

# FUSE-LINKS FOR SEMICONDUCTOR PROTECTION UP TO 1000 V a.c. (WITH SCREW CONNECTIONS)

Fuse-links for semiconductor protection P40U10, P50U10 and P50V10 are intended for protection of semiconductors and devices especially sensitive to short-circuits. Fuses P50.. represent a new generation with especially low values of I<sup>2</sup>t.

- Extremely low values of I<sup>2</sup>t and cut-off currents.
- Small dimensions and low power losses.
- Possibility of remote signalling of fuse state - see page H29.
- Fuse marked P..U10S is equipped with signalling S42.
- Possibility of use in fuse holders SP50... page H31.
- Possibility of parallel connection of the fuses - see page H33.
- The fuse-links do not contain harmful substances according to the RoHS Regulation (cadmium, lead and other).
- Utilization category gR for protection of semiconductor devices against overload and short-circuit.
- Utilization category aR for protection of semiconductor devices only against short-circuit.
- Connection cross-section according to IEC, IEC 60269-4 (current density 1 ÷ 1.6 A/mm<sup>2</sup> min. 500 mm from each side of the fuse-link).

### Fuse-links for semiconductor protection

I <sub>n</sub> [A]	Without signalling		With signalling S42		Power losses [W]	Temperature rise [K]	Pt total [A <sup>2</sup> s]	Weight [kg]	Package [pcs]	
	Type	Product code	Type	Product code						
P40U10	32	P40U10 32A gR	09013	P40U10S 32A gR	11835	9.0	32	4 500	0.540	3
	40	P40U10 40A gR	09014	P40U10S 40A gR	11834	13.0	35	6 000	0.540	3
	50	P40U10 50A gR	09015	P40U10S 50A gR	11833	18.0	45	8 000	0.540	3
	63	P40U10 63A gR	09016	P40U10S 63A gR	11832	25.0	62	9 000	0.540	3
	80	P40U10 80A aR	06548	P40U10S 80A aR	06549	30.0	63	12 000	0.540	3
	100	P40U10 100A aR	13501	P40U10S 100A aR	06550	39.0	72	15 000	0.540	3
	125	P40U10 125A aR	06551	P40U10S 125A aR	06552	36.0	63	25 000	0.540	3
	160	P40U10 160A aR	06553	P40U10S 160A aR	06554	50.0	83	33 000	0.540	3
	200	P40U10 200A aR	06555	P40U10S 200A aR	06556	58.5	85	55 000	0.540	3
	250	P40U10 250A aR	06557	P40U10S 250A aR	06558	68.0	91	105 000	0.540	3
P50U10	315	P40U10 315A aR	06559	P40U10S 315A aR	06560	76.5	94	210 000	0.540	3
	350	P40U10 350A aR	11245	P40U10S 350A aR	13749	82.0	96	250 000	0.540	3
	400	P40U10 400A aR	06561	P40U10S 400A aR	06562	99.5	105	280 000	0.540	3
	400	P50U10 400A aR	08677	P50U10S 400A aR	20519	80.0	90	260 000	0.540	3
	450	P50U10 450A aR	08657	P50U10S 450A aR	08680	90.0	98	400 000	0.540	3
	500	P50U10 500A aR	08654	P50U10S 500A aR	08681	105.0	100	580 000	0.540	3
P50V10	550	P50U10 550A aR	08655	P50U10S 550A aR	17515	112.0	107	750 000	0.540	3
	630	P50U10 630A aR	08656	P50U10S 630A aR	08571	127.0	110	850 000	0.540	3
	700	P50V10 700A aR	08682	P50V10S 700A aR	08683	125.0	112	1 100 000	0.720	3

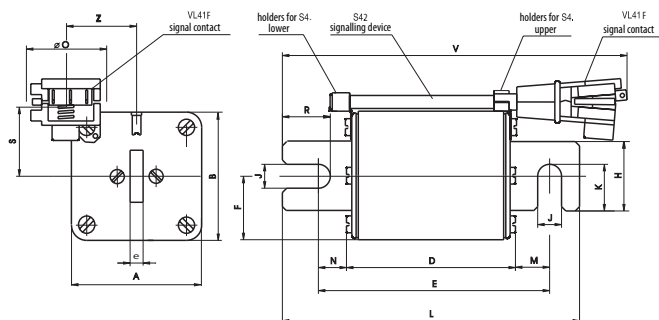
### Parameters

Type	P40U10	P50U10	P50V10
Size/connection spacing	1/110 mm (1/130 mm on demand)		2/110 mm
Rated voltage	U <sub>n</sub>	1000 V a.c., 600 V d.c.	1000 V a.c./600 V d.c. 1000 V a.c./600 V d.c.
Rated breaking capacity (rms)	I <sub>b</sub>	1000 V a.c. 100 kA 600 V d.c. 50 kA	1000 V a.c. > 60 kA
Signalling	remote signalling type S (add ...S in the marking) for signal contact VL41F		
Rated frequency	f <sub>n</sub>	50 Hz	
Standards	IEC 60269-1, -4; EN 60269-1, -4; EN 60269		

### Approval marks



### Dimensions

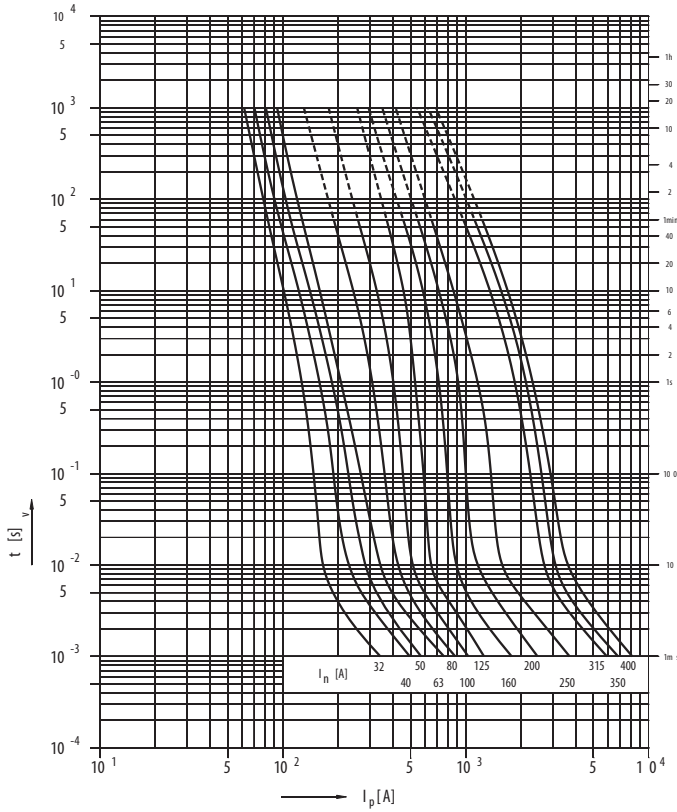


Type	A	B	D	E	F	H	J	K	L	M	N	R	e	V	∅0	S	Z
[mm]																	
P40U10	52	52	78.4	106.6	26	25	11	18	137	15.7	12.5	22.3	6	160	36.5	30	30
P40U10 (DIN 130)	52	52	78.4	126.6	26	25	11	18	157	25.7	12.5	22.3	6	170	36.5	30	30
P50U10	52	52	78.4	106.6	26	25	11	18	137	15.7	12.5	22.3	6	160	36.5	30	30
P50V10	60	60	78.4	105.6	30	32	11	21.5	137	15.1	12.1	22.1	6	160	36.5	33	33

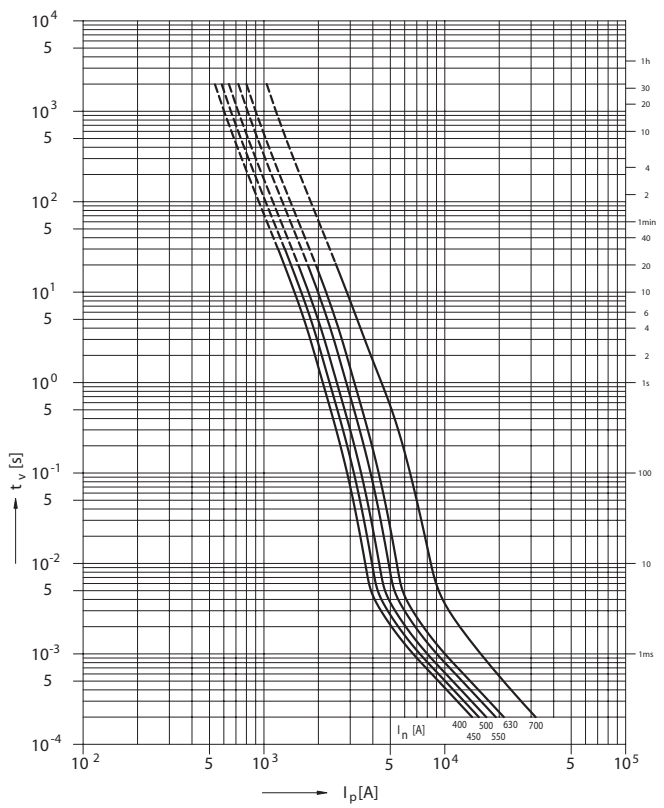
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## Characteristics

Prearcing time/current characteristic  
P40U10 gR, aR

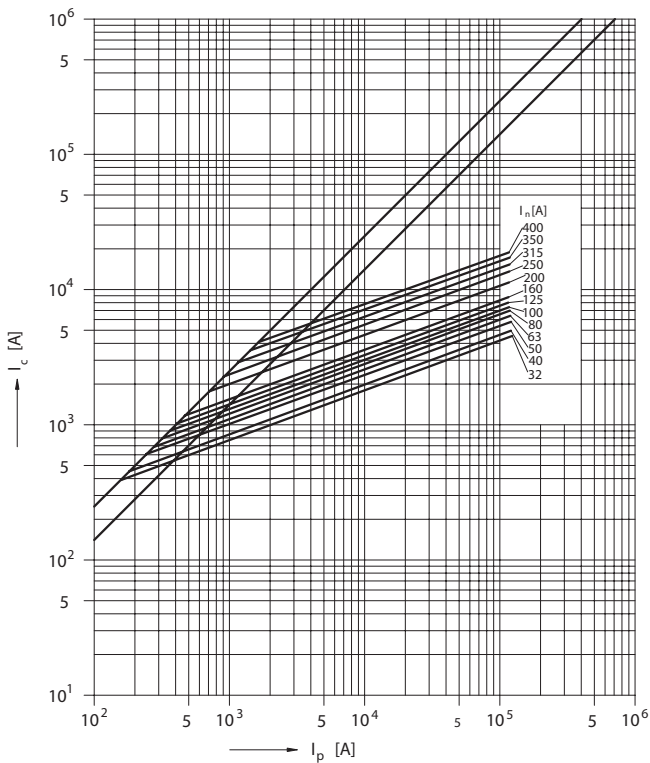


Prearcing time/current characteristic  
P50U10, P50V10 aR



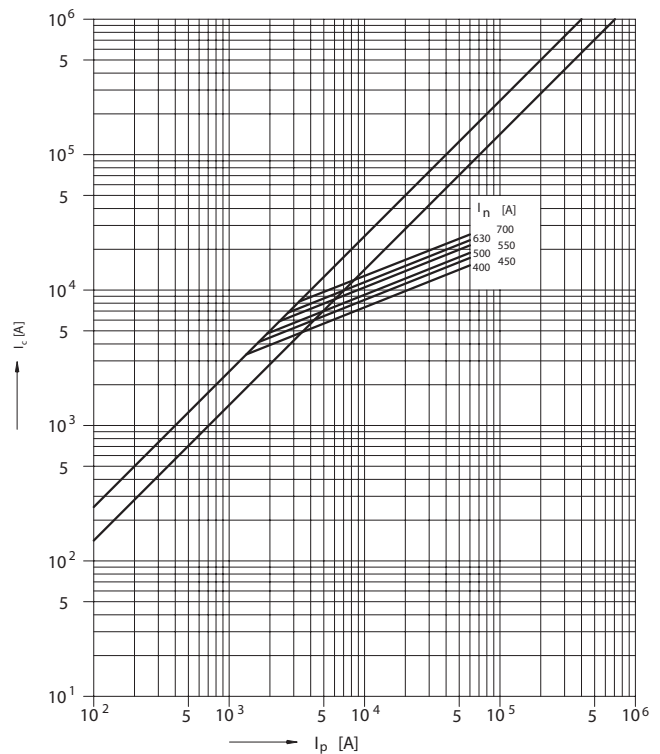
Cut-off characteristic  
P40U10 gR, aR

~ 1000 V  
cos φ = 0.1-0.3



Cut-off characteristic  
P50U10, P50V10 aR

~ 1000 V  
cos φ = 0.1-0.3



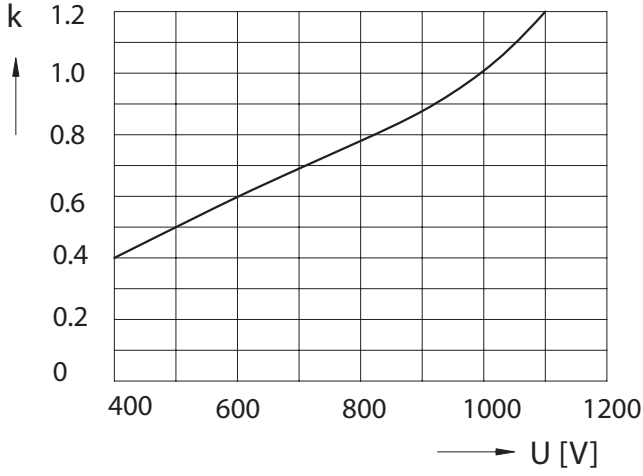
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## Characteristics

Correction factor, "k" of I<sup>2</sup>t dependence on operating voltage U

$$(I^2t_{total})_{f(U)} = k \times I^2t_{total}$$

P40U10



Overvoltage dependence on operating voltage

P40U10

