



# LHK Series 105°C 高溫度標準製品系列

## Feature

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

## Specifications

Item	Performance Characteristics																																														
<b>Operating Temperature Range</b>	-40 to + 105 °C	-25 to + 105 °C																																													
<b>Rated voltage Range</b>	6.3 to 100 VDC	160 to 450 VDC																																													
<b>Capacitance Range</b>	0.1 to 15000 uF	0.47 to 220 uF																																													
<b>Capacitance Tolerance</b>	±20%[120Hz +20 °C]																																														
<b>Leakage Current[+20°C.max.]</b>	1≤0.01CV or 3(uA)After 1 minute whichever is greater measured with rated working voltage applied.	1≤0.03CV or 3(uA)After 1 minute with rated working voltage applied..																																													
<b>Dissipation Factor[tan δ]</b>	<table border="1"> <thead> <tr> <th>Working Voltage(VDC)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>D.F.( % )max</td> <td>24</td> <td>20</td> <td>16</td> <td>15</td> <td>12</td> <td>10</td> <td>9</td> <td>8</td> <td>2</td> <td>2</td> <td>2</td> <td>25</td> <td>25</td> <td>25</td> </tr> </tbody> </table> <p>For Capacitance &gt; 1000uF add 2% per another 1000uF [+20°C , at 120Hz]</p>		Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	D.F.( % )max	24	20	16	15	12	10	9	8	2	2	2	25	25	25															
Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																																	
D.F.( % )max	24	20	16	15	12	10	9	8	2	2	2	25	25	25																																	
<b>Low Temperature Characteristics[120Hz]</b>	<p>Impedance ratio max</p> <table border="1"> <thead> <tr> <th>Working Voltage(VDC)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160</th> <th>200</th> <th>250</th> <th>350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>z-25°C/z+20°C</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>3</td> <td>3</td> <td>6</td> <td>6</td> <td>15</td> </tr> <tr> <td>z-40°C/z+20°C</td> <td>12</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>4</td> <td>4</td> <td>4</td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p>For Capacitance Value 1000uF, add 0.5 per another 1000Uf for-25°C/+20°C add 1 per another 1000Uf for-40°C/+20°C</p>		Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	z-25°C/z+20°C	5	4	3	2	2	2	2	2	3	3	3	6	6	15	z-40°C/z+20°C	12	10	8	6	4	3	3	3	4	4	4			
Working Voltage(VDC)	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450																																	
z-25°C/z+20°C	5	4	3	2	2	2	2	2	3	3	3	6	6	15																																	
z-40°C/z+20°C	12	10	8	6	4	3	3	3	4	4	4																																				
<b>Load Life</b>	<p>Test conditions Duration time :2000Hrs Ambient temperature: +105°C Applied voltage: Rated DC working voltage After test requirements: at ≤+20% of the initial measured value Dissipation Factor: ≤+200% of the initial measured value Leakage current: ≤The initial specified value</p>																																														
<b>Shelf Life</b>	<p>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.</p>																																														

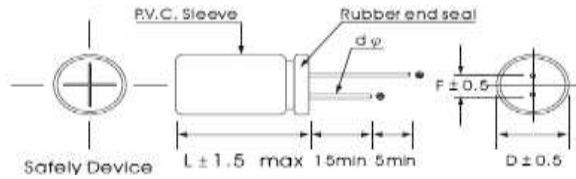
## Multiplier for Ripple Current vs. Frequency

WV(V)	CAP(Uf)	Frequency(HZ)			
		50(60)	120	1k	10K
≤ 100	<100	0.75	1.00	1.57	2.00
	100~470	0.80	1.00	1.34	1.50
	>470	0.85	1.00	1.10	1.15
≥ 160	<330	0.80	1.00	1.40	1.60
	≥ 330	0.90	1.00	1.13	1.15

## Multiplier for Ripple Current vs. Temperature

Temperature °C	40	60	105
<b>Multiplier</b>	1.3	1.25	1.00

## Diagram of Dimensions: [Unitmm]



<b>D</b>	5	6.3	8	10	13	16	18	22	25	30
<b>φ</b>										
<b>F</b>	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10	13	15
<b>d</b>	0.5			0.6			0.8			
<b>φ</b>										

## Case Size

Φ DXL(mm)

WV[SV]	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]
<b>0.1</b>						5×11		5×11			6.3×11			
<b>0.22</b>						5×11		5×11			6.3×11			
<b>0.33</b>						5×11		5×11			6.3×11			
<b>0.47</b>						5×11		5×11			6.3×11			
<b>1</b>						5×11	5×11	5×11	5×11 6.3×11	6.3×11	6.3×11	8×11	8×11	8×11
<b>2.2</b>						5×11	5×11	5×11	6.3×11	6.3×11	6.3×11 8×11	10×13	10×13	8×14 10×16
<b>3.3</b>						5×11	5×11	5×11	8×11	8×11	8×11	10×16	10×16	10×20
<b>4.7</b>						5×11	5×11	5×11	8×11	8×11	8×12 10×13	10×13 10×15	10×16	10×16 10×20
<b>6.8</b>						5×11								
<b>10</b>			5×11	5×11		5×11	5×11	6.3×11	10×13	10×13	10×15	10×20	10×17 10×20	10×17 10×20 13×21
<b>15</b>								8×11						
<b>22</b>			5×11	5×11		5×11	6.3×11	8×11	10×16	10×16 10×20	10×20	13×21	13×21	13×25 16×26
<b>33</b>			5×11	5×11	5×11	6.3×11		8×11 10×12	10×20	10×20 13×21	13×21	13×26 16×26	13×26 16×26	16×26 16×32
<b>47</b>		5×11	5×11	5×11	6.3×11	6.3×11	8×11	10×15	13×21	13×21 13×26	13×26	16×36 16×32	16×26 16×32 18×26	16×32 16×36
<b>68</b>			5×11	6.3×11										
<b>100</b>		5×11	5×11 6.3×11	6.3×11	6.3×11 8×11	8×11	8×11 10×13	10×17 10×20 13×21	13×26 16×26	16×26	16×32	18×36	22×41	-
<b>150</b>			6.3×11	6.3×11										
<b>220</b>		6.3×11	6.3×11	8×11	8×11 8×14 10×13	10×15 10×17	10×17 10×20	13×26 16×26	16×32 16×36 18×36	18×36 22×30	-	-	-	-
<b>330</b>		6.3×11	8×11	8×11	10×15	10×17	13×21	16×26 18×26	18×32		-	-	-	-
<b>470</b>	6.3×11	6.3×11 8×11	8×11	8×12 8×14 10×13	10×15	10×20 13×21	13×21 13×25	16×32		22×36	-	-	-	-
<b>560</b>					10×16									
<b>680</b>		8×11 10×13	8×14	10×15	10×20	13×21 13×25	13×26	18×36						

<b>820</b>		10×13	10×15				16×26							
<b>1000</b>	8×12	8×14	8×16 10×16 13×16	10×15 10×17 13×16	13×16 13×18 13×21	13×25 16×26	16×26	18×40 22×36	-	-	-	-	-	-
<b>1200</b>	10×16													
<b>1500</b>	10×16	10×20				16×32								
<b>1600</b>				13×21										
<b>2200</b>	10×17	10×17	10×20 13×21 16×16	13×21 16×16	16×26	16×32 18×26	18×36		-	-	-	-	-	-
<b>2700</b>		10×20	13×21											
<b>3300</b>	10×20	13×21	13×21	16×26	16×32	18×36	22×42	-	-	-	-	-	-	-
<b>3900</b>		13×21												
<b>4700</b>		13×21	16×26	16×26	18×36	22×36	25×43	-	-	-	-	-	-	-
<b>6800</b>	16×26	16×26	16×26	18×36	22×36	22×43	-	-	-	-	-	-	-	-
<b>10000</b>	16×26 16×32	18×36	18×36	18×36	25×43	25×43 25×50	-	-	-	-	-	-	-	-
<b>15000</b>	18×36													

## 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)
<b>0.1</b>	-	-	-	-	-	8		10			12			
<b>0.22</b>	-	-	-	-	-	8		10			12			
<b>0.33</b>	-	-	-	-	-	8		10			12			
<b>0.47</b>	-	-	-	-	-	8		10			12			
<b>1</b>	-	-	-	-	-	12	12	15	12 14	16	16	16	16	18
<b>2.2</b>	-	-	-	-	-	20	20	22	24	25	25 28	30	30	31 32
<b>3.3</b>	-	-	-	-	-	25	27	28	30	35	36	40	40	45
<b>4.7</b>	-	-	-	-	-	28	32	31	32	38	38 50	50	53	53 55
<b>6.8</b>	-	-	-	-	-	35								
<b>10</b>	-	-	35	38		42	47	54	59	59	64	65	70 73	74 75 78
<b>15</b>	-	-	-	-	-	-	-	75						
<b>22</b>	-	-	54	57		62	80	95	96	100 110	110	125	125	128 131
<b>33</b>	-	-	64	66	70	87		120 130	135	135 140	140	144 145	147 158	160 170
<b>47</b>	-	65	68	72	90	104	135	165	180	180 200	200	210 238	250 260 280	290 300

