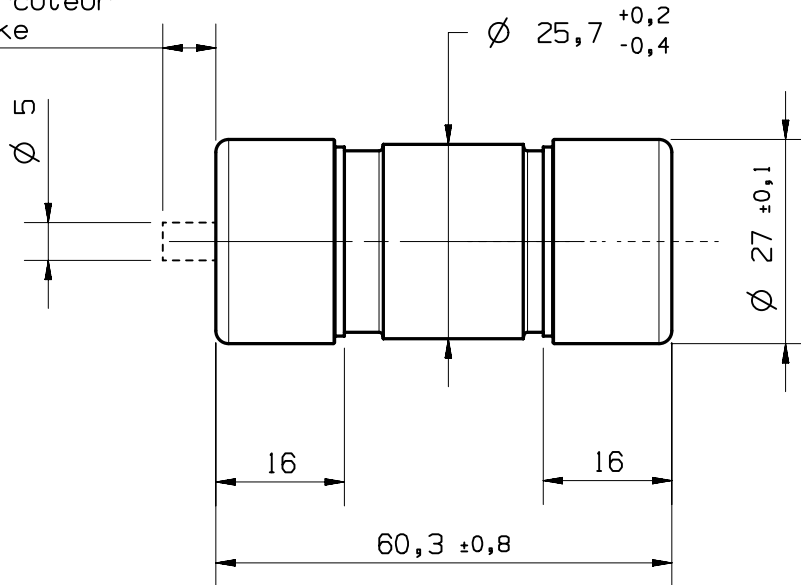
Protistor® size 27x60 gR (gRB)

800VAC (IEC)

DIMENSIONS

CP 27x60 gRB 800VAC

7 Course du percuteur
striker stroke



Dimensions in mm

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Protistor® size 27x60 gLB 440VDC

SEMICONDUCTOR PROTECTION FUSES

IEC HIGH-SPEED CYLINDRICAL FUSE-LINKS DC PROTECTION



Mersen DC offers provide a very high performant protection for railway power and auxiliary circuits. Mersen DC Semiconductor fuse-links were developed to provide improved performance required by today's new DC equipment. These fuse-links are typically operated at more elevated temperature than other fuse type, have lower I^2t to minimize damage to protected components on short circuits, lower watts loss and longer life.

TECHNICAL DATA OVERVIEW

Voltage DC	440 VDC
Ampere Range (A)	125 ... 165 A
Speed/Characteristic	gLB
Product Size	27x60

FEATURES & BENEFITS

- Clearing all overloads
- Improved safety and protection
- Enabling selective coordination among all
- Distribution circuit fuses
- With trip-indicator

STANDARDS

- RoHS compliant



Protistor® size 27x60 gLB 440VDC

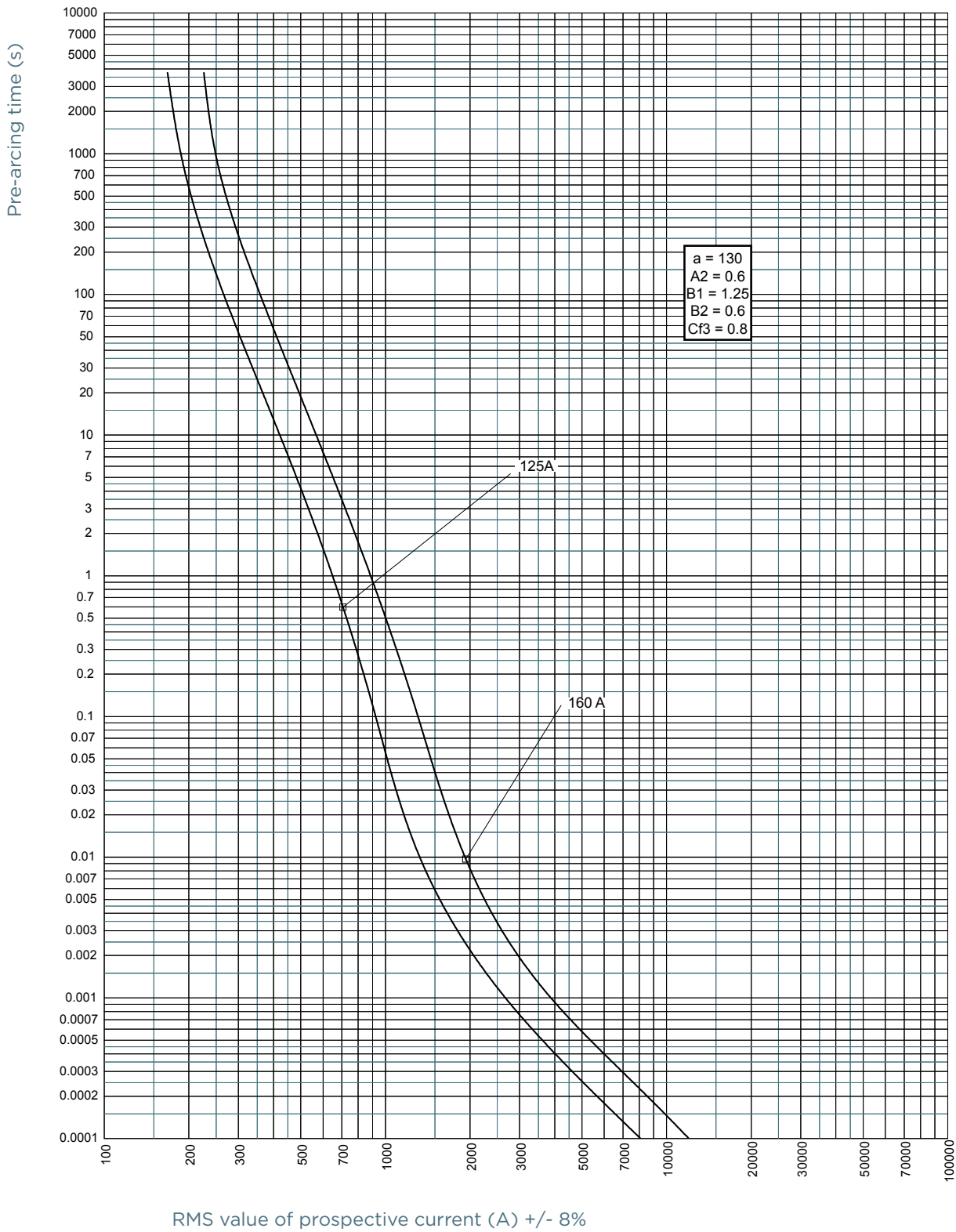
PRODUCT RANGE

Size 27x60 gLB 440VDC with striker

Catalog number	Item number	Rated voltage DC (IEC)	Rated current I_n	Rated breaking capacity DC	Rated breaking capacity DC @10ms	Rated breaking capacity DC @30ms	Power dissipation at 0.8 I_n	Power dissipation at I_n	Package	Weight
FD27GB44V125T	H098562	440 V	125 A	100 kA	100 kA	40 kA	12.6 W	22 W	10	80 g
FD27GB44V160T	M075704	440 V	160 A	100 kA	100 kA	40 kA	13.8 W	24.2 W	10	80 g

Protistor® size 27x60 gLB 440VDC

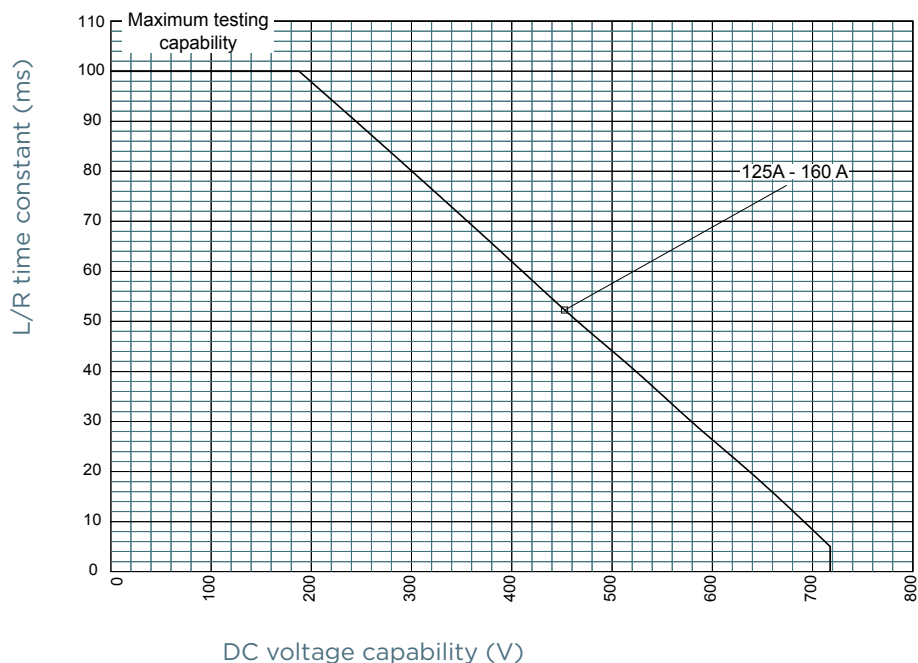
TIME CURRENT CHARACTERISTIC CURVES



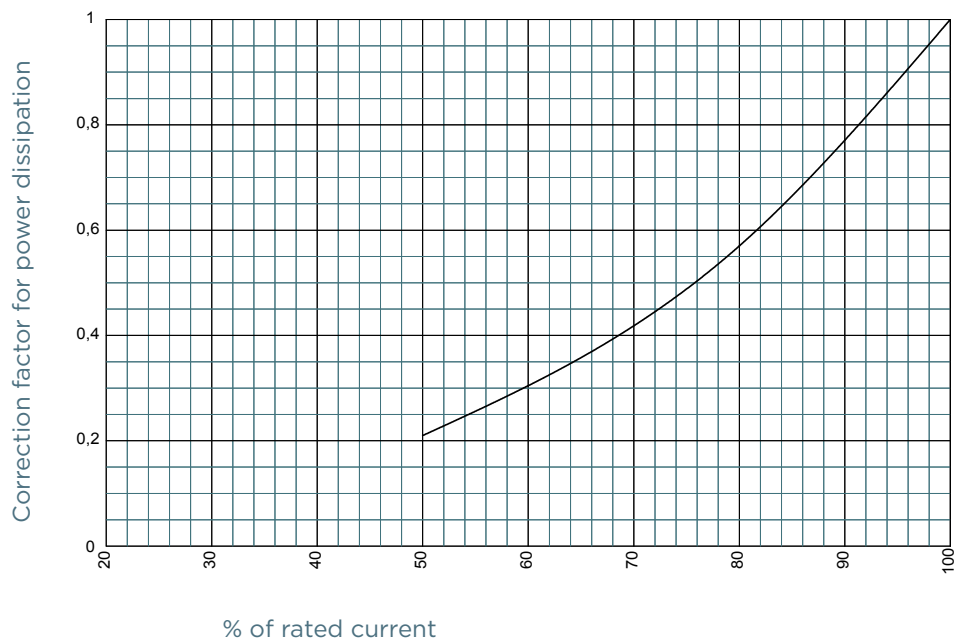
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Protistor® size 27x60 gLB 440VDC

L/R TIME CONSTANT VS DC VOLTAGE CAPABILITY



POWER DISSIPATION



Protistor® size 27x60 gLB 440VDC

DIMENSIONS

CP27x60 gLB 440V

