

### LHK Series 焊片/焊针型铝电解电容器长寿命品

RoHS compliance

105°C 5000hours

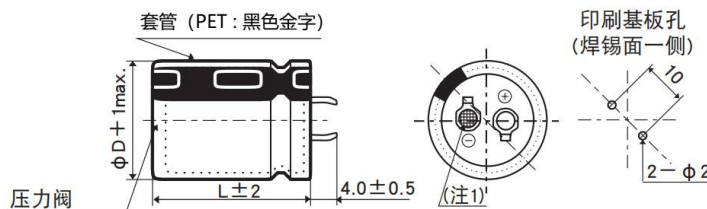
Used in professional power supplies and frequency etc.

#### ■主要技术性能 Specifications

使用温度范围 Operating Temperature Range	-40 ~ +105°C	-25 ~ +105°C																													
额定电压范围 Rated Voltage Range	10~100V DC	160~550V DC																													
标称电容量允许偏差 Capacitance Tolerance	±20% (120Hz, 20°C)																														
漏电流 (20°C) Leakage Current	$I \leq 3 \sqrt{CV}$ (after 5 min)																														
	I=Leakage Current(μA), C=Capacitance(μF), V=Rated DC Working Voltage(V)																														
损耗角正切值 Dissipation Factor (120Hz 20°C)	<table border="1"> <tr> <th>W.V.</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> <th>160~400</th> <th>420~550</th> </tr> <tr> <td>tgδ</td> <td>0.55</td> <td>0.50</td> <td>0.45</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.20</td> </tr> </table> <p>0.02 is added to every 1000μF increase over 1000μF</p>		W.V.	10	16	25	35	50	63	80	100	160~400	420~550	tgδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.20							
W.V.	10	16	25	35	50	63	80	100	160~400	420~550																					
tgδ	0.55	0.50	0.45	0.40	0.35	0.30	0.25	0.20	0.15	0.20																					
温度特性 (120Hz) Temperature Characteristics Impedance Ratio (120Hz)	<table border="1"> <tr> <th>W.V.</th> <th>10~100</th> <th>160~250</th> <th>315~550V</th> </tr> <tr> <td><math>Z_{-25°C} / Z_{+20°C}</math></td> <td>4</td> <td>3</td> <td>8</td> </tr> <tr> <td><math>Z_{-40°C} / Z_{+20°C}</math></td> <td>15</td> <td>-</td> <td>-</td> </tr> </table>		W.V.	10~100	160~250	315~550V	$Z_{-25°C} / Z_{+20°C}$	4	3	8	$Z_{-40°C} / Z_{+20°C}$	15	-	-																	
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$Z_{-25°C} / Z_{+20°C}$	4	3	8																												
$Z_{-40°C} / Z_{+20°C}$	15	-	-																												
耐久性 Load Life	<p>在 105°C 环境施加额定工作电压 5000 小时后，电容器的特性符合下表要求。 105°C environment d rated operating voltage after 5,000 hours, capacitor characteristics meet the requirements in the following table.</p> <table border="1"> <tr> <td>电容量变化率 Capacitance Change</td> <td>≤±20%初始测量值 ≤±20% of Initial measured value</td> </tr> <tr> <td>漏电流值 Leakage</td> <td>≤规定值 ≤The specified value</td> </tr> <tr> <td>损耗角正切值 Dissipation Factor</td> <td>≤2 倍规定值 ≤200% of the specified value</td> </tr> </table>		电容量变化率 Capacitance Change	≤±20%初始测量值 ≤±20% of Initial measured value	漏电流值 Leakage	≤规定值 ≤The specified value	损耗角正切值 Dissipation Factor	≤2 倍规定值 ≤200% of the specified value																							
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损耗角正切值 Dissipation Factor	≤2 倍规定值 ≤200% of the specified value																														
高温贮存 Shelf Life	<p>试验时间: 105°C, 1000 小时; 电压应用处理: 根据 JIS C5101-4.1 Test time :105°C, 1000hours; Voltage application treatment : According to JIS C5101-4 4.1</p> <table border="1"> <tr> <td>电容量变化率 Capacitance Change</td> <td>≤±15%初始测量值 ≤±15% of Initial measured value</td> </tr> <tr> <td>漏电流值 Leakage</td> <td>≤规定值 ≤The specified value</td> </tr> <tr> <td>损耗角正切值 Dissipation Factor</td> <td>≤1.5 倍规定值 ≤150% of the specified value</td> </tr> </table>		电容量变化率 Capacitance Change	≤±15%初始测量值 ≤±15% of Initial measured value	漏电流值 Leakage	≤规定值 ≤The specified value	损耗角正切值 Dissipation Factor	≤1.5 倍规定值 ≤150% of the specified value																							
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额定纹波电流频率系数 Coefficient of Frequency for Rated Ripple Current	<table border="1"> <tr> <th rowspan="2">Voltage</th> <th colspan="5">Frequency</th> </tr> <tr> <th>50Hz</th> <th>120Hz</th> <th>1KHz</th> <th>10KHz</th> <th>≥50KHz</th> </tr> <tr> <td>10~100V</td> <td>0.90</td> <td>1.00</td> <td>1.15</td> <td>1.15</td> <td>1.15</td> </tr> <tr> <td>160~250V</td> <td>0.80</td> <td>1.00</td> <td>1.30</td> <td>1.45</td> <td>1.50</td> </tr> <tr> <td>≥315V</td> <td>0.80</td> <td>1.00</td> <td>1.30</td> <td>1.42</td> <td>1.45</td> </tr> </table>		Voltage	Frequency					50Hz	120Hz	1KHz	10KHz	≥50KHz	10~100V	0.90	1.00	1.15	1.15	1.15	160~250V	0.80	1.00	1.30	1.45	1.50	≥315V	0.80	1.00	1.30	1.42	1.45
Voltage	Frequency																														
	50Hz	120Hz	1KHz	10KHz	≥50KHz																										
10~100V	0.90	1.00	1.15	1.15	1.15																										
160~250V	0.80	1.00	1.30	1.45	1.50																										
≥315V	0.80	1.00	1.30	1.42	1.45																										

#### ■外形图 Outline Drawing

●端子代码: LP (φ 22~35): 标准品



(注1) 阴极端子的铆钉部网眼刻印。

■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表  
Nominal capacitance, rated voltage, rated ripple current and case size table

WV Cap(μF)	10V		16V		25V		35V		50V		63V	
	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)
1000											22×25	1.10
1500									22×25	1.21	22×30 25×25	1.41 1.38
1800											22×35 25×30	1.62 1.63
2200									22×30 25×25	1.52 1.46	22×40 30×25	1.85 1.80
2700							22×25	1.29	22×35 25×30	1.77 1.76	22×45 25×35 30×30	2.10 2.03 2.01
3300							22×30	1.54	22×40 30×25	2.02 1.92	25×40	2.33
3900					22×25	1.31	22×35 25×25	1.77 1.75	22×45 25×35 30×30	2.27 2.20 2.19	25×45 30×35 35×30	2.58 2.46 2.31
4700					22×30	1.55	22×40 25×30	2.01 1.97	25×40	2.43	30×40 35×35	2.82 2.77
5600			22×25	1.44	22×35 25×30	1.77 1.76	22×45 25×35 30×25	2.25 2.18 2.08	25×45 30×35 35×30	2.72 2.58 2.35	30×45 35×40	3.22 3.20
6800			22×30	1.66	22×40 25×30	2.02 1.88	22×50 25×40 30×30	2.49 2.45 2.28	30×40 35×35	3.01 2.91	35×45	3.61
8200	22×25	1.36	25×25	1.67	22×45 25×35 30×25	2.27 2.18 2.19	25×45 30×35	2.80 2.69	30×50 35×40	3.63 3.36	35×50	3.94
10000	22×30	1.65	22×35 25×30	2.08 2.07	22×50 25×40 30×30	2.56 2.53 2.38	30×40 35×30	3.04 2.78	35×45	3.79		
12000	22×35 25×25	1.85 1.82	22×40 25×35 30×25	2.36 2.37 2.33	25×45 30×35 35×30	2.79 2.70 2.76	30×45 35×35	3.38 3.30	35×50	4.06		
15000	22×40 25×30 30×25	2.12 2.11 2.14	22×45 25×40 30×30	2.69 2.72 2.54	30×40	3.13	35×40	3.98				
18000	22×45 25×35	2.40 2.32	25×45 30×35	3.06 3.02 3.09	30×45 35×35	3.52 3.50	35×45	4.40				
22000	25×40 30×30	2.59 2.73	25×50 30×40	3.39 3.46	30×50 35×40	3.92 3.95						
27000	25×45 30×35 35×30	3.01 3.13 3.05	30×45 35×35	3.88 3.85	35×50	4.72						
33000	25×50 30×40 35×35	3.43 3.53 3.49	30×50 35×40	4.33 4.33								
39000	30×45 35×40	3.78 3.96	35×45	4.96								
47000	30×50 35×45	4.58 4.60	35×50	5.49								
5600	35×50	5.06										

I~额定纹波电流 Rated ripple current: (A, 105°C, 120Hz)

■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表  
Nominal capacitance, rated voltage, rated ripple current and case size table

WV Cap(μF)	80		100V		160V		180V		200V		250V	
	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)
150											22×25	0.52
180									22×25	0.57	22×30 25×25	0.64 0.62
220					22×25	0.65	22×25	0.63	22×30	0.70	22×35 25×30	0.76 0.76
270					22×30	0.76	22×30 25×25	0.76 0.76	22×35 25×25	0.83 0.76	22×40 25×35 30×25	0.88 0.90 0.82
330					22×35 25×25	0.90 0.84	22×35 25×30	0.90 0.90	22×40 25×30	0.96 0.90	22×45 30×30	1.01 1.00
390					25×30 30×25	0.97 1.00	22×40 25×35 30×25	1.03 1.06 1.02	25×35 30×25	1.06 1.02	22×50 25×40 30×35	1.13 1.13 1.15
470					22×40 25×35 30×30	1.11 1.14 1.17	22×45 30×30	1.17 1.17	22×45 25×40 30×30	1.17 1.22 1.17	25×45 35×30	1.29 1.24
560			22×25	1.01	22×45	1.26	22×50 25×40 30×35	1.32 1.32 1.33	22×45 30×35	1.39 1.38	25×50 30×40 35×35	1.45 1.48 1.49
680			22×30	1.19	22×50 25×40 30×35	1.44 1.43 1.50	25×45 35×30	1.51 1.49	25×50 30×40 35×30	1.58 1.61 1.49	30×45 35×40	1.71 1.74
820	22×25	1.09	22×35 25×25	1.33 1.26	25×45 30×40 35×30	1.63 1.66 1.63	25×50 30×40 35×35	1.71 1.74 1.75	30×45 35×35	1.85 1.75	30×50	1.94
1000	22×30	1.29	22×40 25×30 30×25	1.56 1.52 1.47	30×45 35×35	1.89 1.89	30×45 35×40	2.01 2.07	30×50 35×40	2.11 2.07	35×45	2.20
1200	22×35 25×25	1.48 1.38	22×45 25×35 30×30	1.76 1.76 1.76	30×50 35×40	2.16 2.23	30×50 35×45	2.25 2.23	35×45	2.38		
1500	22×40 25×30 30×25	1.70 1.74 1.75	22×50 25×40	2.00 2.03	35×45	2.61	35×50	2.76	35×50	2.76		
1800	22×45 25×35	1.91 1.86	25×45 30×35 35×30	2.29 2.19 2.15	35×50	2.97						
2200	25×45 30×30	2.22 2.02	30×40 35×35	2.52 2.48								
2700	30×35 35×30	2.50 2.45	30×45 35×40	2.86 2.87								
3300	30×40 35×35	2.69 2.60	35×45	3.25								
3900	30×45 35×40	2.94 3.00	35×50	3.56								
4700	35×45	3.44										
5600	35×50	3.72										

I~额定纹波电流 Rated ripple current: (A, 105°C, 120Hz)

■ 标称电容量、额定电压、额定纹波电流与外形尺寸对应表

Nominal capacitance, rated voltage, rated ripple current and case size table

WV Cap(μF)	315V		350V		400V		450V		500V		550V	
	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)	ΦD×L (mm)	I (Arms)
47									22×30	0.41		
56									22×30	0.47		
68	22×25	0.23	22×25	0.34	22×30	0.38	22×30	0.38	22×35 25×30	0.54 0.54		
82	22×30	0.38	22×30	0.40	25×25	0.41	22×35 25×30 30×25	0.44 0.45 0.46	22×40 25×35	0.62 0.62		
100	25×25	0.41	25×25	0.47	22×35 25×30 30×25	0.46 0.48 0.48	22×40 25×35	0.50 0.52	22×45 25×40 30×30	0.67 0.67 0.67		
120	22×35 25×30	0.48 0.49	22×35 25×30 30×25	0.52 0.53 0.53	22×40 25×35 30×30	0.53 0.55 0.56	22×50 25×40 30×30	0.58 0.58 0.58	22×50 25×40 30×35 35×30	0.77 0.74 0.77 0.80		
150	22×40 30×25	0.56 0.51	22×40 25×35	0.59 0.60	22×50 25×40	0.63 0.65	25×45 30×35	0.66 0.68	25×45 30×40 35×30 35×35	0.82 0.85 0.67 0.85	30×40	0.92
180	22×45 25×35 30×30	0.63 0.62 0.63	22×45 25×40 30×30	0.68 0.70 0.71	25×45 30×35	0.72 0.74	25×50 30×40 35×30	0.74 0.77 0.77	25×50 30×45	0.98 1.01	30×50 35×35	1.03 1.03
220	22×50 25×40 30×35	0.72 0.71 0.74	22×50 25×45 30×35	0.78 0.82 0.82	25×50 30×40 35×30	0.79 0.85 0.89	30×45 35×35	0.88 0.88	30×50 35×35 35×40	1.12 0.98 1.12	30×55 35×40	1.15 1.15
270	25×45 30×40 35×30	0.81 0.85 0.82	25×50 30×40 35×30	0.94 0.93 0.90	30×45 35×35	0.98 0.96	30×50 35×40	0.99 1.01	30×50 35×40	1.25 1.25	35×45	1.30
330	25×50 35×35	0.92 0.90	30×45 35×35	1.05 1.01	30×50 35×40	1.12 1.12	35×45	1.15	35×45	1.36	35×50	1.48
390	30×45 35×40	1.04 1.05	30×50 35×40	1.18 1.13	35×45	1.27	35×50	1.28	35×50	1.54	35×60	1.65
470	30×50 35×45	1.15 1.18	35×45	1.26 1.39	35×50	1.33	35×55	1.50	35×60	1.69	35×70	1.92
560	35×50	1.34	35×50								35×80	2.05

I~额定纹波电流 Rated ripple current: (A, 105°C, 120Hz)