

### LH Series (NEW)

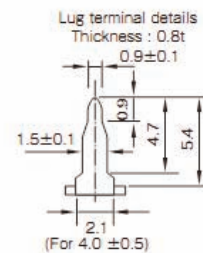
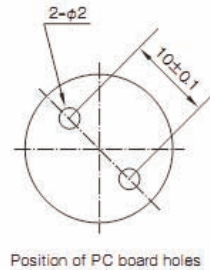
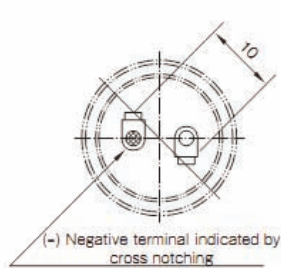
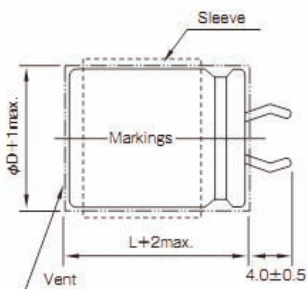
- 高可靠性，耐高纹波 • 105°C 2000 小时
- High-Reliability, High-Ripple Current • 105°C 2000hours



### 主要技术性能 Specifications

| 使用温度范围<br>Operating Temperature Range               | -40 ~ +105°C   | -25 ~ +105°C  |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
|---|--|---------------|------------------------------|--|-----------------|--------------------------------|------------------------------|---|---------|---------|------|------|------|------|------|------|------|------|
| 额定电压范围<br>Rated Voltage Range                       | 16 ~ 100V DC   | 160 ~ 450V DC |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 标称电容量允许偏差<br>Capacitance Tolerance<br>(120Hz, 20°C) | ± 20% ( M )  |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 漏电流<br>Leakage Current                              | I ≤ 0.02CV (µ A) 或 3mA 取较大者 ( 5 分钟 )<br>I ≤ 0.02CV or 3mA Which ever is greater ( after 5 minutes )  |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 损耗角正切值<br>Dissipation Factor<br>(120Hz, 20°C)       | <table border="1"> <tr> <th>W.V.</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63-100</th> <th>160-250</th> <th>400-450</th> </tr> <tr> <td>tg δ</td> <td>0.50</td> <td>0.40</td> <td>0.35</td> <td>0.30</td> <td>0.20</td> <td>0.15</td> <td>0.20</td> </tr> </table> <p>容量大于 1000 µ F 者，每增加 1000 µ F，其损耗角正切值增加 0.02<br/>For capacitance exceeding 1000 µ F, add 0.02 per increment of 1000 µ F</p>  |               | W.V.                         | 16   | 25              | 35                             | 50                           | 63-100                                      | 160-250 | 400-450 | tg δ | 0.50 | 0.40 | 0.35 | 0.30 | 0.20 | 0.15 | 0.20 |
| W.V.  | 16   | 25            | 35                           | 50   | 63-100          | 160-250                        | 400-450                      |   |         |         |      |      |      |      |      |      |      |      |
| tg δ  | 0.50   | 0.40          | 0.35                         | 0.30   | 0.20            | 0.15                           | 0.20                         |   |         |         |      |      |      |      |      |      |      |      |
| 耐久性<br>Load Life                                    | <p>在叠加额定纹波电流时，按照下表给出的寿命时间测试后，产品性能应符合以下要求：<br/>After life test with rated ripple current at conditions stated in the table below, the capacitors shall meet the following requirements.</p> <table border="1"> <tr> <td>电容量变化率<br/>Capacitance Change</td> <td>≤ ± 20% 初始测量值<br/>≤ ± 20% of Initial value</td> </tr> <tr> <td>漏电流值<br/>Leakage</td> <td>≤ 规定值<br/>≤ The specified value</td> </tr> <tr> <td>损耗角正切值<br/>Dissipation Factor</td> <td>≤ 2 倍规定值<br/>≤ 200% of the specified value</td> </tr> </table>                           |               | 电容量变化率<br>Capacitance Change | ≤ ± 20% 初始测量值<br>≤ ± 20% of Initial value          | 漏电流值<br>Leakage | ≤ 规定值<br>≤ The specified value | 损耗角正切值<br>Dissipation Factor | ≤ 2 倍规定值<br>≤ 200% of the specified value   |         |         |      |      |      |      |      |      |      |      |
| 电容量变化率<br>Capacitance Change                        | ≤ ± 20% 初始测量值<br>≤ ± 20% of Initial value  |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 漏电流值<br>Leakage                                     | ≤ 规定值<br>≤ The specified value   |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 损耗角正切值<br>Dissipation Factor                        | ≤ 2 倍规定值<br>≤ 200% of the specified value  |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 高温放置<br>Shelf Life                                  | <p>+105°C, 1000 小时，然后加额定电压按照 JISC 5101-4 第 4.1 项规定预处理后测量。<br/>After storage for 1000 hours at +105°C, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JISC 5101-4.</p> <table border="1"> <tr> <td>电容量变化率<br/>Capacitance Change</td> <td>≤ ± 15% 初始测量值<br/>≤ ± 15% of Initial measured value</td> </tr> <tr> <td>漏电流值<br/>Leakage</td> <td>≤ 规定值<br/>≤ The specified value</td> </tr> <tr> <td>损耗角正切值<br/>Dissipation Factor</td> <td>≤ 1.5 倍规定值<br/>≤ 150% of the specified value</td> </tr> </table> |               | 电容量变化率<br>Capacitance Change | ≤ ± 15% 初始测量值<br>≤ ± 15% of Initial measured value | 漏电流值<br>Leakage | ≤ 规定值<br>≤ The specified value | 损耗角正切值<br>Dissipation Factor | ≤ 1.5 倍规定值<br>≤ 150% of the specified value |         |         |      |      |      |      |      |      |      |      |
| 电容量变化率<br>Capacitance Change                        | ≤ ± 15% 初始测量值<br>≤ ± 15% of Initial measured value   |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 漏电流值<br>Leakage                                     | ≤ 规定值<br>≤ The specified value   |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |
| 损耗角正切值<br>Dissipation Factor                        | ≤ 1.5 倍规定值<br>≤ 150% of the specified value  |               |                              |  |                 |                                |                              |   |         |         |      |      |      |      |      |      |      |      |

### 外形图及尺寸 Case size table



## LH Series (NEW)

■ 标称电容量、额定电压、额定纹波电流及外形尺寸对应表

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

| WV<br>Parameter<br>ΦD×L(mm) | 16V   |      |       | 25V  |      |       | 35V  |      |       | 50V  |      |       | 63V   |      |       |
|-----------------------------|-------|------|-------|------|------|-------|------|------|-------|------|------|-------|-------|------|-------|
|                             | μF    | I~   | ESR   | μF   | I~   | ESR   | μF   | I~   | ESR   | μF   | I~   | ESR   | μF    | I~   | ESR   |
| 22×25                       | 6800  | 1.60 | 0.122 | 4700 | 1.55 | 0.141 | 3300 | 1.43 | 0.176 | 1800 | 1.31 | 0.184 | 1200  | 1.25 | 0.207 |
| 22×30                       | 10000 | 1.99 | 0.083 | 6800 | 1.91 | 0.098 | 3900 | 1.65 | 0.149 | 2700 | 1.70 | 0.123 | 1800  | 1.52 | 0.138 |
| 22×35                       | 12000 | 2.28 | 0.069 | 8200 | 2.14 | 0.081 | 5600 | 2.02 | 0.104 | 3300 | 1.98 | 0.101 | 2200  | 1.73 | 0.113 |
| 22×40                       | 15000 | 2.64 | 0.055 | 1000 | 2.40 | 0.066 | 6800 | 2.28 | 0.085 | 3900 | 2.25 | 0.085 | 2700  | 1.97 | 0.092 |
| 22×45                       | 18000 | 2.98 | 0.046 | 1200 | 2.69 | 0.055 | -    | -    | -     | 4700 | 2.56 | 0.071 | -     | -    | -     |
| 22×50                       | -     | -    | -     | -    | -    | -     | 8200 | 2.67 | 0.071 | 5600 | 2.89 | 0.059 | 3300  | 2.32 | 0.075 |
| 25×25                       | 10000 | 1.99 | 0.083 | 6800 | 1.91 | 0.098 | 4700 | 1.78 | 0.124 | 2700 | 1.70 | 0.123 | 1800  | 1.52 | 0.138 |
| 25×30                       | 12000 | 2.30 | 0.069 | 8200 | 2.16 | 0.081 | 5600 | 2.04 | 0.104 | 3300 | 2.00 | 0.101 | 2200  | 1.75 | 0.113 |
| 25×35                       | 15000 | 2.68 | 0.055 | 1000 | 2.44 | 0.066 | 6800 | 2.31 | 0.085 | 3900 | 2.28 | 0.085 | 2700  | 1.99 | 0.092 |
| 25×40                       | 18000 | 3.04 | 0.046 | 1200 | 2.74 | 0.055 | 8200 | 2.60 | 0.071 | 5600 | 2.81 | 0.059 | 3300  | 2.27 | 0.075 |
| 25×45                       | 22000 | 3.40 | 0.038 | 1500 | 3.15 | 0.044 | 1000 | 2.92 | 0.058 | -    | -    | -     | 3900  | 2.54 | 0.064 |
| 25×50                       | 27000 | 3.81 | 0.031 | 1800 | 3.54 | 0.037 | 1200 | 3.26 | 0.048 | 6800 | 3.37 | 0.049 | 4700  | 2.88 | 0.053 |
| 30×25                       | 12000 | 2.38 | 0.069 | 8200 | 2.25 | 0.081 | 5600 | 2.12 | 0.104 | 3900 | 2.22 | 0.085 | 2700  | 1.93 | 0.092 |
| 30×30                       | 18000 | 3.00 | 0.046 | 1200 | 2.70 | 0.055 | 8200 | 2.56 | 0.071 | 4700 | 2.58 | 0.071 | 3300  | 2.24 | 0.075 |
| 30×35                       | 22000 | 3.39 | 0.038 | 1500 | 3.13 | 0.044 | 1000 | 2.92 | 0.058 | 5600 | 2.95 | 0.059 | 3900  | 2.55 | 0.064 |
| 30×40                       | 27000 | 3.83 | 0.031 | 1800 | 3.54 | 0.037 | 1200 | 3.28 | 0.048 | 6800 | 3.39 | 0.049 | 4700  | 2.90 | 0.053 |
| 30×45                       | 33000 | 4.30 | 0.025 | 2200 | 4.24 | 0.030 | 1500 | 3.74 | 0.039 | 8200 | 3.71 | 0.040 | 5600  | 3.28 | 0.044 |
| 30×50                       | 39000 | 4.74 | 0.021 | -    | -    | -     | -    | -    | -     | 1000 | 4.09 | 0.033 | 6800  | 3.73 | 0.037 |
| 35×25                       | 18000 | 3.10 | 0.046 | 1200 | 2.80 | 0.055 | 8200 | 2.78 | 0.071 | 4700 | 2.67 | 0.071 | 3300  | 2.41 | 0.075 |
| 35×30                       | 27000 | 3.74 | 0.031 | 1500 | 3.22 | 0.044 | 1200 | 3.20 | 0.048 | 6800 | 3.31 | 0.049 | 4700  | 2.83 | 0.053 |
| 35×35                       | 33000 | 4.24 | 0.025 | 2200 | 3.96 | 0.030 | 1500 | 3.69 | 0.039 | 8200 | 3.66 | 0.040 | 5600  | 3.24 | 0.044 |
| 35×40                       | 39000 | 4.72 | 0.021 | -    | -    | -     | 1800 | 4.16 | 0.032 | 1000 | 4.07 | 0.033 | 6800  | 3.71 | 0.037 |
| 35×45                       | 47000 | 5.27 | 0.018 | 2700 | 4.75 | 0.025 | -    | -    | -     | 1200 | 4.50 | 0.028 | 8200  | 4.16 | 0.030 |
| 35×50                       | -     | -    | -     | 3300 | 5.39 | 0.020 | 2200 | 4.92 | 0.026 | -    | -    | -     | 10000 | 4.69 | 0.025 |

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

等效串联电阻 ESR : ( Ω , 105°C, 120HZ )

## LH Series (NEW)

■ 标称电容量、额定电压、额定纹波电流及外形尺寸对应表

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

| WV<br>Parameter<br>ΦD × L(mm) | 80V  |      |       | 100V |      |       | 160V |      |       |
|-------------------------------|------|------|-------|------|------|-------|------|------|-------|
|                               | μF   | I~   | ESR   | μF   | I~   | ESR   | μF   | I~   | ESR   |
| 22 × 25                       | 820  | 1.11 | 0.303 | 560  | 1.07 | 0.444 | 330  | 1.16 | 0.754 |
| 22 × 30                       | 1200 | 1.39 | 0.207 | 820  | 1.35 | 0.303 | 390  | 1.43 | 0.638 |
| 22 × 35                       | 1500 | 1.61 | 0.166 | 1000 | 1.54 | 0.249 | 470  | 1.52 | 0.529 |
| 22 × 40                       | 1800 | 1.83 | 0.138 | 1200 | 1.74 | 0.207 | 560  | 1.62 | 0.444 |
| 22 × 45                       | 2200 | 2.09 | 0.113 | 1500 | 1.99 | 0.166 | 680  | 1.70 | 0.366 |
| 22 × 50                       | —    | —    | —     | —    | —    | —     | 820  | 1.81 | 0.303 |
| 25 × 25                       | 1200 | 1.39 | 0.207 | 820  | 1.35 | 0.303 | 470  | 1.55 | 0.529 |
| 25 × 30                       | 1500 | 1.62 | 0.166 | 1000 | 1.56 | 0.249 | 560  | 1.73 | 0.444 |
| 25 × 35                       | 2200 | 2.01 | 0.113 | 1200 | 1.76 | 0.207 | 680  | 1.81 | 0.366 |
| 25 × 40                       | —    | —    | —     | 1500 | 2.03 | 0.166 | 820  | 1.98 | 0.303 |
| 25 × 45                       | 2700 | 2.43 | 0.092 | 1800 | 2.28 | 0.138 | 1000 | 2.04 | 0.249 |
| 25 × 50                       | 3300 | 2.76 | 0.075 | 2200 | 2.57 | 0.113 | 1200 | 2.12 | 0.207 |
| 30 × 25                       | 1800 | 1.81 | 0.138 | 1200 | 1.71 | 0.207 | 680  | 1.82 | 0.366 |
| 30 × 30                       | 2200 | 2.10 | 0.113 | 1500 | 2.00 | 0.166 | 820  | 1.98 | 0.303 |
| 30 × 35                       | 2700 | 2.43 | 0.092 | 1800 | 2.27 | 0.138 | 1000 | 2.14 | 0.249 |
| 30 × 40                       | 3300 | 2.78 | 0.075 | 2200 | 2.59 | 0.113 | 1200 | 2.22 | 0.207 |
| 30 × 45                       | 3900 | 3.12 | 0.064 | 2700 | 2.94 | 0.092 | 1500 | 2.46 | 0.166 |
| 30 × 50                       | 4700 | 3.56 | 0.053 | 3300 | 3.32 | 0.075 | —    | —    | —     |
| 35 × 25                       | 2200 | 2.17 | 0.113 | 1500 | 2.07 | 0.166 | 820  | 1.93 | 0.303 |
| 35 × 30                       | 3300 | 2.71 | 0.075 | 2200 | 2.52 | 0.113 | 1200 | 2.40 | 0.249 |
| 35 × 35                       | 3900 | 3.07 | 0.064 | 2700 | 2.90 | 0.092 | 1500 | 2.53 | 0.166 |
| 35 × 40                       | 4700 | 3.50 | 0.053 | 3300 | 3.31 | 0.075 | —    | —    | —     |
| 35 × 45                       | 5600 | 3.87 | 0.044 | 3900 | 3.69 | 0.064 | 1800 | 2.98 | 0.138 |
| 35 × 50                       | 6800 | 4.19 | 0.037 | 4700 | 4.14 | 0.053 | 2200 | 3.10 | 0.113 |

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

等效串联电阻 ESR : (Ω, 105°C, 120HZ)

## LH Series (NEW)

■ 标称电容量、额定电压、额定纹波电流及外形尺寸对应表

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

| WV<br>Parameter<br>ΦD × L(mm) | 180V |      |       | 200V |      |       | 250V |      |       | 400V |      |       | 450V |      |       |
|-------------------------------|------|------|-------|------|------|-------|------|------|-------|------|------|-------|------|------|-------|
|                               | μF   | I~   | ESR   | μF   | I~   | ESR   | μF   | I~   | ESR   | μF   | I~   | ESR   | μF   | I~   | ESR   |
| 22 × 25                       | 270  | 1.08 | 0.922 | 220  | 1.08 | 1.131 | 180  | 0.94 | 1.382 | 68   | 0.47 | 4.879 | 56   | 0.47 | 5.924 |
| 22 × 30                       | 330  | 1.30 | 0.754 | 330  | 1.30 | 0.754 | 220  | 1.10 | 1.131 | 82   | 0.56 | 4.046 | 68   | 0.56 | 4.879 |
| 22 × 35                       | 470  | 1.50 | 0.529 | 390  | 1.41 | 0.638 | 270  | 1.13 | 0.922 | 120  | 0.64 | 2.765 | 82   | 0.64 | 4.046 |
| 22 × 40                       | 560  | 1.62 | 0.444 | 470  | 1.50 | 0.529 | 330  | 1.20 | 0.754 | 150  | 0.70 | 2.212 | 100  | 0.70 | 3.317 |
| 22 × 45                       | -    | -    | -     | 560  | 1.58 | 0.444 | 390  | 1.26 | 0.638 | -    | -    | -     | 120  | 0.73 | 2.765 |
| 22 × 50                       | 680  | 1.76 | 0.366 | 680  | 1.68 | 0.366 | 470  | 1.37 | 0.529 | 180  | 0.78 | 1.843 | 150  | 0.78 | 2.212 |
| 25 × 25                       | 390  | 1.35 | 0.638 | 330  | 1.35 | 0.754 | 220  | 1.15 | 1.131 | 82   | 0.65 | 4.046 | 68   | 0.65 | 4.879 |
| 25 × 30                       | 470  | 1.62 | 0.529 | 470  | 1.47 | 0.529 | 330  | 1.30 | 0.754 | 120  | 0.70 | 2.765 | 100  | 0.70 | 3.317 |
| 25 × 35                       | 560  | 1.69 | 0.444 | 560  | 1.65 | 0.444 | 390  | 1.41 | 0.638 | 150  | 0.73 | 2.212 | 120  | 0.73 | 2.765 |
| 25 × 40                       | 680  | 1.72 | 0.366 | 680  | 1.80 | 0.366 | 470  | 1.52 | 0.529 | 180  | 0.82 | 1.843 | 150  | 0.82 | 2.212 |
| 25 × 45                       | 820  | 1.78 | 0.303 | -    | -    | -     | 560  | 1.59 | 0.444 | 220  | 0.87 | 1.508 | 180  | 0.87 | 1.843 |
| 25 × 50                       | 1000 | 1.91 | 0.249 | 820  | 1.87 | 0.303 | 680  | 1.66 | 0.366 | 270  | 0.94 | 1.229 | 220  | 0.94 | 1.508 |
| 30 × 25                       | 560  | 1.67 | 0.444 | 470  | 1.56 | 0.529 | 330  | 1.30 | 0.754 | 120  | 0.78 | 2.765 | 100  | 0.78 | 3.317 |
| 30 × 30                       | 680  | 1.74 | 0.366 | 680  | 1.82 | 0.366 | 470  | 1.36 | 0.529 | 180  | 0.83 | 1.843 | 150  | 0.83 | 2.212 |
| 30 × 35                       | 820  | 1.85 | 0.303 | 820  | 1.99 | 0.303 | 560  | 1.57 | 0.444 | 220  | 0.86 | 1.508 | 180  | 0.83 | 1.843 |
| 30 × 40                       | 1000 | 2.01 | 0.249 | -    | -    | -     | 680  | 1.76 | 0.366 | 270  | 0.95 | 1.229 | 220  | 0.95 | 1.508 |
| 30 × 45                       | 1200 | 2.19 | 0.207 | 1000 | 2.17 | 0.249 | 820  | 1.83 | 0.303 | 330  | 1.11 | 1.005 | 270  | 1.11 | 1.229 |
| 30 × 50                       | 1500 | 2.36 | 0.166 | 1200 | 2.22 | 0.207 | 1000 | 1.87 | 0.249 | 390  | 1.15 | 0.851 | 330  | 1.15 | 1.005 |
| 35 × 25                       | 680  | 1.92 | 0.366 | 680  | 1.96 | 0.366 | 470  | 1.40 | 0.529 | 180  | 0.86 | 1.843 | 150  | 0.86 | 2.212 |
| 35 × 30                       | 1000 | 2.16 | 0.249 | 820  | 2.07 | 0.303 | 560  | 1.56 | 0.444 | 270  | 0.91 | 1.229 | 220  | 0.91 | 1.508 |
| 35 × 35                       | 1200 | 2.34 | 0.207 | 1000 | 2.22 | 0.249 | 820  | 1.82 | 0.303 | 330  | 1.13 | 1.005 | 270  | 1.13 | 1.229 |
| 35 × 40                       | 1500 | 2.56 | 0.166 | 1200 | 2.42 | 0.207 | 1000 | 1.9  | 0.249 | 390  | 1.26 | 0.851 | 330  | 1.26 | 1.005 |
| 35 × 45                       | 1800 | 2.67 | 0.138 | 1500 | 2.59 | 0.166 | 1200 | 2.10 | 0.207 | 470  | 1.31 | 0.706 | 390  | 1.31 | 0.851 |
| 35 × 50                       | -    | -    | -     | 1800 | 2.70 | 0.138 | -    | -    | -     | 560  | 1.50 | 0.592 | 470  | 1.50 | 0.706 |

I~ 额定纹波电流 Rated ripple current: (A, 105°C, 120HZ)  
 等效串联电阻 ESR : (Ω, 105°C, 120HZ)