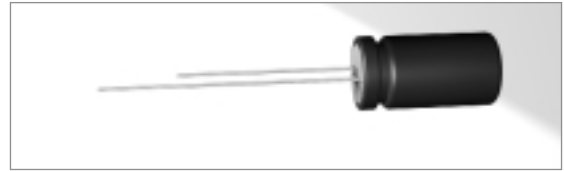


LHK Series 105 °C

Features

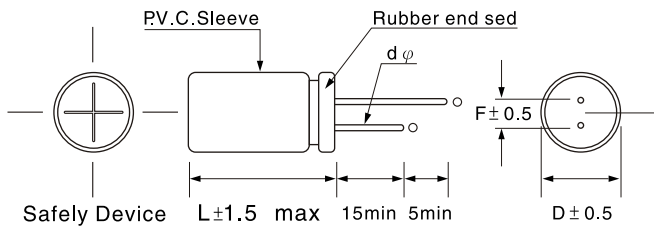
- Used in communication equipments, switching power supply, etc.
- Safety vent construction design
- For detail specifications, please refer to Engineering Bulletin No. E102



Specifications

Item	Performance Characteristics	
Operating Temperature Range	-40 to +105 °C	-25 to +105 °C
Rated voltage Range	6.3 to 100 VDC	160 to 450 VDC
Capacitance Range	0.1 to 15000 uF	0.47 to 220 uF
Capacitance Tolerance	±20 % (120 Hz, +20 °C)	
Leakage Current(+20 °C, max.)	1 ≤ 0.01 CV or 3 (uA) After 1 minute whichever is greater measured with rated working voltage applied.	1 ≤ 0.03 CV or 3(uA) After 1 minute with rated working voltage applied
Dissipation Factor (tan d)	Working Voltage (VDC)	6,3 10 16 25 35 50 63 100
	D.F. (%) max	18 16 13 11 10 8 7 7
	Working Voltage (VDC)	160 200 250 350 400 450
	D.F. (%) max	12 12 12 15 15 17
For Capacitance > 1000 uF, add 2 % per another 1000 uF (+20 °C, at 120 Hz)		
Low Temperature Characteristics (120 Hz)	Impedance ratio max.	
	Working Voltage (VDC)	6,3 10 16 25 35 50 63 100
	Z-25 °C/Z +20 °C	4 3 2 2 2 2 2 2
	Z-40 °C/Z +20 °C	8 6 4 3 3 3 3 3
	Working Voltage (VDC)	160 200 250 350 400 450
	Z-25 °C/Z +20 °C	2 2 3 5 6 15
For Capacitance Value 1000 uF, add 0.5 per another 1000 uF for -25 °C/+20 °C add 1 per another 1000 uF for -40 °C/+20 °C		
Load Life	Test conditions Duration time: 2000 Hrs Ambient temperature: +105 °C Applied voltage: Rated DC working voltage After test requirements: ≤ ±20 % of the initial measured value Dissipation Factor: ≤ 200 % of the initial measured value Leakage current: ≤ The initial specified value	
Shelf Life	Test conditions Duration time: 500 Hrs Ambient temperature: + 105°C Applied voltage: None After test requirements at +20 °C: Some limits as Load life. Pre-treatment for measurements shall be conducted after application of DC working voltage for 30 minutes.	

Diagram of Dimensions: (Unit: mm)



Dφ	5	6.3	8	10	13	16	18	22	25
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10	12
dφ	0.5			0.6		0.8			10

Case Size A

φD x L (mm)

WV(SV) uF	6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)	63 (79)	100 (125)	160 (200)	200 (250)	250 (300)	350 (400)	400 (450)	450 (500)
0.1					→	5x11	5x11	5x11	-	-	-	-	-	-
0.22					→	5x11	5x11	5x11	-	-	-	-	-	-
0.33					→	5x11	5x11	5x11	-	-	-	-	-	-
0.47					→	5x11	5x11	5x11	5x11	5x11	5x11	6.3x11	6.3x11	6.3x11
1					→	5x11	5x11	5x11	5x11	6.3x11	6.3x11	6.3x11	8x11.5	8x11.5
2.2					→	5x11	5x11	5x11	6.3x11	6.3x11	8x11.5	10x12.5	10x12.5	10x12.5
3.3					→	5x11	5x11	5x11	6.3x11	6.3x11	8x11.5	10x12.5	10x12.5 10x16	10x16 10x20
4.7			→	5x11	5x11	5x11	5x11	5x11	6.3x11 8x11.5	8x11.5	10x12.5	10x12.5 10x16	10x16	10x20
10		→	5x11	5x11	5x11	5x11	5x11	6.3x11	8x11.5 10x12.5	10x12.5 10x16	10x16	10x20	13x20	13x20 13x25
22	→	5x11	5x11	5x11	5x11	5x11	5x11 6.3x11	6.3x11 8x11.5	10x16	10x20	10x20	13x25	16x25	16x25 16x31.5
33	5x11	5x11	5x11	5x11	5x11	5x11 6.3x11	6.3x11 8x11.5	8x11.5 10x12.5	10x20	13x20	13x20 13x25	16x25	16x25	16x25 16x35.5
47	5x11	5x11	5x11	5x11	5x11 6.3x11	6.3x11	6.3x11 8x11.5	10x12.5 10x16	13x20	13x20 13x25	13x25	16x31.5	16x31.5	16x35.5
100	5x11	5x11	5x11 6.3x11	6.3x11	6.3x11 8x11.5	8x11.5	8x11.5	10x20	13x25 16x25	16x25	16x31.5	18x36	18x36	-
220	5x11 6.3x11	6.3x11	6.3x11 8x11.5	8x11.5	8x11.5 10x12.5	10x12.5 10x16	10x16 10x20	13x25 16x25	16x35.5	18x35.5	-	-	-	-
330	6.3x11	6.3x11 8x11.5	8x11.5	8x11.5 10x12.5	10x12.5 10x16	10x16 10x20	13x20	13x25	18x31.5	18x35.5	-	-	-	-
470	6.3x11 8x11.5	6x11 8x11.5	8x11.5	8x14 10x12.5	10x16 10x20	13x20	13x25 16x25	16x25 16x31.5	18x35	18x41	-	-	-	-
1000	8x11.5	8x14 10x12.5	8x16 10x15 10x17	10x15 10x17 10x20	13x20	13x25 16x25	16x35.5	18x41	-	-	-	-	-	-
2200	10x20	10x17 10x20	10x20 13x20	13x20 16x16	16x25 16x31.5	16x35.5	18x35.5	25x50	-	-	-	-	-	-
3300	10x20 13x20	10x20 13x20	13x21 13x25	16x25 16x31.5	16x35.5	18x35.5	22x41	-	-	-	-	-	-	-
4700	13x20 13x25	13x21 13x25	16x25	16x31.5	18x35.5	22x41	25x45	-	-	-	-	-	-	-
6800	16x25	16x25	16x31.5	18x35.5	22x42	25x45	-	-	-	-	-	-	-	-
10000	16x25 16x31.5	16x35.5 18x35.5	18x35 18x41	22x42	25x50	25x50	-	-	-	-	-	-	-	-
15000	16x35.5 18x35.5	18x35	22x50	22x50	-	-	-	-	-	-	-	-	-	-

Maximum Ripple Current

(ma, rms, 120 Hz at 105°C)

WV(SV) μF	6.3 (8)	10 (13)	16 (20)	25 (32)	35 (44)	50 (63)	63 (79)	100 (125)	160 (200)	200 (250)	250 (300)	350 (400)	400 (450)	450 (500)
0.1	—				→	8	8	10	-	-	-	-	-	-
0.22	—				→	8	8	10	-	-	-	-	-	-
0.33	—				→	8	8	10	-	-	-	-	-	-
0.47	—				→	11	11	12	12	12	12	15	15	15
1	—				→	17	17	22	17	17	17	22	22	22
2.2	—				→	25	28	33	33	33	36	39	39	39
3.3	—				→	35	35	40	36	36	43	53	32 33	35 45
4.7	—	→	→	31	40	42	45	48	34 48	51	51	39 63	69	75
10	→	→	60	60	60	65	70	80	58 83	11 83	90	115	115	70 85
22	→	11	11	11	11	11	35	35	40	36	36	43	32 33	35 45
33	65	75	85	95	105	120 125	130 140	170 180	170	170	140 180	190	190	210
47	80	95	130	130	130 140	150	170 190	230 250	230	160 230	240	250	250	280
100	130	180	160 185	190	210 230	250	300	390	350 400	420	450	460	520	-
220	200 240	250	260 320	320	340 370	410 440	470 490	620 710	720	750	-	-	-	-
330	300	290 330	340 360	420	470 490	520 580	680 710	760 860	880	910	-	-	-	-
470	320 380	380 400	450 470	540	580 640	760	880 900	1000 1100	1120	1150	-	-	-	-
1000	580	600 630	680 790 810	880 950 1100	1100	700 1350	1300 1550	1550	-	-	-	-	-	-
2200	1050	1000 1100	1200 1350	1550 1600	1550 1800	2090	2120 2300	3390	-	-	-	-	-	-
3300	1050 1250	1350 1400	1600 1700	1650 1950	2200	2280	2360	-	-	-	-	-	-	-
4700	1350 1700	1800	2100	2360	2380	2500	3800	-	-	-	-	-	-	-
6800	1900	2150	2500	2600	3490	4110	-	-	-	-	-	-	-	-
10000	2000 2250	2350 2500	2600 2700	3710	4170	4300	-	-	-	-	-	-	-	-
15000	2550 2680	2700	3890	4720	-	-	-	-	-	-	-	-	-	-