

# JACKCON Electrolytic Capacitors

## LHK Series 105°C 高溫度標準型製品系列

### Features

- Used in communication equipments, switching power supply, etc.
- Safety vent construction design.



### 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 $\mu$ F	0.47 to 220 $\mu$ F																																									
Capacitance Tolerance	$\pm 20\%$ (120Hz, +20°C)																																										
Leakage Current(+20°C, max.)	$1 \leq 0.01$ CV or 3( $\mu$ A) After 1 minute whichever is greater measured with rated working voltage applied.	$1 \leq 0.03$ CV or 3( $\mu$ A) After 1 minute with rated working voltage applied..																																									
Dissipation Factor(tan $\delta$ )	<table border="1"> <tr> <td>Working Voltage (VDC)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>D.F.(%)max</td> <td>18</td> <td>16</td> <td>13</td> <td>11</td> <td>10</td> <td>8</td> <td>7</td> <td>7</td> </tr> </table> <table border="1"> <tr> <td>Working Voltage (VDC)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> </tr> <tr> <td>D.F.(%)max</td> <td>12</td> <td>12</td> <td>12</td> <td>15</td> <td>15</td> <td>17</td> </tr> </table> <p>For Capacitance &gt; 1000<math>\mu</math>F , add 2% per another 1000<math>\mu</math>F (+20°C, at 120Hz)</p>		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									
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Low Temperature Characteristics (120Hz)	<p>Impedance ratio max.</p> <table border="1"> <tr> <td>Working Voltage (VDC)</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <td>Z-25°C/Z+20°C</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z-40°C/Z+20°C</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table> <table border="1"> <tr> <td>Working Voltage (VDC)</td> <td>160</td> <td>200</td> <td>250</td> <td>350</td> <td>400</td> <td>450</td> </tr> <tr> <td>Z-25°C/Z+20°C</td> <td>2</td> <td>2</td> <td>3</td> <td>5</td> <td>6</td> <td>15</td> </tr> </table> <p>For Capacitance Value 1000<math>\mu</math>F , add 0.5 per another 1000<math>\mu</math>F for -25°C/+20°C add 1 per another 1000<math>\mu</math>F for -40°C/+20°C</p>		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
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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																																					
Load Life	<p>Test conditions Duration time :2000Hrs Ambient temperature: +105°C Applied voltage: Rated DC working voltage After test requirements: <math>\leq \pm 20\%</math> of the initial measured value Dissipation Factor: <math>\leq 200\%</math> of the initial specified value Leakage current: <math>\leq</math>The initial specified value</p>																																										
Shelf Life	<p>Test conditions Duration time :500Hrs 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.</p>																																										

勝特力材料 886-3-5753170  
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[Http://www.100y.com.tw](http://www.100y.com.tw)

### Multiplier for Ripple Current vs. Frequency

CAP ( $\mu$ f)\Hz		50(60)	120	400	1 K	10 K	50K-100K
Multiplier	CAP $\leq 10$	0.8	1	1.30	1.45	1.65	1.70
	10 < CAP $\leq 100$	0.8	1	1.23	1.36	1.48	1.53
	100 < CAP $\leq 1000$	0.8	1	1.16	1.25	1.35	1.38
	1000 < CAP	0.8	1	1.11	1.18	1.25	1.28

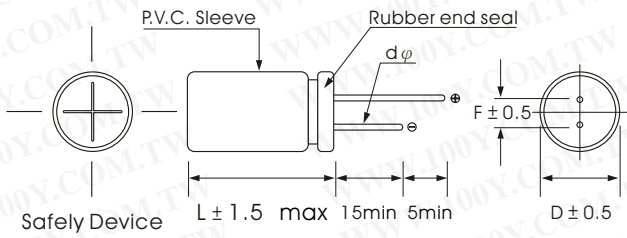
### Multiplier for Ripple Current vs. Temperature

Temperature°C	45	60	70	85	105
Multiplier	2.10	1.90	1.65	1.40	1.00

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Diagram of Dimensions: (Unit:mm)



D φ	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
d φ	0.5		0.6		0.8		1.0		

## Case Size

φ DXL(mm)

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						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	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 10x12.5	8x11.5 10x12.5	10x16 10x20	13x20	13x25 16x25	16x25 16x31.5	18x35	18x41	-	-	-	-
1000	8x11.5	8x14 10x12.5	8x16 10x15 10x17	10x15 10x17 10x20	10x25 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	-	-	-	-	-	-	-	-	-	-

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## Maximum Ripple Current

mA, rms, 120Hz 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	→	→	→	→	→	2.0	2.0	2.0	-	-	-	-	-	-
0.22	→	→	→	→	→	3.2	3.2	3.2	-	-	-	-	-	-
0.33	→	→	→	→	→	4.2	4.2	4.2	-	-	-	-	-	-
0.47	→	→	→	→	→	8	8	8	12	12	12	15	15	15
1	→	→	→	→	→	14	14	15	17	17	17	22	22	22
2.2	→	→	→	→	→	20	21	22	26	33	36	39	39	39
3.3	→	→	→	→	→	26	28	30	32	43	43	53	53	55
4.7	→	→	→	27	29	32	34	36	36 42	51	51	63 66	69	75
10	→	→	38	40	42	50	51	60	75 78	83 90	90	115	115	120 130
22	→	50	56	60	62	72	75 85	60	105	135	160	180	200	200
33	56	60	65	70	78	90 95	105 115	98 105	170	180	180	190	250	200
47	68	72	100	105	110 120	120	130 145	145 155	210	230	240	250	300	210
100	98	110	115 135	150	165 180	200	240	170 180	320 340	360	400	420	450	280
220	160 180	180	220 280	240	300 320	350 380	400 430	290	580	590	-	-	-	-
330	200	260 280	270	310 335	410 420	450 470	570	530 560	710	740	-	-	-	-
470	280 310	300 315	380 400	740 800	520 560	610	700 720	700	880	890	-	-	-	-
1000	420	530 580	570 600 630	740 800 880	850	900 1010	1220	1250	-	-	-	-	-	-
2200	780	870 900	1200 1060	1210 1270	1300 1400	1550	1590	1880	-	-	-	-	-	-
3300	970 1010	1110 1160	1220 1240	1480 1540	1680	1780	1900	-	-	-	-	-	-	-
4700	1160 1200	1340 1380	1620	1800	2000	2050	2200	-	-	-	-	-	-	-
6800	1470	1680	1880	2040	2090	2280	-	-	-	-	-	-	-	-
10000	1690 1740	1900 1980	2060 2080	2200	2300	2400	-	-	-	-	-	-	-	-
15000	2080 2190	2190	2300	2500	-	-	-	-	-	-	-	-	-	-