

## LSH SERIES

105°C 5000 hours, Miniaturized, Screw Terminal Type

### ◆FEATURES

- Load Life : 105°C 5000 hours
- Smaller size the LSG series.
- RoHS compliance.



### ◆SPECIFICATIONS

| Items                             | Characteristics                                                                                                                                                                              |      |                                            |      |  |          |     |     |     |     |         |      |      |      |      |             |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|--------------------------------------------|------|--|----------|-----|-----|-----|-----|---------|------|------|------|------|-------------|
| Category Temperature Range        | -25~+105℃                                                                                                                                                                                    |      |                                            |      |  |          |     |     |     |     |         |      |      |      |      |             |
| Rated Voltage Range               | 350~450Vdc                                                                                                                                                                                   |      |                                            |      |  |          |     |     |     |     |         |      |      |      |      |             |
| Capacitance Tolerance             | ±20% (20℃,120Hz)                                                                                                                                                                             |      |                                            |      |  |          |     |     |     |     |         |      |      |      |      |             |
| Leakage Current(MAX)              | I=3 √CV or 5mA whichever is smaller.(After 5 minutes application of rated voltage)<br>I=Leakage Current(μA)                      C=Capacitance(μF)                      V=Rated Voltage(Vdc) |      |                                            |      |  |          |     |     |     |     |         |      |      |      |      |             |
| (tanδ)<br>Dissipation Factor(MAX) | <table border="1"><tr><td>Vdc \ φD</td><td>φ51</td><td>φ64</td><td>φ77</td><td>φ90</td></tr><tr><td>350~450</td><td>0.20</td><td>0.25</td><td>0.25</td><td>0.25</td></tr></table>            |      |                                            |      |  | Vdc \ φD | φ51 | φ64 | φ77 | φ90 | 350~450 | 0.20 | 0.25 | 0.25 | 0.25 | (20℃,120Hz) |
| Vdc \ φD                          | φ51                                                                                                                                                                                          | φ64  | φ77                                        | φ90  |  |          |     |     |     |     |         |      |      |      |      |             |
| 350~450                           | 0.20                                                                                                                                                                                         | 0.25 | 0.25                                       | 0.25 |  |          |     |     |     |     |         |      |      |      |      |             |
| Endurance                         | After applying rated voltage with rated ripple current for 5000 hours at 105℃, the capacitors shall meet the following requirements.                                                         |      |                                            |      |  |          |     |     |     |     |         |      |      |      |      |             |
|                                   | Capacitance Change                                                                                                                                                                           |      | Within ±20% of the initial value.          |      |  |          |     |     |     |     |         |      |      |      |      |             |
|                                   | Dissipation Factor                                                                                                                                                                           |      | Not more than 200% of the specified value. |      |  |          |     |     |     |     |         |      |      |      |      |             |
|                                   | Leakage Current                                                                                                                                                                              |      | Not more than the specified value.         |      |  |          |     |     |     |     |         |      |      |      |      |             |

### ◆MULTIPLIER FOR RIPPLE CURRENT

| Frequency (Hz) | 60(50) | 120(100) | 300  | 500  | 1k   | 10k≤ |
|----------------|--------|----------|------|------|------|------|
| Coefficient    | 0.80   | 1.00     | 1.17 | 1.23 | 1.30 | 1.40 |

### ◆PART NUMBER

  
  
  
 LSH
   
  
  
  
 M
   
  
  
 D×L

Rated Voltage      Series      Capacitance      Capacitance Tolerance      Option      Clamp Code      Case Size

### ◆Dimensions in mm (not to scale)

|        |    | (mm)     |      |          |     |    |      |   |
|--------|----|----------|------|----------|-----|----|------|---|
|        |    | I type   |      | Y type   |     |    |      |   |
|        |    | $\phi$ D | W1   | $\phi$ D | W1  | W2 | W3   |   |
| I type | 51 | 34.0     | 40.0 | 3.5      | 6.0 | 12 | 21.8 | F |
|        | 64 | 40.0     | 45.0 | 4.5      | 7.0 | 12 | 28.2 |   |
|        | 77 | 47.0     | 53.0 | 4.5      | 6.0 | 12 | 31.4 |   |
|        | 90 | 54.0     | 60.0 | 4.5      | 6.0 | 14 | 31.4 |   |
| Y type | 51 | 32.5     | 37.5 | 4.5      | 6.0 | 12 | 21.8 |   |
|        | 64 | 38.0     | 43.0 | 4.5      | 8.0 | 14 | 28.2 |   |
|        | 77 | 44.5     | 49.0 | 4.5      | 7.0 | 14 | 31.4 |   |
|        | 90 | 50.8     | 56.0 | 4.5      | 8.0 | 16 | 31.4 |   |

**◆STANDARD SIZE**

| Rated Voltage<br>(Vdc) | Capacitance<br>( $\mu$ F) | Size<br>$\phi$ DXL (mm) | Ripple Current<br>(A.r.m.s. 105°C, 120Hz) |
|------------------------|---------------------------|-------------------------|-------------------------------------------|
| 350                    | 2200                      | 51×83                   | 5.5                                       |
|                        | 2700                      | 51×98                   | 6.2                                       |
|                        | 3300                      | 51×118                  | 7.0                                       |
|                        | 3900                      | 64×99                   | 8.5                                       |
|                        | 4700                      | 64×114                  | 9.5                                       |
|                        | 5600                      | 64×134                  | 10.5                                      |
|                        | 6800                      | 77×116                  | 13.0                                      |
|                        | 8200                      | 77×136                  | 14.5                                      |
|                        | 10000                     | 90×116                  | 18.3                                      |
|                        | 12000                     | 90×136                  | 20.6                                      |
|                        | 15000                     | 90×176                  | 24.2                                      |
|                        | 18000                     | 90×186                  | 26.3                                      |
|                        | 22000                     | 90×231                  | 30.2                                      |
| 400                    | 1800                      | 51×88                   | 5.2                                       |
|                        | 2200                      | 51×103                  | 5.9                                       |
|                        | 2700                      | 64×89                   | 6.9                                       |
|                        | 3300                      | 64×114                  | 7.9                                       |
|                        | 3900                      | 64×114                  | 8.9                                       |
|                        | 4700                      | 64×134                  | 10.0                                      |
|                        | 5600                      | 77×116                  | 12.1                                      |
|                        | 6800                      | 77×136                  | 13.7                                      |
|                        | 8200                      | 90×116                  | 17.2                                      |
|                        | 10000                     | 90×136                  | 19.5                                      |
|                        | 12000                     | 90×176                  | 22.5                                      |
|                        | 15000                     | 90×201                  | 25.5                                      |
|                        | 18000                     | 90×236                  | 28.5                                      |

| Rated Voltage<br>(Vdc) | Capacitance<br>( $\mu$ F) | Size<br>$\phi$ DXL (mm) | Ripple Current<br>(A.r.m.s. 105°C, 120Hz) |
|------------------------|---------------------------|-------------------------|-------------------------------------------|
| 450                    | 1500                      | 51×88                   | 4.9                                       |
|                        | 1800                      | 51×103                  | 5.5                                       |
|                        | 2200                      | 51×133                  | 6.3                                       |
|                        | 2700                      | 51×143                  | 7.0                                       |
|                        | 3300                      | 64×114                  | 8.4                                       |
|                        | 3900                      | 64×134                  | 9.3                                       |
|                        | 4700                      | 77×116                  | 11.4                                      |
|                        | 5600                      | 77×136                  | 12.7                                      |
|                        | 6800                      | 90×116                  | 16.1                                      |
|                        | 8200                      | 90×146                  | 18.6                                      |
|                        | 10000                     | 90×176                  | 21.2                                      |
|                        | 12000                     | 90×201                  | 23.6                                      |
|                        | 15000                     | 90×241                  | 27.0                                      |

**◆Tightening torque of bolt and Permissible current of terminal.**

| Clamp Bolt | Recommended Tightening torque |
|------------|-------------------------------|
| M3         | 0.6 [N·m]                     |
| M4         | 1.3 [N·m]                     |

| Terminal | Recommended Tightening torque<br>(Permissible Range) | Permissible Current<br>of Terminal |
|----------|------------------------------------------------------|------------------------------------|
| M5       | 2.2(1.5~3.2) [N·m]                                   | 60Arms                             |