

FUSE-LINKS FOR SEMICONDUCTOR PROTECTION UP TO 690 V a.c. (WITH BLADE CONTACTS)

Fuse-links for semiconductor protection P51.. are intended for protection of semiconductors and devices especially sensitive to short-circuits.

- Extremely low values of I^2t and cut-off currents.
- Small dimensions and low power losses.
- Possibility of use in fuse switch-disconnectors FH00, FH0, FH1, FH2 and FH3.
- Visual state indicator.
- Possibility of remote signalling of fuse state - see page D21.
- 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.
- In use of the fuses in fuse switch-disconnectors it is necessary to reduce connection cross-sections of cables depending on current load. Required cross-sections are specified in the tables in chapter "Conditions for use of cylindrical fuse-links in switch-disconnectors" see page H37 - H40.

Fuse-links for semiconductor protection

	I_n [A]	Type	Product code	Power losses [W]	Temperature rise [K]	I^2t total [A ² s]	Weight [kg]	Package [pcs]
P51R06	6	P51R06 6A gR	06632	2.7	17	37	0.130	3
	10	P51R06 10A gR	06633	4.5	30	50	0.130	3
	16	P51R06 16A gR	06634	6.7	38	73	0.130	3
	20	P51R06 20A gR	06635	9.0	48	90	0.130	3
	25	P51R06 25A gR	06636	8.0	38	250	0.130	3
	32	P51R06 32A gR	06637	11.0	48	350	0.130	3
	40	P51R06 40A gR	06638	14.0	53	480	0.130	3
	50	P51R06 50A gR	06639	14.5	56	1 050	0.130	3
	63	P51R06 63A gR	06640	23.0	74	1 960	0.130	3
	80	P51R06 80A aR	06641	23.3	68	2 200	0.130	3
P51U06	100	P51R06 100A aR	06642	29.2	70	3 650	0.130	3
	125	P51R06 125A aR	06643	33.4	90	7 800	0.130	3
	160	P51R06 160A aR ¹⁾	06644	37.2	90	15 500	0.130	3
	63	P51U06 63A gR	10558	17.5	42	2 050	0.390	3
	80	P51U06 80A gR	10559	23.5	45	2 850	0.390	3
	100	P51U06 100A aR	10560	25.5	45	6 050	0.390	3
	125	P51U06 125A aR	10561	29.0	46	8 900	0.390	3
	160	P51U06 160A aR	11201	38.0	60	16 800	0.390	3
	200	P51U06 200A aR	11202	50.5	64	26 000	0.390	3
	250	P51U06 250A aR	11203	52.0	70	59 000	0.390	3
P51V06	315	P51U06 315A aR	11204	69.5	70	120 000	0.390	3
	250	P51V06 250A aR	35990	60.3	53	34 500	0.530	3
	315	P51V06 315A aR	35991	65.8	52	69 900	0.530	3
	350	P51V06 350A aR	35992	68.6	55	83 500	0.530	3
	400	P51V06 400A aR	35993	72.8	60	136 000	0.530	3
	450	P51V06 450A aR	35994	80.1	58	207 000	0.530	3
	500	P51V06 500A aR	35995	77.5	58	318 000	0.530	3
	550	P51V06 550A aR	35996	86.4	65	399 000	0.530	3
630	P51V06 630A aR	35997	90.7	67	682 000	0.530	3	

¹⁾ $U_n = 500$ V a.c.

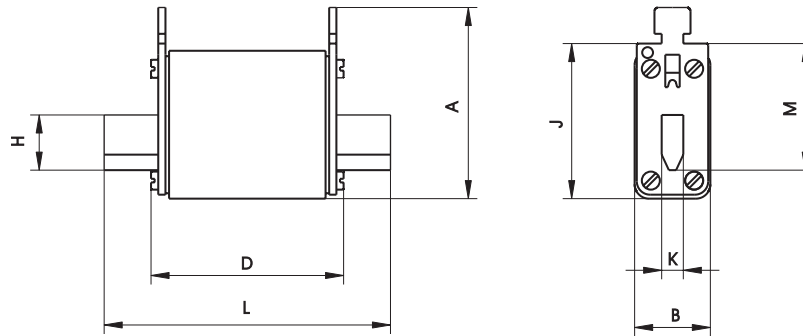


Parameters

Type	P51R06	P51U06	P51V06
Size	000/blade contacts	1/blade contacts	2/blade contacts
Rated voltage U_n	690 V a.c., 440 V d.c. (500 V a.c. for P51R06 160A)		
Rated breaking capacity (rms) I_b	690 V a.c. 120 kA		440 V d.c. 50 kA
Signalling	visual state indicator, remote signalling type T for signal contact VL50		
Rated frequency f_n	50 Hz		
Standards	IEC 60269-1, -2, -4; EN 60269-1, -4; EN 60269		
Approval marks			

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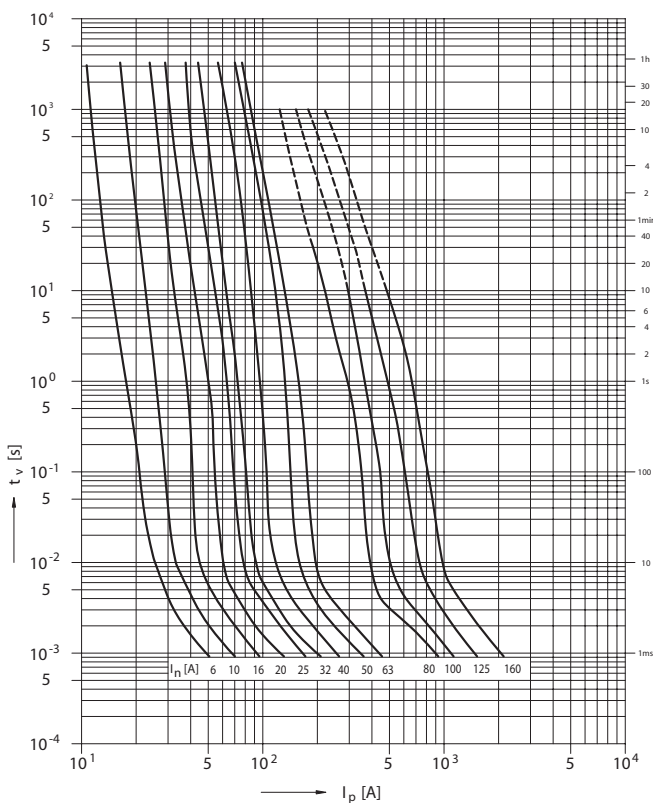
Dimensions



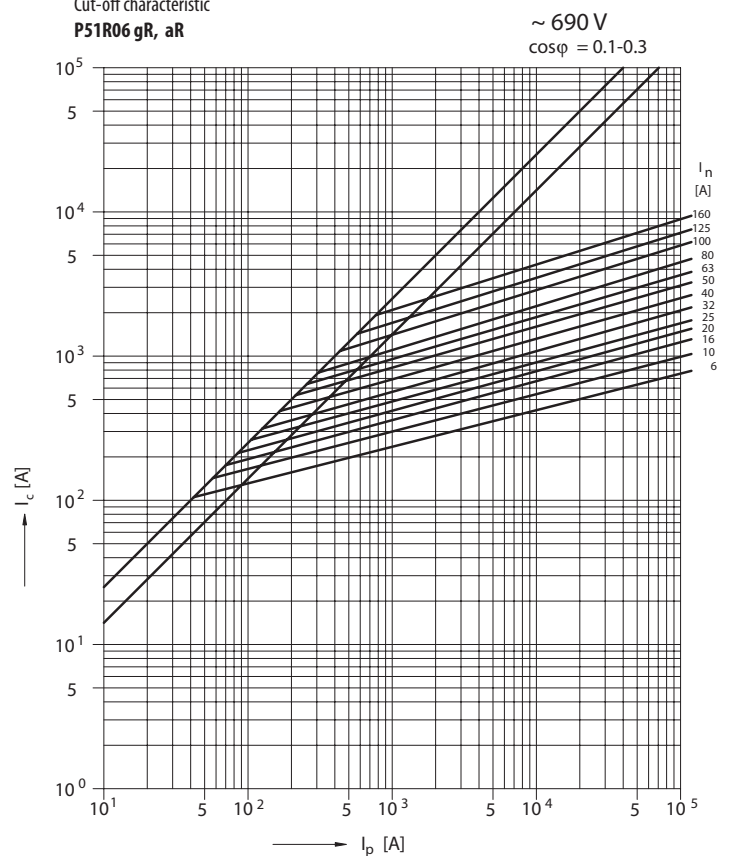
Type	A	B	D	H	J	K	L	M	
	[mm]								
P51R06	53	21	51.5	15	43	6	78.5	35	
P51U06	62.5	44	70.5	20	53	6	135	40	
P51V06	68±1.3	50±1.3	70.5±2	25	61	6	150±2	48±0.8	

Characteristics

Prearcing time/current characteristic
P51R06 gR, aR



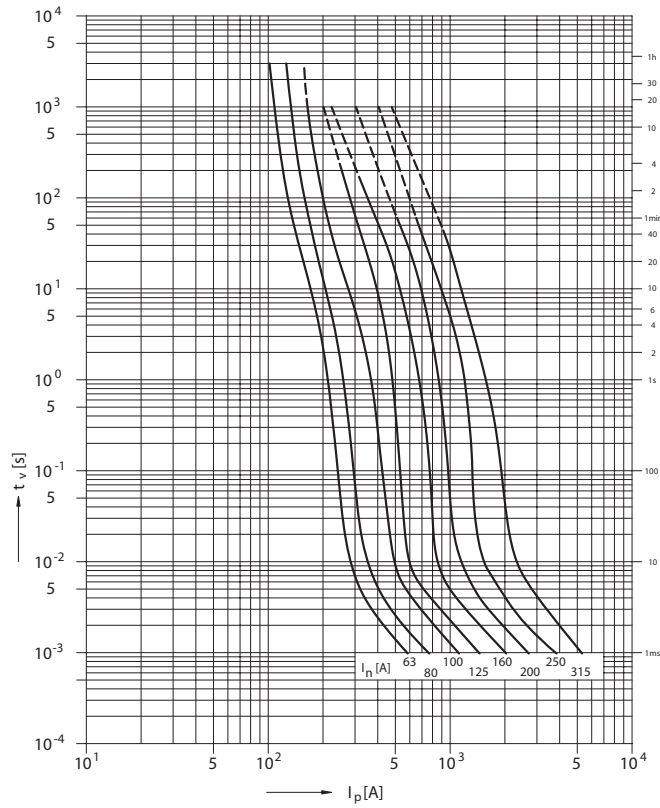
Cut-off characteristic
P51R06 gR, aR



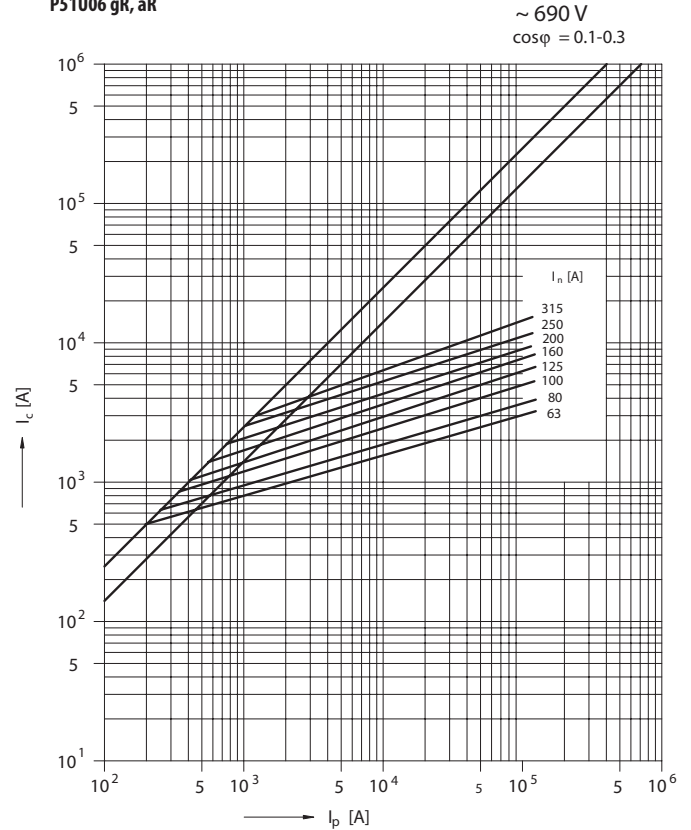
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Characteristics

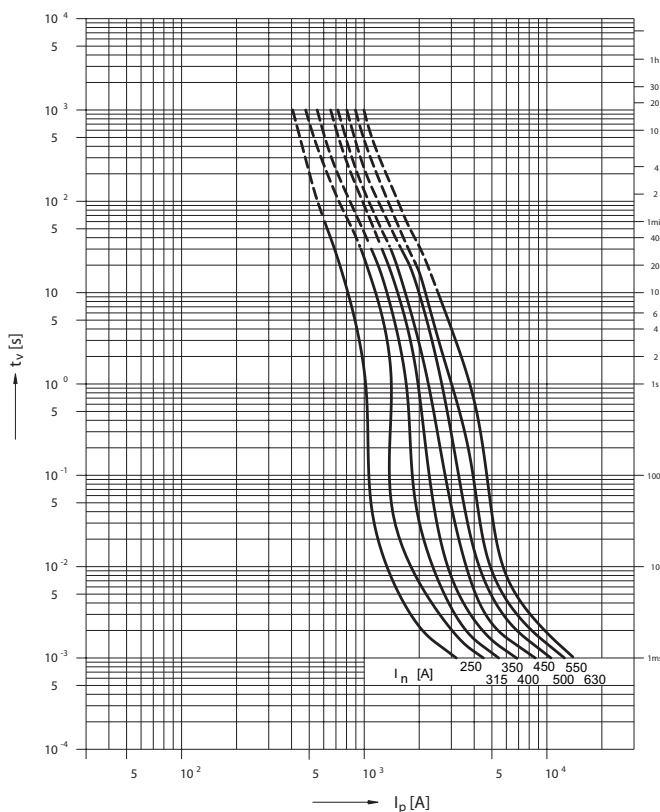
Prearing time/current characteristic
P51U06 gR, aR



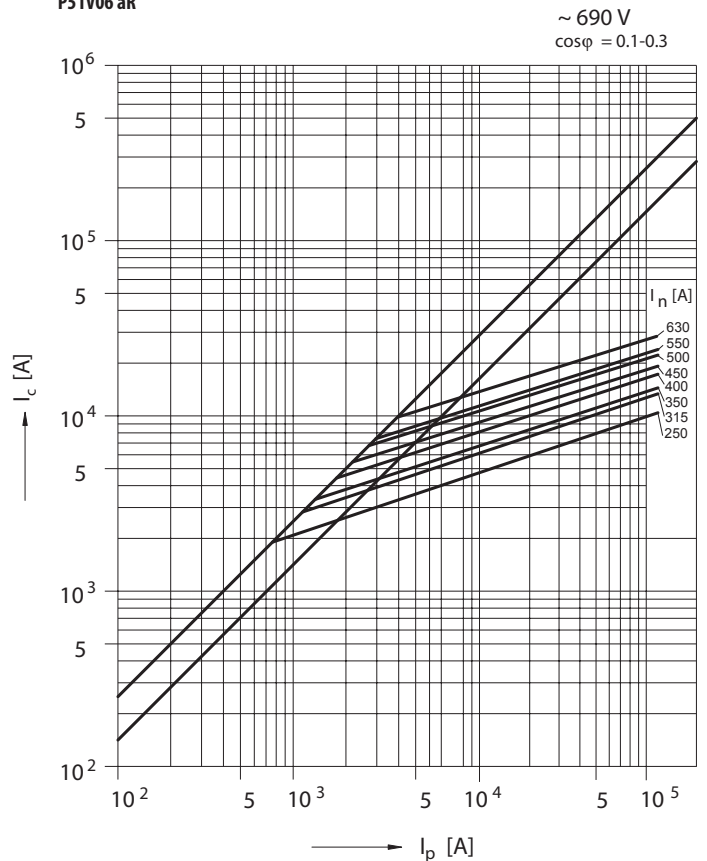
Cut-off characteristic
P51U06 gR, aR



Prearing time/current characteristic
P51V06 aR



Cut-off characteristic
P51V06 aR



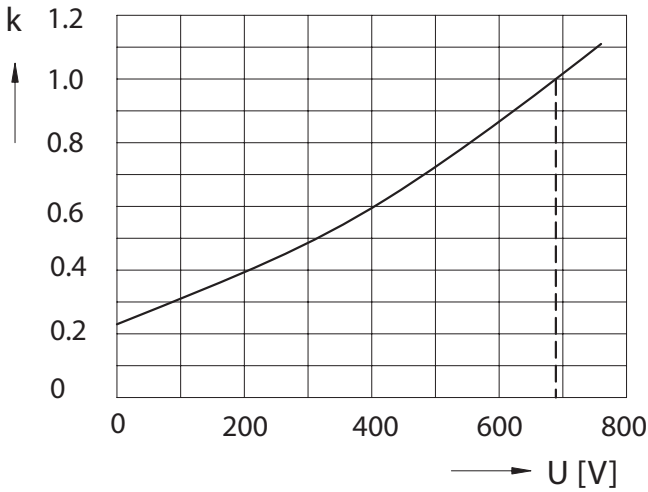
FUSE-LINKS FOR SEMICONDUCTOR PROTECTION UP TO 690 V a.c. (WITH BLADE CONTACTS)

Characteristics

Correction factor „k“ of I²t dependence on operating voltage U

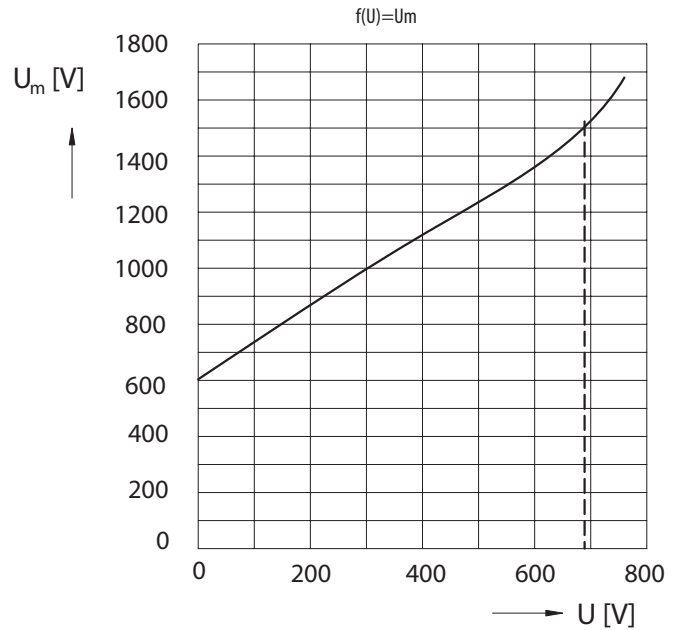
$$(I^2t_{\text{cell}})_{f(U)} = k \times I^2t_{\text{cell}}$$

P51R06



Overvoltage dependence on operating voltage

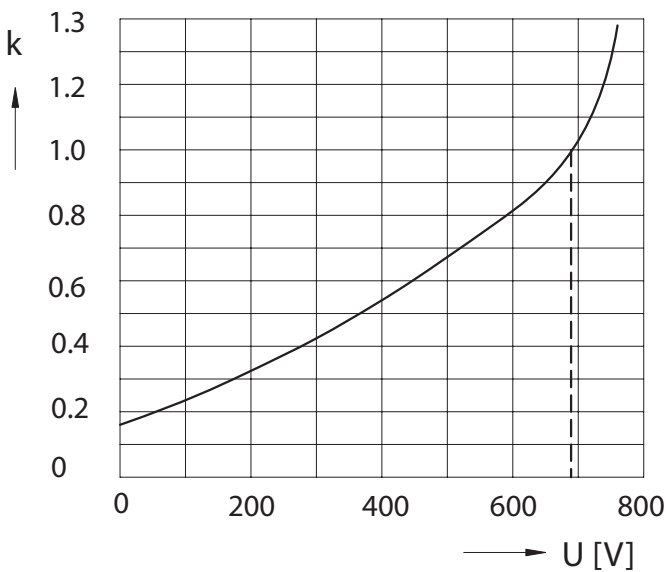
P51R06



Correction factor „k“ of I²t dependence on operating voltage U

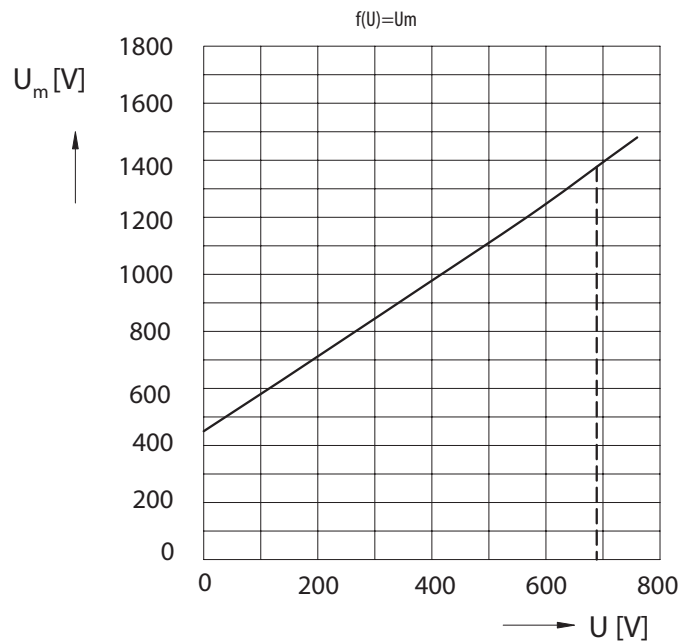
$$(I^2t_{\text{cell}})_{f(U)} = k \times I^2t_{\text{cell}}$$

P51U06, P51V06



Overvoltage dependence on operating voltage

P51U06, P51V06



CONDITIONS FOR THE USE OF FUSE-LINKS IN FUSE SWITCH-DISCONNECTORS

Use of fuse-links with blade contacts P51V06 in fuse switch-disconnectors FH2

Fuse-link	Cross-section of Cu conductor [mm ²]	Reduced rated current [A]
P51V06 250A	120	220
	185	240
	240	250
	2x 185	250
P51V06 315A	120	250
	185	280
	240	300
	2x 185	315
P51V06 350A	120	270
	185	300
	240	320
	2x 185	350
P51V06 400A	185	330
	240	350
	2x 185	390
P51V06 450A	185	340
	240	375
	2x 185	410
P51V06 500	185	370
	240	400
	2x 185	450
P51V06 550A	185	390
	240	420
	2x 185	470
P51V06 630A	185	420
	240	450
	2x 185	500

Use of fuse-links with blade contacts P51V06 in fuse switch-disconnectors FH3

Fuse-link	Cross-section of Cu conductor [mm ²]	Reduced rated current [A]
P51V06 250A	120	230
	185	250
	240	250
	2x 185	250
P51V06 315A	120	260
	185	300
	240	315
	2x 185	315
P51V06 350A	120	280
	185	320
	240	340
	2x 185	350
P51V06 400A	120	300
	185	360
	240	375
	2x 185	400
P51V06 450A	185	370
	240	400
	2x 185	440
P51V06 500	185	410
	240	420
	2x 185	480
P51V06 550A	185	420
	240	440
	2x 185	500
P51V06 630A	185	450
	240	470
	2x 185	540