

PEH 169 85°C

RoHS
Compliant

- High CV-value
- Long Life > 10 years at 50°C
- Low ESR and ESL
- High stability, 10 years shelf life
- Optimized designs available on request

APPLICATION

Smoothing, energy storage, or pulse operation in telecommunication demanding power supplies, process control, AC-motor control, traction, welding and measuring.

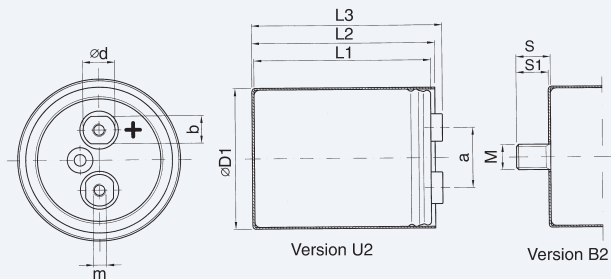
BASIC DESIGN

PEH 169 is a Long Life electrolytic capacitor with outstanding reliability and electrical performance. Polarized, all-welded design, heavy duty screw terminals, extended cathode construction, safety vent and plastic insulation. The PEH 169 winding is housed in a cylindrical aluminium can with a rein-forced moulded lid incorporating a safety vent. The sealing system is designed for electrolyte

leakage free operation and a very low gas-diffusion rate of electrolyte. Mechanical contact between the winding and the case allows excellent heat transfer from the winding to the ambient, which means cooler operation. Low ESR is a result of a low resistive paper/electrolyte system, at least two tabs per foil and all-welded design.

SPECIFICATION

Standards	IEC 60384-4 Long Life Grade 40/85/56, DIN 41240, type 1A CECC 30300 DIN 40040 GPF, DIN 41248
CECC	CECC 30301-058, Corresponding to CECC 30301-803
British Telecom	BT No. 4513A
Capacitance range	68–470000 µF
Capacitance tolerance	–20 to +20%
Rated voltage	10–450 VDC
Temperature range	–40 to +85°C
Operational life time	78000 h at +85°C (case Ø = 90 mm)
Shelf life	5000 h at 0V +85°C, or 10 years at 0V +40°C
Diameter range	35–90 mm



Dimensions table PEH 169 (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 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 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
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

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

ARTICLE TABLE PEH 169 (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
μF	mm		100 Hz A	10 kHz A	10 kHz A	100 Hz m Ω	100 kHz m Ω	nH	U2 = Plain can B2 = Stud can
10 VDC (U_R)									
10000	35 x 51	A	8.6	26.0	16.8	34	28	12	PEH169EA510VM--
15000	35 x 51	A	10.0	28.3	18.9	24	20	12	PEH169EA515VM--
22000	35 x 60	B	11.9	32.3	22.1	18	15	12	PEH169EB522VM--
33000	35 x 75	C	14.6	37.6	27.2	12	10	12	PEH169EC533VM--
47000	35 x 95	D	16.1	38.9	29.0	10	9	12	PEH169ED547VM--
68000	50 x 75	H	17.4	42.3	29.8	9	8	16	PEH169EH568VM--
100000	50 x 95	J	20.1	47.1	34.3	7	6	16	PEH169EJ610VM--
150000	50 x 105	K	20.7	47.4	34.7	7	7	16	PEH169EK615VM--
220000	65 x 105	O	21.9	48.2	36.0	8	8	16	PEH169EO622VM--
330000	75 x 115	U	31.4	68.1	51.9	5	4	17	PEH169EU633VM--
470000	75 x 145	V	33.6	71.0	55.5	4	4	17	PEH169EV647VM--
16 VDC (U_R)									
10000	35 x 51	A	9.1	27.4	18.3	28	22	12	PEH169GA510VM--
15000	35 x 51	A	10.5	30.8	20.5	19	15	12	PEH169GA515VM--
22000	35 x 75	C	13.2	36.2	25.7	14	11	12	PEH169GC522VM--
33000	35 x 95	D	15.4	39.7	29.4	10	8	12	PEH169GD533VM--
47000	50 x 75	H	17.8	42.6	30.6	10	8	16	PEH169GH547VM--
68000	50 x 95	J	20.2	47.0	34.6	7	7	16	PEH169GJ568VM--
100000	65 x 105	O	23.3	52.2	39.6	8	7	16	PEH169GO610VM--
150000	75 x 105	T	31.2	68.5	53.0	5	5	17	PEH169GT615VM--
220000	75 x 115	U	31.6	69.2	52.9	5	4	17	PEH169GU622VM--
330000	75 x 145	V	33.5	69.5	55.8	4	4	17	PEH169GV633VM--
25 VDC (U_R)									
6800	35 x 51	A	8.3	27.4	18.3	30	22	12	PEH169HA468VM--
10000	35 x 51	A	9.6	30.7	20.1	24	18	12	PEH169HA510VM--
15000	35 x 75	C	12.3	36.2	25.7	15	11	12	PEH169HC515VM--
22000	35 x 95	D	14.3	39.5	29.3	11	8	12	PEH169HD522VM--
33000	50 x 75	H	16.3	42.4	29.8	10	8	16	PEH169HH533VM--
47000	50 x 95	J	19.0	47.0	34.4	8	7	16	PEH169HJ547VM--
68000	65 x 105	O	21.6	49.6	37.3	8	7	16	PEH169HO568VM--
100000	75 x 105	T	30.1	61.2	52.2	5	5	17	PEH169HT610VM--
150000	75 x 115	U	31.1	69.8	53.1	5	4	17	PEH169HU615VM--
220000	75 x 145	V	33.1	71.0	55.9	4	4	17	PEH169HV622VM--
40 VDC (U_R)									
4700	35 x 51	A	7.7	28.3	18.9	32	20	12	PEH169KA447VM--
6800	35 x 60	B	9.0	30.4	21.1	23	15	12	PEH169KB468VM--
10000	35 x 75	C	10.9	33.7	24.5	18	13	12	PEH169KC510VM--
15000	35 x 95	D	13.0	37.5	28.6	11	8	12	PEH169KD515VM--
22000	50 x 75	H	16.3	45.3	32.0	11	8	16	PEH169KH522VM--
33000	50 x 95	J	17.8	46.3	32.9	9	8	16	PEH169KJ533VM--
47000	65 x 105	O	21.7	50.7	38.7	8	7	16	PEH169KO547VM--
68000	75 x 105	T	28.8	63.6	51.3	5	5	17	PEH169KT568VM--
100000	75 x 115	U	29.7	68.1	51.6	5	4	17	PEH169KU610VM--
150000	75 x 145	V	32.0	69.5	55.1	4	4	17	PEH169KV615VM--
63 VDC (U_R)									
2200	35 x 51	A	5.9	25.1	17.1	46	24	12	PEH169MA422VM--
3300	35 x 51	A	7.1	31.1	19.4	30	15	12	PEH169MA433VM--
4700	35 x 75	C	8.8	33.2	23.9	23	12	12	PEH169MC447VM--
6800	35 x 95	D	10.1	34.9	27.0	17	9	12	PEH169MD468VM--
10000	50 x 75	H	13.3	40.2	29.3	14	9	16	PEH169MH510VM--

* Maximum values.

** Capacitance tolerance: -10 to +30%.

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

ARTICLE TABLE PEH 169 (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
μF	mm		100 Hz A	10 kHz A	10 kHz A	100 Hz m Ω	100 kHz m Ω	nH	U2 = Plain can B2 = Stud can
63 VDC (U_R)									
15000	50 x 95	J	15.7	44.0	33.5	11	7	16	PEH169MJ515VM--
22000	50 x 105	K	17.9	48.2	35.8	9	7	16	PEH169MK522VM--
33000	75 x 105	T	27.5	71.3	54.4	6	5	17	PEH169MT533VM--
47000	75 x 115	U	29.6	73.0	55.9	5	4	17	PEH169MU547VM--
68000	75 x 145	V	30.0	68.8	54.2	5	4	17	PEH169MV568VM--
68000**	75 x 145	V	29.4	65.0	52.6	6	5	17	PEH169MV568AQ--
82000**	75 x 145	V	28.2	66.7	49.7	5	4	17	PEH169MV582BQ--
100 VDC (U_R)									
1000	35 x 51	A	4.1	16.4	11.1	120	75	12	PEH169PA410VM--
1500	35 x 51	A	5.0	19.5	13.1	80	51	12	PEH169PA415VM--
2200	35 x 75	C	6.1	21.5	15.5	61	41	12	PEH169PC422VM--
3300	35 x 95	D	7.4	24.3	18.3	42	29	12	PEH169PD433VM--
4700	50 x 75	H	10.5	34.4	24.3	31	22	16	PEH169PH447VM--
6800	50 x 95	J	12.6	39.2	28.7	22	15	16	PEH169PJ468VM--
10000	50 x 105	K	13.9	38.6	29.1	17	13	16	PEH169PK510VM--
15000	65 x 105	O	18.4	48.5	36.3	13	10	16	PEH169PO515VM--
22000	75 x 115	U	25.4	67.3	51.3	8	6	17	PEH169PU522VM--
33000	75 x 145	V	28.5	71.0	55.2	6	5	17	PEH169PV533VM--
33000**	75 x 145	V	27.3	67.3	51.5	7	6	17	PEH169PV533AQ--
160 VDC (U_R)									
470	35 x 51	A	2.5	13.6	9.0	240	110	12	PEH169QA347VM--
680	35 x 51	A	3.0	14.3	9.7	190	98	12	PEH169QA368VM--
1000	35 x 75	C	3.9	17.2	12.2	130	66	12	PEH169QC410VM--
1500	35 x 95	D	4.7	19.4	14.7	87	45	12	PEH169QD415VM--
2200	50 x 75	H	6.7	26.5	18.1	59	31	16	PEH169QH422VM--
3300	50 x 95	J	8.2	30.6	22.9	44	24	16	PEH169QJ433VM--
4700	65 x 105	O	10.9	35.8	26.8	31	17	16	PEH169QO447VM--
6800	75 x 105	T	14.6	50.2	37.2	21	12	17	PEH169QT468VM--
10000	75 x 115	U	17.0	53.6	41.7	16	10	17	PEH169QU510VM--
15000	75 x 145	V	19.6	58.2	43.4	12	7	17	PEH169QV515VM--
200 VDC (U_R)									
470	35 x 51	A	2.6	13.4	9.2	240	110	12	PEH169RA347VM--
680	35 x 60	B	3.3	15.2	11.1	170	79	12	PEH169RB368VM--
1000	35 x 95	D	4.0	18.9	13.9	110	53	12	PEH169RD410VM--
1500	50 x 75	H	5.8	24.0	18.1	79	40	16	PEH169RH415VM--
2200	50 x 95	J	7.0	28.3	21.5	55	28	16	PEH169RJ422VM--
3300	50 x 105	K	8.5	32.1	24.3	39	21	16	PEH169RK433VM--
4700	65 x 105	O	11.0	35.5	27.1	35	22	16	PEH169RO447VM--
6800	75 x 105	T	14.6	48.1	36.2	23	15	17	PEH169RT468VM--
10000	75 x 145	V	17.3	52.0	41.3	17	11	17	PEH169RV510VM--
250 VDC (U_R)									
220	35 x 51	A	1.8	8.4	6.0	500	260	12	PEH169SA322VM--
330	35 x 51	A	2.2	10.6	7.3	340	170	12	PEH169SA333VM--
470	35 x 60	B	2.7	11.9	8.7	240	130	12	PEH169SB347VM--
680	35 x 75	C	3.3	14.8	10.7	170	88	12	PEH169SC368VM--
1000	50 x 75	H	4.9	20.5	14.9	110	61	16	PEH169SH410VM--
1500	50 x 75	H	6.0	24.2	16.7	81	45	16	PEH169SH415VM--
2200	50 x 105	K	7.3	27.3	21.0	55	31	16	PEH169SK422VM--
3300	65 x 105	O	10.0	34.5	26.8	40	23	16	PEH169SO433VM--
4700	75 x 105	T	13.3	45.6	34.8	27	16	17	PEH169ST447VM--

* Maximum values.

** Capacitance tolerance: -10 to +30%.

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

ARTICLE TABLE PEH 169 (85°C)

C _R	D x L	Case code	I _{RAC} *	I _{RAC} *	I _{RAC} *	ESR*	ESR*	L _{ESL} 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
250 VDC (U_R)									
6800	75 x 145	V	15.8	50.6	40.3	19	11	17	PEH169SV468VM--
6800**	75 x 145	V	16.1	53.2	41.9	17	9	17	PEH169SV468AQ--
8800	75 x 145	V	17.3	60.6	45.9	15	9	17	PEH169SV488AM--
10000	75 x 220	X	17.3	50.7	43.2	14	9	17	PEH169SX510VM--
10000	90 x 145	Y	20.5	58.2	47.6	15	10	16	PEH169SY510VM--
350 VDC (U_R)									
150	35 x 51	A	1.6	7.6	5.0	630	340	12	PEH169UA315VM--
220	35 x 51	A	2.0	9.3	6.3	440	240	12	PEH169UA322VM--
330	35 x 75	C	2.5	10.8	7.8	290	160	12	PEH169UC333VM--
470	35 x 95	D	3.0	12.6	9.2	200	110	12	PEH169UD347VM--
680	50 x 75	H	4.4	18.2	13.4	140	80	16	PEH169UH368VM--
1000	50 x 95	J	5.3	20.8	16.1	99	55	16	PEH169UJ410VM--
1500	50 x 105	K	6.7	25.5	19.2	68	39	16	PEH169UK415VM--
2200	65 x 105	O	9.2	32.2	24.7	49	29	16	PEH169UO422VM--
3300	75 x 105	T	12.4	42.8	32.8	33	20	17	PEH169UT433VM--
4700	75 x 145	V	14.5	48.0	38.0	23	14	17	PEH169UV447VM--
4700**	75 x 145	V	15.1	51.8	40.7	20	11	17	PEH169UV447CQ--
6800	75 x 220	X	15.9	47.1	39.2	18	11	17	PEH169UX468VM--
6800	90 x 145	Y	18.9	53.7	43.7	19	13	16	PEH169UY468VM--
400 VDC (U_R)									
68**	35 x 51	A	1.3	5.8	4.1	1100	500	12	PEH169VA2680Q--
100**	35 x 51	A	1.5	7.2	4.9	740	360	12	PEH169VA3100Q--
100	35 x 51	A	1.5	7.8	5.3	700	320	12	PEH169VA310VM--
150**	35 x 60	B	1.8	8.7	6.3	500	240	12	PEH169VB3150Q--
150	35 x 51	A	1.8	9.4	6.3	470	220	12	PEH169VA315VM--
220**	35 x 75	C	2.2	10.1	7.5	350	170	12	PEH169VC3220Q--
220	35 x 60	B	2.2	9.8	6.8	370	200	12	PEH169VB322VM--
330**	50 x 75	H	3.3	15.1	11.3	230	110	16	PEH169VH3330Q--
330	35 x 75	C	2.8	12.2	8.9	250	130	12	PEH169VC333VM--
470**	50 x 75	H	4.0	18.9	13.5	160	78	16	PEH169VH3470Q--
470	50 x 75	H	4.1	18.7	14.0	150	73	16	PEH169VH347VM--
680**	50 x 105	K	4.9	20.3	15.4	120	59	16	PEH169VK3680Q--
680	50 x 75	H	4.7	19.5	14.5	120	68	16	PEH169VH368VM--
1000	50 x 105	K	5.8	23.0	17.6	85	47	16	PEH169VK410VM--
1000**	65 x 105	O	6.8	26.9	21.2	79	41	16	PEH169VO4100Q--
1500**	75 x 105	T	9.2	36.7	28.6	53	27	17	PEH169VT4150Q--
1500	65 x 105	O	8.2	30.8	23.8	58	32	16	PEH169VO415VM--
2200	75 x 98	P	11.2	48.4	36.2	35	17	17	PEH169VP422AM--
2200**	75 x 145	V	11.0	41.8	34.0	36	18	17	PEH169VV4220Q--
2200	75 x 105	T	10.9	40.1	31.0	40	23	17	PEH169VT422VM--
3300**	75 x 145	V	13.9	50.4	40.7	22	11	17	PEH169VV433GQ--
3300	75 x 145	V	13.3	46.0	37.3	27	15	17	PEH169VV433VM--
4400	90 x 98	N	15.5	52.1	33.7	30	22	16	PEH169VN4440M--
4700	75 x 220	X	13.8	38.5	33.8	24	16	17	PEH169VX447VM--
4700	90 x 145	Y	16.8	48.1	39.3	25	17	16	PEH169VY447VM--
420 VDC (U_R)									
68	35 x 51	A	1.0	4.5	3.2	1000	500	12	PEH169OA2680M--
100	35 x 60	B	1.2	5.5	4.0	700	340	12	PEH169OB3100M--
150	35 x 75	C	1.5	6.6	5.0	470	230	12	PEH169OC3150M--
220	35 x 95	D	1.8	7.5	5.9	320	160	12	PEH169OD3220M--
330	50 x 75	H	2.8	12.7	9.3	210	110	16	PEH169OH3330M--
470	50 x 95	J	3.4	14.4	11.0	150	75	16	PEH169OJ3470M--

* Maximum values.

** Capacitance tolerance: -10 to +30%.

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

ARTICLE TABLE PEH 169 (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
μF	mm		100 Hz A	10 kHz A	10 kHz A	100 Hz m Ω	100 kHz m Ω	nH	U2 = Plain can B2 = Stud can
420 VDC (U_R)									
680	50 x 105	K	4.1	17.5	13.3	110	53	16	PEH169OK3680M--
1000	65 x 105	O	5.8	23.3	17.9	73	38	16	PEH169OO4100M--
1500	75 x 105	T	7.9	31.6	24.1	49	25	17	PEH169OT4150M--
2200	75 x 145	V	9.3	35.2	28.1	34	18	17	PEH169OV4220M--
3300	75 x 220	X	10.0	32.9	28.3	23	12	17	PEH169OX4330M--
3300	90 x 145	Y	12.9	44.1	36.0	24	13	16	PEH169OY4330M--
450 VDC (U_R)									
68	35 x 51	A	1.0	3.7	2.9	1140	690	12	PEH169YA2680M--
100	35 x 60	B	1.3	4.4	3.6	800	490	12	PEH169YB3100M--
150	35 x 75	C	1.5	5.5	3.9	630	420	12	PEH169YC3150M--
220	35 x 95	D	1.8	5.1	4.6	440	300	12	PEH169YD3220M--
330	50 x 75	H	3.0	9.9	8.5	230	140	16	PEH169YH3330M--
470	50 x 95	J	3.8	11.8	10.1	170	100	16	PEH169YJ3470M--
680	50 x 105	K	4.2	12.2	10.5	140	96	16	PEH169YK3680M--
1000	65 x 105	O	6.4	18.5	16.0	82	52	16	PEH169YO4100M--
1500	75 x 105	T	7.8	21.7	18.7	67	47	17	PEH169YT4150M--
2200	75 x 145	V	9.4	25.4	22.7	45	31	17	PEH169YV4220M--
3300	75 x 220	X	10.2	25.0	23.8	34	24	17	PEH169YX4330M--
3300	90 x 145	Y	12.6	30.9	28.3	35	25	16	PEH169YY4330M--

* Maximum values.

** Capacitance tolerance: -10 to +30%.

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

TECHNICAL DATA

Please see page 90 for technical data.