# LHR SERIES NEW

## 105℃ Low Thermal Resistance

- Load Life : 105℃ 5000 hours.
- Low thermal resistance structure.

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 $\sqrt{CV}$ or 5mA whichever is smaller. (After 5 minutes application of rated voltage)<br>I=Leakage Current(μA) C=Capacitance(μF) V=Rated Voltage(Vdc) |
| Dissipation Factor(MAX) (tanδ) | (20℃,120Hz) |

| Vdc \ φD | 64 | 77 | 90 |
|---|---|---|---|
| 350～450 | 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

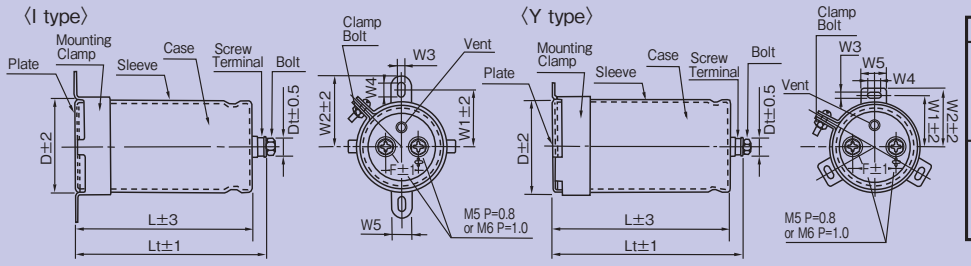
| Frequency(Hz) | 60(50) | 120(100) | 300 | 500 | 1k | 10k≦ |
|---|---|---|---|---|---|---|
| Coefficient | 0.80 | 1.00 | 1.17 | 1.23 | 1.30 | 1.40 |

## ◆PART NUMBER

□□□ Rated Voltage | LHR Series | □□□□□ Capacitance | M Capacitance Tolerance | □□□ Option | □□ Mounting Code | D×L Case Size

## ◆DIMENSIONS

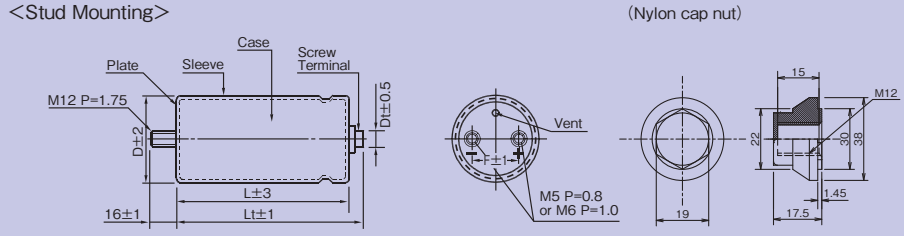
<Clamp Mounting>




(mm)

| | φD | Dt | W1 | W2 | W3 | W4 | W5 | F |
|---|---|---|---|---|---|---|---|---|
| I type | 64 | 13.0 | 40.0 | 45.0 | 4.5 | 7.0 | 12 | 28.5 |
| | 77 | 17.3 | 47.0 | 53.0 | 4.5 | 6.0 | 12 | 31.8 |
| | 90 | 17.3 | 54.0 | 60.0 | 4.5 | 6.0 | 14 | 31.8 |
| Y type | 64 | 13.0 | 38.0 | 43.0 | 4.5 | 8.0 | 14 | 28.5 |
| | 77 | 17.3 | 44.5 | 49.0 | 4.5 | 7.0 | 14 | 31.8 |
| | 90 | 17.3 | 50.8 | 56.0 | 4.5 | 8.0 | 16 | 31.8 |

<Stud Mounting>




(mm)

| φD | Dt | F |
|---|---|---|
| 64 | 13.0 | 28.5 |
| 77 | 17.3 | 31.8 |
| 90 | 17.3 | 31.8 |

・Nut and washer for stud mountiong are option.

## ◆STANDARD SIZE

| Rated Voltage (Vdc) | Capacitance (uF) | Size | | Rated Ripple Current (Arms 105℃, 120Hz) | |
|---|---|---|---|---|---|
| | | φDXL(mm) | Lt(mm) | Ta=105℃※1 | Tc=105℃※2 |
| 350 | 2700 | 64×96 | 103 | 8.2 | 11.7 |
| | 3300 | 64×106 | 113 | 9.0 | 12.7 |
| | 3900 | 64×126 | 133 | 10.2 | 14.0 |
| | 4700 | 64×146 | 153 | 11.5 | 15.4 |
| | 4700 | 77×103 | 109.5 | 12.2 | 17.8 |
| | 5600 | 64×146 | 153 | 11.9 | 16.0 |
| | 5600 | 77×113 | 119.5 | 14.4 | 20.8 |
| | 6800 | 77×133 | 139.5 | 15.1 | 21.3 |
| | 6800 | 90×103 | 109.8 | 17.1 | 27.9 |
| | 8200 | 77×153 | 159.5 | 17.1 | 23.5 |
| | 8200 | 90×113 | 119.8 | 18.8 | 30.3 |
| | 10000 | 77×193 | 199.5 | 20.0 | 26.5 |
| | 10000 | 90×133 | 139.8 | 21.4 | 33.5 |
| | 12000 | 77×220 | 226.5 | 22.1 | 28.9 |
| | 12000 | 90×153 | 159.8 | 24.2 | 36.9 |
| | 15000 | 90×193 | 199.8 | 28.7 | 42.0 |
| | 18000 | 90×220 | 226.8 | 31.9 | 45.7 |
| 400 | 2200 | 64×96 | 103 | 7.7 | 11.1 |
| | 2700 | 64×106 | 113 | 8.6 | 12.1 |
| | 3300 | 64×126 | 133 | 9.8 | 13.4 |
| | 3900 | 64×146 | 153 | 10.9 | 14.7 |
| | 3900 | 77×103 | 109.5 | 11.6 | 17.0 |
| | 4700 | 77×113 | 119.5 | 13.7 | 19.8 |
| | 5600 | 77×133 | 139.5 | 15.4 | 21.7 |
| | 5600 | 90×103 | 109.8 | 16.3 | 26.6 |
| | 6800 | 77×153 | 159.5 | 17.4 | 23.9 |
| | 6800 | 90×113 | 119.8 | 18.0 | 28.9 |
| | 8200 | 77×193 | 199.5 | 18.9 | 25.2 |
| | 8200 | 90×133 | 139.8 | 20.4 | 31.9 |
| | 10000 | 77×220 | 226.5 | 21.1 | 27.5 |
| | 10000 | 90×153 | 159.8 | 23.1 | 35.3 |
| | 12000 | 90×193 | 199.8 | 27.1 | 39.7 |
| | 15000 | 90×220 | 226.8 | 30.5 | 43.6 |

| Rated Voltage (Vdc) | Capacitance (uF) | Size | | Rated Ripple Current (Arms 105℃, 120Hz) | |
|---|---|---|---|---|---|
| | | φDXL(mm) | Lt(mm) | Ta=105℃※1 | Tc=105℃※2 |
| 450 | 1800 | 64×96 | 103 | 7.3 | 10.5 |
| | 2200 | 64×106 | 113 | 8.1 | 11.4 |
| | 2700 | 64×126 | 133 | 9.2 | 12.7 |
| | 2700 | 77×103 | 109.5 | 10.5 | 15.3 |
| | 3300 | 64×146 | 153 | 10.4 | 14.0 |
| | 3300 | 77×113 | 119.5 | 11.6 | 16.7 |
| | 3900 | 77×133 | 139.5 | 13.0 | 18.3 |
| | 4700 | 77×153 | 159.5 | 14.7 | 20.1 |
| | 4700 | 90×103 | 109.8 | 15.5 | 25.3 |
| | 5600 | 77×153 | 159.5 | 16.4 | 22.6 |
| | 5600 | 90×133 | 139.8 | 18.4 | 28.7 |
| | 6800 | 77×193 | 199.5 | 18.0 | 23.9 |
| | 6800 | 90×133 | 139.8 | 19.5 | 30.4 |
| | 8200 | 77×220 | 226.5 | 20.0 | 26.0 |
| | 8200 | 90×153 | 159.8 | 21.9 | 33.4 |
| | 10000 | 90×193 | 199.8 | 25.7 | 37.7 |
| | 12000 | 90×220 | 226.8 | 28.7 | 41.0 |

Ta:Ambient temperature under natural convection.
Tc:Case bottom temperature.

※1:Rated ripple current in continuous operation under natural convection at Ta=105℃.
※2:Rated ripple current in continuous operation under forced convection at Tc=105℃.

## ◆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 (Permissible Range) | Permissible Current of Terminal |
|---|---|---|
| M5 | 2.2(1.5～3.2) [N·m] | 60[A r.m.s.] |
| M6 | 3.2(3.0～3.5) [N·m] | 100[A r.m.s.] |

## ◆Tightening torque of stud fixing nylon nut

| Nylon Nut | Recommended Tightening torque |
|---|---|
| M12 | 10.0 [N·m] |