

# PEH 200 85°C

RoHS  
Compliant

- High CV-value
- Long Life
- Low ESR and ESL
- Compact size
- Optimized designs available on request

## APPLICATION

Typical applications for the new PEH 200 would be found in Uninterruptable Power Supplies (UPS), Ground Power Units (GPU), Welding Equipments and Drives where high current ratings and compact size are important.

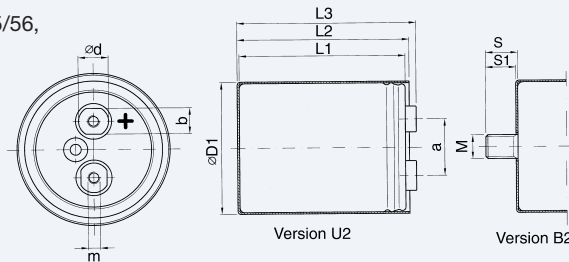
## BASIC DESIGN

PEH 200 series has a polarized, all-welded design, heavy duty screw terminals, extended cathode construction, safety vent and plastic insulation. The sealing systems designed for electrolyte leakage free operation and a very low gas-diffusion rate of electrolyte.

Mechanical contact between the winding and the aluminium case allows excellent heat transfer from the winding hot spot to the ambient, which means cooler operation and very high current ratings.

## SPECIFICATION

<b>Standards</b>	IEC 60384-4 Long Life Grade 40/85/56, DIN 41240
<b>Capacitance range</b>	100–330000 µF
<b>Capacitance tolerance</b>	–20 to +20%
<b>Rated voltage</b>	25–550 VDC
<b>Temperature range</b>	–40 to +85°C
<b>Shelf life</b>	2000 h at 0V +85°C, or 4 years at 0V +40°C
<b>Operational life time</b>	60000 h at +85°C (Case Ø = 90 mm)
<b>Diameter range</b>	35–90 mm



Dimensions table PEH 200 (mm)

D x L	Case code	D1 ±1.0	L1 ±1.0	L2 ±1.0	L3 ±1.0	S	S1	M	a ±0.5	b	d	m*	Weight approx (g)
35 x 47	E	36.6	47.5	50.5	55.0	12	11.0	M8	13.0	—	8	M5	60
35 x 51	A	36.6	51.5	54.5	58.9	12	11.0	M8	13.0	—	8	M5	70
35 x 60	B	36.6	59.5	62.5	66.9	12	11.0	M8	13.0	—	8	M5	85
35 x 75	C	36.6	73.5	76.5	80.9	12	11.0	M8	13.0	—	8	M5	105
35 x 95	D	36.6	94.5	97.5	101.9	12	11.0	M8	13.0	—	8	M5	130
50 x 49	G	51.6	48.5	51.5	56.4	16	15.0	M12	22.0	13	15	M5	150
50 x 75	H	51.6	74.5	77.5	82.4	16	15.0	M12	22.0	13	15	M5	180
50 x 95	J	51.6	95.5	98.5	103.4	16	15.0	M12	22.0	13	15	M5	240
50 x 105	K	51.6	103.5	106.5	111.4	16	15.0	M12	22.0	13	15	M5	265
50 x 115	I**	51.6	115.5	118.5	123.4	16	15.0	M12	22.0	13	15	M5	300
65 x 105	O	66.6	106.0	109.2	113.0	16	14.8	M12	28.5	13	15	M5	415
65 x 115	Q**	66.6	118.0	121.2	125.0	16	14.8	M12	28.5	13	15	M5	460
65 x 130	S**	66.6	129.0	132.2	136.0	16	14.8	M12	28.5	13	15	M5	520
65 x 140	R**	66.6	141.0	144.2	148.0	16	14.8	M12	28.5	13	15	M5	650
75 x 78	L	76.6	77.0	80.2	84.0	16	14.8	M12	32.0	13	15	M5	430
75 x 98	P**	76.6	98.0	101.2	105.0	16	14.8	M12	32.0	13	15	M5	530
75 x 105	T	76.6	106.0	109.2	113.0	16	14.8	M12	32.0	13	15	M5	585
75 x 115	U	76.6	118.0	121.2	125.0	16	14.8	M12	32.0	13	15	M5	640
75 x 145	V	76.6	146.0	149.2	153.0	16	14.8	M12	32.0	13	15	M5	800
75 x 220	X	76.6	221.0	224.2	228.0	16	14.8	M12	32.0	13	15	M5	1400
90 x 78	M	91.6	76.5	79.7	83.4	16	14.8	M12	32.0	13	15	M5	750
90 x 98	N	91.6	97.5	100.7	104.4	16	14.8	M12	32.0	13	15	M5	950
90 x 145	Y	91.6	145.5	148.7	152.4	16	14.8	M12	32.0	13	15	M5	1400
90 x 220	Z	91.6	220.0	223.2	226.9	16	14.8	M12	32.0	13	15	M5	1500

\* M6 and other threads on request. \*\*on request

## ARTICLE TABLE PEH 200 (85°C)

C <sub>R</sub>	D x L	Case code	I <sub>RAC</sub> *	I <sub>RAC</sub> *	I <sub>RAC</sub> *	ESR*	ESR*	L <sub>ESL</sub> Approx.	Article code
			85°C	50°C	40°C	20°C	20°C		
μF	mm		100 Hz A	10 kHz A	10 kHz A	100 Hz mΩ	100 kHz mΩ	nH	U2 = Plain can B2 = Stud can
<b>25 VDC (U<sub>R</sub>)</b>									
15000	35 x 51	A	11.9	28.7	19.0	25	21	12	PEH200HA5150M--
22000	35 x 75	C	15.2	34.3	24.4	17	14	12	PEH200HC5220M--
33000	35 x 95	D	17.8	38.0	28.1	12	10	12	PEH200HD5330M--
47000	50 x 75	H	20.2	43.3	30.1	11	10	16	PEH200HH5470M--
68000	50 x 95	J	23.4	47.4	34.6	8	7	16	PEH200HJ5680M--
100000	50 x 105	K	23.9	46.1	34.7	7	7	16	PEH200HK6100M--
150000	65 x 105	O	26.3	50.0	37.2	7	7	16	PEH200HO6150M--
220000	75 x 105	T	35.0	63.6	49.5	5	5	17	PEH200HT6220M--
330000	75 x 145	V	40.0	73.1	56.9	4	4	17	PEH200HV6330M--
<b>40 VDC (U<sub>R</sub>)</b>									
6800	35 x 51	A	9.9	27.2	18.1	33	25	12	PEH200KA4680M--
10000	35 x 60	B	12.0	31.5	21.4	23	18	12	PEH200KB5100M--
15000	35 x 75	C	14.6	36.1	25.5	16	12	12	PEH200KC5150M--
22000	35 x 95	D	17.1	39.8	29.2	12	9	12	PEH200KD5220M--
33000	50 x 75	H	18.9	41.1	28.8	11	9	16	PEH200KH5330M--
47000	50 x 95	J	22.1	46.3	33.6	8	7	16	PEH200KJ5470M--
68000	65 x 105	O	25.2	49.9	35.6	7	7	16	PEH200KO5680M--
100000	65 x 105	O	24.9	46.3	36.9	8	8	16	PEH200K06100M--
150000	75 x 115	U	35.7	67.7	51.2	5	4	17	PEH200KU6150M--
220000	75 x 145	V	34.4	62.3	48.9	5	5	17	PEH200KV6220M--
<b>63 VDC (U<sub>R</sub>)</b>									
4700	35 x 51	A	9.0	26.8	18.0	32	21	12	PEH200MA4470M--
6800	35 x 75	C	11.5	32.7	23.5	21	14	12	PEH200MC4680M--
10000	35 x 95	D	13.6	36.0	27.0	15	10	12	PEH200MD5100M--
15000	50 x 75	H	16.1	37.3	26.5	14	11	16	PEH200MH5150M--
22000	50 x 95	J	19.0	42.0	30.9	10	8	16	PEH200MJ5220M--
33000	65 x 105	O	22.8	45.9	34.8	10	8	16	PEH200MO5330M--
47000	65 x 105	O	21.8	42.7	32.0	10	9	16	PEH200MO5470M--
68000	75 x 115	U	31.5	61.3	46.8	6	5	17	PEH200MU5680M--
100000	75 x 145	V	34.3	62.2	50.3	5	5	17	PEH200MV6100M--
<b>100 VDC (U<sub>R</sub>)</b>									
1500	35 x 51	A	5.7	18.0	12.1	92	63	12	PEH200PA4150M--
2200	35 x 60	B	7.0	21.3	14.7	63	44	12	PEH200PB4220M--
3300	35 x 75	C	8.7	25.0	17.8	43	30	12	PEH200PC4330M--
4700	35 x 95	D	10.3	28.9	21.1	31	21	12	PEH200PD4470M--
6800	50 x 75	H	12.7	30.4	21.5	33	27	16	PEH200PH4680M--
10000	50 x 95	J	15.3	34.7	25.6	23	19	16	PEH200PJ5100M--
15000	50 x 105	K	17.3	37.6	27.9	17	14	16	PEH200PK5150M--
22000	65 x 105	O	19.3	38.7	30.1	15	13	16	PEH200PO5220M--
33000	75 x 105	T	26.3	53.0	39.8	10	8	17	PEH200PT5330M--
47000	75 x 145	V	30.8	60.5	47.3	7	6	17	PEH200PV5470M--
<b>250 VDC (U<sub>R</sub>)</b>									
330	35 x 51	A	2.2	13.5	8.7	330	170	12	PEH200SA3330M--
470	35 x 60	B	2.7	15.9	10.6	240	120	12	PEH200SB3470M--
680	35 x 75	C	3.4	18.7	13.0	160	84	12	PEH200SC3680M--
1000	35 x 95	D	4.1	21.2	15.6	110	58	12	PEH200SD4100M--
1000	50 x 49	G	4.3	20.7	12.6	120	69	16	PEH200SG4100M--
1500	50 x 75	H	5.9	28.7	19.5	78	42	16	PEH200SH4150M--
2200	50 x 95	J	7.3	32.5	23.2	54	29	16	PEH200SJ4220M--
3300	65 x 105	O	10.0	39.8	29.4	38	22	16	PEH200SO4330M--
3300	75 x 78	L	10.5	43.8	29.6	38	22	17	PEH200SL4330M--
4700	65 x 105	O	11.3	38.2	27.2	29	18	16	PEH200SO4470M--

\* Maximum values. \*\* 2 m/s forced air, studmounted on 3°C/W aluminium chassis.

## ARTICLE TABLE PEH 200 (85°C)

C <sub>R</sub>	D x L	Case code	I <sub>RAC</sub> *	I <sub>RAC</sub> *	I <sub>RAC</sub> *	ESR*	ESR*	L <sub>ESL</sub>	Article code
			85°C	50°C	40°C	20°C	20°C	Approx.	
μF	mm		100 Hz A	10 kHz A	10 kHz A	100 Hz mΩ	100 kHz mΩ	nH	U2 = Plain can B2 = Stud can
<b>250 VDC (U<sub>R</sub>)</b>									
4700	90 x 78	M	12.7	44.2	30.4	30	18	16	PEH200SM4470M--
6800	75 x 105	T	14.7	51.5	36.5	20	12	17	PEH200ST4680M--
6800	90 x 98	N	15.8	52.1	37.3	21	13	16	PEH200SN4680M--
10000	75 x 145	V	18.0	59.0	44.0	14	9	17	PEH200SV5100M--
12000	75 x 145	V	18.8	58.6	43.6	14	9	17	PEH200SV512AM--
15000	75 x 220	X	20.6	61.6	49.2	10	6	17	PEH200SX5150M--
15000	90 x 145	Y	21.8	60.1	45.5	12	8	16	PEH200SY5150M--
<b>350 VDC (U<sub>R</sub>)</b>									
220	35 x 51	A	2.0	13.7	8.8	360	170	12	PEH200UA3220M--
330	35 x 60	B	2.6	16.6	11.0	240	110	12	PEH200UB3330M--
470	35 x 75	C	3.2	19.3	13.4	170	79	12	PEH200UC3470M--
680	35 x 95	D	3.8	21.9	16.0	120	55	12	PEH200UD3680M--
680	50 x 49	G	4.0	20.7	12.6	130	66	16	PEH200UG3680M--
1000	50 x 75	H	5.5	28.8	19.5	85	41	16	PEH200UH4100M--
1500	50 x 95	J	6.8	32.9	23.4	57	28	16	PEH200UJ4150M--
2200	65 x 105	O	9.4	39.8	29.2	41	21	16	PEH200UO4220M--
2200	75 x 78	L	9.8	43.5	29.4	41	21	17	PEH200UL4220M--
3300	65 x 105	O	10.9	38.6	27.5	31	17	16	PEH200UO4330M--
3300	90 x 78	M	13.1	54.0	37.0	28	15	16	PEH200UM4330M--
4700	75 x 115	U	14.5	54.7	39.5	20	11	17	PEH200UU4470M--
4700	90 x 98	N	15.0	51.3	36.7	22	13	16	PEH200UN4470M--
6800	75 x 145	V	16.8	57.0	42.3	15	8	17	PEH200UV4680M--
10000	75 x 220	X	19.4	60.8	48.5	11	7	17	PEH200UX5100M--
10000	90 x 145	Y	23.3	75.2	56.9	11	6	16	PEH200UY5100M--
15000	90 x 220	Z	27.3	79.8	64.4	8	5	16	PEH200UZ515AM--
<b>385 VDC (U<sub>R</sub>)</b>									
220	35 x 51	A	2.1	14.6	9.3	330	150	12	PEH200XA3220M--
330	35 x 75	C	2.7	17.0	12.0	220	97	12	PEH200XC3330M--
470	35 x 95	D	3.3	19.1	14.2	150	69	12	PEH200XD3470M--
470	50 x 49	G	3.6	20.9	12.8	160	78	16	PEH200XG3470M--
680	50 x 75	H	4.7	26.8	18.4	110	51	16	PEH200XH3680M--
1000	50 x 95	J	5.9	31.7	22.8	76	35	16	PEH200XJ4100M--
1500	50 x 105	K	7.1	34.1	24.7	52	25	16	PEH200XK4150M--
2200	65 x 105	O	9.6	36.7	26.1	38	20	16	PEH200XO4220M--
2200	75 x 78	L	10.0	42.7	28.8	38	20	17	PEH200XL4220M--
3300	75 x 105	T	12.8	52.5	37.4	25	13	17	PEH200XT4330M--
3300	90 x 78	M	13.3	52.6	36.0	26	14	16	PEH200XM4330M--
4700	75 x 145	V	15.2	57.6	43.9	19	11	17	PEH200XV4470M--
4700	90 x 98	N	16.6	62.4	44.4	19	10	16	PEH200XN4470M--
6800	90 x 145	Y	20.9	74.8	57.2	14	8	16	PEH200XY4680M--
6800	75 x 220	X	17.4	58.9	47.0	14	8	17	PEH200XX4680M--
<b>400 VDC (U<sub>R</sub>)</b>									
220	35 x 51	A	2.2	11.4	9.6	310	130	12	PEH200VA3220M--
330	35 x 75	C	2.8	14.3	12.6	210	90	12	PEH200VC3330M--
470	35 x 95	D	3.4	16.5	14.8	140	63	12	PEH200VD3470M--
470	50 x 49	G	3.7	15.0	12.7	150	73	16	PEH200VG3470M--
680	50 x 75	H	4.9	21.2	18.3	110	55	16	PEH200VH3680M--
1000	50 x 95	J	5.9	24.2	21.3	76	38	16	PEH200VJ4100M--
1500	65 x 105	O	9.1	49.1	35.1	53	27	16	PEH200VO415AQ--
1500	75 x 78	L	8.8	34.0	29.0	52	27	17	PEH200VL4150M--
2200	65 x 105	O	9.6	29.1	25.6	39	21	16	PEH200VO4220M--
2200	90 x 78	M	11.8	44.1	37.1	36	19	16	PEH200VM4220M--
3300	65 x 105	O	11.0	30.5	26.7	29	16	16	PEH200VO433AM--
3300	75 x 115	U	13.8	52.0	45.7	22	10	17	PEH200VU433AQ--
3300	90 x 98	N	14.9	52.8	45.2	25	13	16	PEH200VN4330M--

\* Maximum values. \*\* 2 m/s forced air, studmounted on 3°C/W aluminium chassis.

ARTICLE TABLE PEH 200 (85°C)

C <sub>R</sub>	D x L	Case code	I <sub>RAC</sub> *	I <sub>RAC</sub> *	I <sub>RAC</sub> *	ESR*	ESR*	L <sub>ESL</sub> Approx.	Article code
			85°C	50°C	40°C	20°C	20°C		
μF	mm		100 Hz A	10 kHz A	10 kHz A	100 Hz mΩ	100 kHz mΩ	nH	U2 = Plain can B2 = Stud can
<b>400 VDC (U<sub>R</sub>)</b>									
3300	75 x 105	T	13.0	41.5	36.3	26	14	17	PEH200VT4330M--
4700	75 x 145	V	15.6	57.0	42.5	18	10	17	PEH200VV447AM--
6800	75 x 220	X	17.6	51.2	47.7	13	8	17	PEH200VX4680M--
6800	90 x 145	Y	21.4	64.1	56.8	13	7	16	PEH200VY4680M--
10000	90 x 220	Z	24.7	69.2	64.0	9	5	16	PEH200VZ5100M--
<b>420 VDC (U<sub>R</sub>)</b>									
150	35 x 51	A	1.8	12.1	7.8	400	170	12	PEH200OA3150M--
220	35 x 75	C	2.3	14.3	10.3	270	110	12	PEH200OC3220M--
330	35 x 95	D	2.9	16.3	12.3	180	76	12	PEH200OD3330M--
330	50 x 49	G	3.2	20.4	12.6	190	80	16	PEH200OG3330M--
470	50 x 75	H	4.2	24.8	17.0	140	62	16	PEH200OH3470M--
680	50 x 95	J	5.1	28.1	20.4	96	44	16	PEH200OJ3680M--
1000	50 x 105	K	6.3	32.0	23.2	67	31	16	PEH200OK4100M--
1500	65 x 105	O	8.8	38.9	28.4	47	23	16	PEH200OO4150M--
1500	75 x 78	L	9.1	42.3	28.5	47	23	17	PEH200OL4150M--
2200	75 x 105	T	11.5	51.6	37.0	32	16	17	PEH200OT4220M--
2200	90 x 78	M	12.2	52.7	36.0	33	17	16	PEH200OM4220M--
2700	65 x 105	O	12.4	57.3	40.1	24	10	16	PEH200OO427AM--
3300	75 x 145	V	14.0	57.5	43.7	22	11	17	PEH200OV4330M--
3300	90 x 98	N	15.4	61.9	44.0	22	12	16	PEH200ON4330M--
4700	75 x 220	X	15.7	57.6	46.8	16	8	17	PEH200OX4470M--
4700	90 x 145	Y	18.2	62.2	47.5	17	9	16	PEH200OY4470M--
8200	90 x 220	Z	23.8	77.3	63.1	10	5	16	PEH200OZ4820M--
<b>450 VDC (U<sub>R</sub>)</b>									
150	35 x 51	A	2.0	14.6	9.3	350	150	12	PEH200YA3150M--
220	35 x 75	C	2.5	16.8	11.9	240	99	12	PEH200YC3220M--
330	35 x 95	D	3.1	19.4	14.5	160	66	12	PEH200YD3330M--
330	50 x 49	G	3.5	20.8	12.7	170	75	16	PEH200YG3330M--
470	50 x 75	H	4.5	25.5	17.5	120	58	16	PEH200YH3470M--
680	50 x 95	J	5.5	28.8	20.8	86	41	16	PEH200YJ3680M--
1000	50 x 105	K	6.7	32.7	23.6	60	29	16	PEH200YK4100M--
1500	65 x 105	O	9.3	39.2	28.2	43	22	16	PEH200YO4150M--
1500	75 x 78	L	9.6	42.3	28.5	43	22	17	PEH200YL4150M--
1800	65 x 105	O	10.6	47.8	34.0	43	22	17	PEH200YO418AM--
2200	75 x 105	T	12.1	50.1	35.6	29	15	17	PEH200YT4220M--
2200	90 x 78	M	12.7	52.4	35.8	30	16	16	PEH200YM4220M--
3300	75 x 115	U	14.2	52.5	37.7	30	16	17	PEH200YU433CM--
3300	75 x 145	V	14.7	57.3	43.7	20	10	17	PEH200YV4330M--
3300	90 x 98	N	16.1	61.9	43.9	21	11	16	PEH200YN4330M--
4700	75 x 145	V	17.9	68.3	50.4	14	7	17	PEH200YV447BM--
4700	75 x 220	X	16.8	59.3	47.6	14	8	17	PEH200YX4470M--
4700	90 x 145	Y	18.9	61.4	46.9	16	9	16	PEH200YY4470M--
6000	75 x 220	X	18.5	60.5	47.8	12	7	17	PEH200YX460BQ--
8200	90 x 220	Z	24.9	77.7	63.4	10	5	16	PEH200YZ4820M--
<b>500 VDC (U<sub>R</sub>)</b>									
100	35 x 51	A	1.5	6.1	3.9	1000	590	12	PEH200ZA3100M--
150	35 x 60	B	1.9	7.5	4.9	670	390	12	PEH200ZB3150M--
220	35 x 75	C	2.3	8.4	5.8	505	310	12	PEH200ZC3220M--
220	50 x 49	G	2.5	10.1	6.1	520	320	12	PEH200ZG3220M--
330	35 x 95	D	2.9	10.7	7.7	300	180	12	PEH200ZD3330M--
470	50 x 75	H	4.2	15.8	10.5	220	130	16	PEH200ZH3470M--
680	50 x 95	J	5.1	18.4	12.8	150	90	16	PEH200ZJ3680M--
1000	65 x 105	O	6.8	21.4	15.5	130	79	16	PEH200ZO4100M--
1500	75 x 105	T	9.2	29.8	21.0	82	52	17	PEH200ZT4150M--
1800	65 x 105	O	10.6	40.9	28.2	44	29	16	PEH200ZO418HM--
2200	75 x 145	V	11.1	33.7	25.1	58	38	17	PEH200ZV4220M--
3300	75 x 220	X	12.8	36.5	29.0	38	25	17	PEH200ZX4330M--

\* Maximum values. \*\* 2 m/s forced air, studmounted on 3°C/W aluminium chassis.

## ARTICLE TABLE PEH 200 (85°C)

$C_R$	D x L	Case code	$I_{RAC}^*$ 85°C	$I_{RAC}^*$ 50°C **	$I_{RAC}^*$ 40°C	ESR* 20°C	ESR* 20°C	$L_{ESL}$ Approx.	Article code
$\mu F$	mm		100 Hz A	10 kHz A	10 kHz A	100 Hz $m\Omega$	100 kHz $m\Omega$	nH	U2 = Plain can B2 = Stud can
<b>500 VDC (<math>U_R</math>)</b>									
3300	90 x 145	Y	15.7	46.9	35.4	38	24	16	PEH200ZY4330M--
5600	90 x 220	Z	19.6	53.4	42.6	25	17	16	PEH200ZZ4560M--
<b>550 VDC (<math>U_R</math>)</b>									
680	65 x 105	O	6.6	21.1	15.4	160	110	16	PEH200TO3680M--
1000	65 x 105	O	8.0	25.2	17.9	120	76	16	PEH200TO4100M--
1200	90 x 78	M	10.2	33.7	22.6	97	63	16	PEH200TM412AM--
1200	75 x 105	T	9.5	30.5	21.6	96	62	17	PEH200TT4120M--
1500	75 x 145	V	10.6	32.3	24.4	77	49	17	PEH200TV4150M--
1800	75 x 145	V	11.6	35.3	26.3	66	42	17	PEH200TV4180M--
2200	75 x 220	X	11.1	29.4	24.1	65	45	17	PEH200TX4220M--
2700	75 x 220	X	13.4	37.8	30.1	45	29	17	PEH200TX4270M--
2700	90 x 145	Y	15.7	44.4	33.7	47	30	16	PEH200TY4270M--

\* Maximum values. \*\* 2 m/s forced air, studmounted on 3°C/W aluminium chassis.

PEH200 - INCREASED SURGE VOLTAGE (1,15X<sub>U<sub>R</sub></sub>) AND TRANSIENT CAPABILITY

## \*\*\* Transient measurements

## Procedure

The transient voltage has been determined in the following way. Before measurement, the capacitor is charged to the rated voltage at the maximum allowed ambient temperature for 12 hours. The capacitor is then placed in the test equipment and subjected to a transient corresponding to the surge voltage. Note that no operating

voltage is applied over the capacitor. The voltage of the capacitor bank in the test equipment is increased 100 V between each pulse. Pulses are applied until the capacitor breaks. Data from the last pulse the capacitor withstand are evaluated. This procedure is repeated for 25 capacitors.

## Data evaluation

The average value,  $\mu$ , and the standard deviation,  $\sigma$ , of the maximum voltage for the 25 measurements are calculated. The transient voltage  $U_T$  is then taken as:  
 $U_T = \mu - 2\sigma$

ARTICLE TABLE PEH 200 (85°C)

C <sub>R</sub>	D x L	Case code	I <sub>RAC</sub> * 85°C 100 Hz A	I <sub>RAC</sub> * 50°C** 10 kHz A	I <sub>RAC</sub> * 40°C 10 kHz A	ESR* 20°C 100 Hz mΩ	ESR* 20°C 100kHz mΩ	L <sub>ESL</sub> Approx. nH	U <sub>T</sub> *** V	Article code	U2 = Plain can B2 = Stud can
<b>400 VDC (U<sub>R</sub>), (U<sub>SURGE</sub> = 460V)</b>											
220	35 x 51	A	2.1	12.3	7.7	400	230	12	720	PEH200VA322TM--	
330	35 x 75	C	2.7	14.3	9.9	270	150	12	710	PEH200VC333TM--	
470	50 x 49	G	3.6	18.7	11.2	200	120	16	700	PEH200VG347TM--	
560	35 x 95	D	3.6	18.0	12.9	160	91	12	700	PEH200VD356TM--	
820	50 x 75	H	5.2	25.2	16.7	110	65	16	680	PEH200VH382TM--	
1500	50 x 105	K	7.2	31.0	22.0	63	37	16	660	PEH200VK415TM--	
2200	65 x 105	O	9.7	36.8	25.8	46	29	16	640	PEH200VO422TM--	
2200	75 x 78	L	10.0	41.1	27.2	45	28	17	640	PEH200VL422TM--	
2700	90 x 78	M	12.6	52.0	35.0	36	22	16	640	PEH200VM427TM--	
3300	75 x 105	T	12.7	48.4	33.6	31	19	17	630	PEH200VT433TM--	
4700	75 x 145	V	15.3	55.7	41.6	21	13	17	630	PEH200VV447TM--	
4700	90 x 98	N	16.7	60.9	42.5	22	14	16	630	PEH200VN447TM--	
8200	75 x 220	X	18.7	59.1	46.5	13	9	17	630	PEH200VX482TM--	
8200	90 x 145	Y	22.5	73.6	54.9	13	9	16	630	PEH200VY482TM--	
12000	90 x 220	Z	26.3	78.3	62.4	10	6	16	630	PEH200VZ512TM--	
<b>420 VDC (U<sub>R</sub>), (U<sub>SURGE</sub> = 480V)</b>											
150	35 x 51	A	1.8	10.6	6.7	490	260	12	740	PEH200OA315TM--	
270	35 x 75	C	2.6	13.6	9.4	280	140	12	730	PEH200OC327TM--	
330	50 x 49	G	3.2	18.5	11.1	230	120	16	720	PEH200OG333TM--	
390	35 x 95	D	3.1	15.4	11.2	190	100	12	720	PEH200OD339TM--	
680	50 x 75	H	5.0	26.0	17.2	110	60	16	700	PEH200OH368TM--	
1000	50 x 105	K	6.3	30.2	21.1	77	41	16	680	PEH200OK410TM--	
1500	75 x 78	L	9.0	41.1	27.2	53	29	17	660	PEH200OL415TM--	
1800	65 x 105	O	9.4	38.2	26.9	46	26	16	660	PEH200OO418TM--	
2200	90 x 78	M	12.0	51.5	34.6	37	21	16	650	PEH200OM422TM--	
2700	75 x 105	T	12.3	50.3	35.1	31	17	17	650	PEH200OT427TM--	
3300	90 x 98	N	15.3	61.1	42.7	25	14	16	650	PEH200ON433TM--	
3900	75 x 145	V	14.9	56.7	42.1	21	12	17	650	PEH200OV439TM--	
5600	75 x 220	X	17.0	59.1	46.2	15	9	17	650	PEH200OX456TM--	
5600	90 x 145	Y	18.8	60.9	45.6	19	12	16	650	PEH200OY456TM--	
8200	90 x 220	Z	23.9	77.9	62.2	11	7	16	650	PEH200OZ482TM--	
<b>450 VDC (U<sub>R</sub>), (U<sub>SURGE</sub> = 515V)</b>											
150	35 x 51	A	1.8	10.2	6.5	500	280	12	770	PEH200YA315TM--	
270	35 x 75	C	2.6	13.1	9.1	280	160	12	760	PEH200YC327TM--	
330	50 x 49	G	3.3	18.1	10.8	230	130	16	750	PEH200YG333TM--	
390	35 x 95	D	3.2	15.1	11.1	190	100	12	750	PEH200YD339TM--	
680	50 x 75	H	5.1	25.3	16.8	110	64	16	730	PEH200YH368TM--	
1000	50 x 105	K	6.4	29.3	20.7	78	45	16	710	PEH200YK410TM--	
1500	75 x 78	L	9.2	40.8	27.3	54	31	17	700	PEH200YL415TM--	

\* Maximum specified values. \*\* 2 m/s forced air, studmounted on 3 °C/W aluminium chassis.

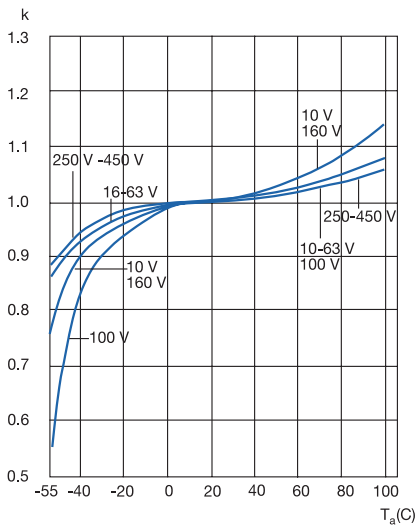
ARTICLE TABLE PEH 200 (85°C)

$C_R$	D x L	Case code	$I_{RAC}^*$ 85°C 100 Hz	$I_{RAC}^*$ 50°C ** 10 kHz	$I_{RAC}^*$ 40°C 10 kHz	ESR* 20°C 100 Hz	ESR* 20°C 100kHz	$L_{ESL}$ Approx.	$U_T^{***}$	Article code
$\mu F$	mm		A	A	A	$m\Omega$	$m\Omega$	nH	V	U2 = Plain can B2 = Stud can
450 VDC (UR), (U <sub>SURGE</sub> = 515V)										
1800	65 x 105	O	9.6	36.8	25.8	47	29	16	690	PEH200YO418TM--
2200	90 x 78	M	12.4	52.0	34.9	37	22	16	690	PEH200YM422TM--
2700	75 x 105	T	12.6	50.0	35.2	31	19	17	680	PEH200YT427TM--
3300	90 x 98	N	15.6	61.2	42.9	25	15	16	680	PEH200YN433TM--
3900	75 x 145	V	15.1	55.8	41.7	22	13	17	680	PEH200YV439TM--
5600	90 x 145	Y	20.7	72.7	55.0	15	10	16	680	PEH200YY456TM--
6800	75 x 220	X	18.6	59.9	46.7	14	9	17	680	PEH200YX468TM--
10000	90 x 220	Z	25.9	78.0	62.5	9	6	16	680	PEH200YZ510TM--

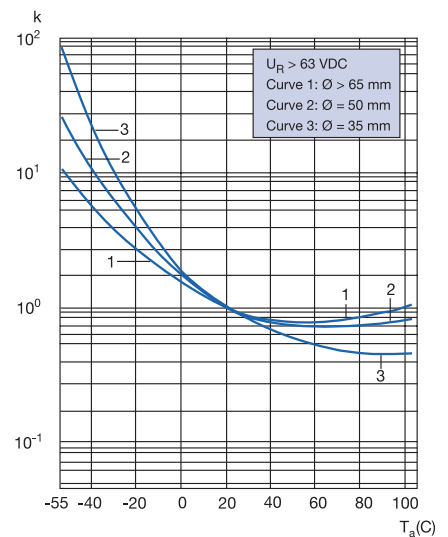
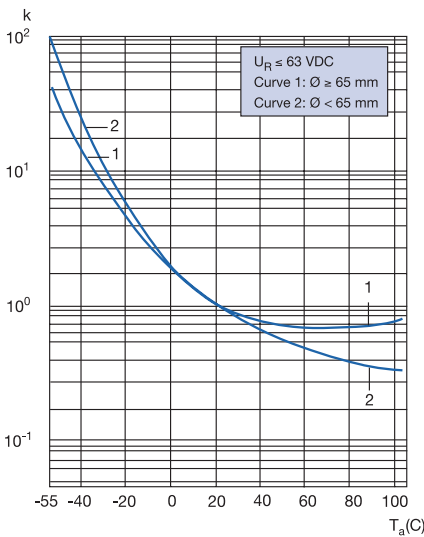
\* Maximum specified values. \*\* 2 m/s forced air, studmounted on 3 °C/W aluminium chassis.

TECHNICAL DATA PEH 200 (85°C)

The capacitance vs ambient temperature ( $T_a$ ) at f = 100 Hz



ESR as a function of ambient temperature ( $T_a$ ) at f = 100 kHz.  $k = R_{ESR}(T_a)/R_{ESR}(20°C)$



## LEAKAGE CURRENT

Rated leakage current,  $I_{RL}$  ( $\mu\text{A}$ )Rated voltage,  $U_R$  (V)Rated capacitance,  $C_R$  ( $\mu\text{F}$ )  $I_{RL} = 0.003 \times C_R \times U_R + 4$  ( $U_R \leq 500\text{V}$ )  
 $I_{RL} = 0.006 \times C_R \times U_R + 4$ 

## THERMAL RESISTANCE

 $R_{th}$  – short form table versus chassis area and air speed

D x L	Case code	STUDMOUNTED				CLIPMOUNTED	
		$R_{thrs} = 3^\circ\text{C/W}$ (0.5 m/s)	$R_{thrs} = 2^\circ\text{C/W}$ (0.5 m/s)	$R_{thrs} = 3^\circ\text{C/W}$ (2.0 m/s)	$R_{thrs} = 2^\circ\text{C/W}$ (2.0 m/s)	(0.5 m/s)	(2.0 m/s)
35 x 47	E	5.6	5.3	4.5	4.4	11.9	8.3
35 x 51	A	5.6	5.3	4.5	4.4	10.6	7.4
35 x 60	B	5.4	5.1	4.4	4.3	9.8	7.0
35 x 75	C	5.3	5.1	4.4	4.3	9.2	6.7
35 x 95	D	5.3	5.1	4.4	4.3	8.9	6.7
50 x 49	G	3.3	2.9	2.8	2.5	6.7	4.5
50 x 75	H	3.6	3.3	2.8	2.7	6.3	4.4
50 x 95	J	3.4	3.2	2.7	2.6	5.8	4.2
50 x 105	K	3.4	3.2	2.7	2.6	5.8	4.2
50 x 115	I	3.4	3.2	2.7	2.6	5.8	4.2
65 x 105	O	2.6	2.4	2.1	2.0	4.2	3.1
65 x 115	Q	2.6	2.4	2.1	2.0	4.2	3.1
65 x 130	S	2.6	2.4	2.1	2.0	4.2	3.1
65 x 140	R	2.6	2.4	2.1	2.0	4.2	3.1
75 x 78	L	2.3	2.0	1.8	1.7	4.1	2.7
75 x 98	P	2.3	2.0	1.8	1.7	4.0	2.7
75 x 105	T	2.3	2.1	1.7	1.6	3.7	2.6
75 x 115	U	2.2	2.0	1.6	1.5	3.5	2.5
75 x 145	V	2.2	2.0	1.6	1.5	3.4	2.5
75 x 220	X	2.3	2.1	2.0	1.9	3.4	2.6
90 x 78	M	1.9	1.7	1.6	1.4	3.4	2.2
90 x 98	N	1.9	1.7	1.5	1.4	3.1	2.1
90 x 145	Y	1.8	1.6	1.5	1.4	2.7	1.9
90 x 220	Z	1.9	1.7	1.6	1.5	2.7	2.0

## OPERATIONAL DATA

Please see operational lifetime section.

## RELIABILITY

The failure rate is derived from our periodic test results. The failure rate ( $\lambda_p$ ) is therefore only given at test temperature for life tests. An estimation is also given at 60°C. The expected failure rate for this capacitor range is based on our periodic test results for capacitors with structural similarity.

$T_a$	Failure rate per hour
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85°C	$1 \times 10^{-6}$
60°C	$1 \times 10^{-7}$

Failure rate per hour for catastrophic plus parametric failures.



## MECHANICAL DATA

**Mounting position**

The capacitor can be mounted upright or inclined to a horizontal position.

**Clamp fixing**

Clips must be ordered separately. See "Accessories".

**Stud fixing**

Nylon cap nut must be ordered separately. For the stud fixing insulated version the outer insulation serves as lock washer.

See "Accessories". Max tightening torque: M8: 3 Nm M12: 8 Nm. Max chassis thickness 5 mm. Mounting hole: See "Accessories".

**Screw terminals**

M5 x 10 according to DIN 41.248. Max tightening torque: 2.5 Nm. Must be ordered separately: See "Accessories". Recommended max connector thickness with delivered screw: 4 mm. M6 thread on request.

**Insulation can**

PEH200 is supplied with a polypropylene insulation can, thickness 0.8 mm. Voltage proof of the insulation sleeve:  $\geq 4000$  VDC.

PVC shrink sleeve only on request.

## ORDERING INFORMATION

For further ordering information please see page 8.

Pos 1–20

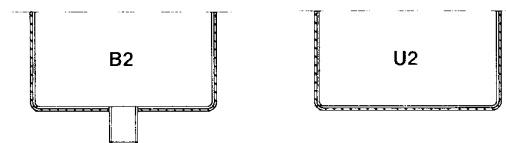
P	E	H	2	0	0	K	U	6	1	5	0	M	B	2						
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	

**Capacitance tolerances:**

Pos. 13:M: -20 to +20%

Pos. 14-15: B2 = with bottom stud

U2 = without bottom stud

**Quantities and weights**

CASE CODE	A	B	C	D	E	G	H	I	J	K	L	M	N	O	P	R	Q	S	T	U	V	X	Y	Z
Weight approx (g)	70	85	105	130	60	150	180	300	240	265	430	750	950	415	530	650	460	520	585	640	800	1400	1400	1500
Standard box quantity	42	42	42	42	42	20	20	20	20	20	9	6	6	12	9	12	12	12	9	9	9	9	6	6