# LSQ SERIES

## 85℃ Standard, Screw Terminal Type

## ◆FEATURES

- Load Life : 85℃ 3000 hours.
- RoHS compliance.

## ◆SPECIFICATIONS

| Items | Characteristics | |
|---|---|---|
| Category Temperature Range | −40～+85℃ | −25～+85℃ |
| Rated Voltage Range | 10～100V.DC | 160～450V.DC |
| Capacitance Tolerance | ±20%（20℃，120Hz） | |

**Dissipation Factor(MAX) (tan δ)**

| WV \ φD | 36 | 51 | 64 | 77 | 90 |
|---|---|---|---|---|---|
| 10 | 0.75 | 1.0 | 1.3 | 1.5 | 1.5 |
| 16 | 0.6 | 0.7 | 0.8 | 1.0 | 1.0 |
| 25 | 0.4 | 0.5 | 0.7 | 0.8 | 0.8 |
| 35 | 0.3 | 0.5 | 0.6 | 0.7 | 0.7 |
| 50 | 0.25 | 0.3 | 0.5 | 0.6 | 0.6 |

| WV \ φD | 36 | 51 | 64 | 77 | 90 |
|---|---|---|---|---|---|
| 63 | 0.2 | 0.25 | 0.3 | 0.4 | 0.4 |
| 80 | 0.2 | 0.2 | 0.25 | 0.3 | 0.3 |
| 100 | 0.15 | 0.2 | 0.25 | 0.25 | 0.25 |
| 160～250 | 0.15 | 0.15 | 0.2 | 0.2 | 0.2 |
| 315～450 | 0.2 | 0.2 | 0.25 | 0.25 | 0.25 |

(20℃, 120Hz)

**Leakage Current(MAX)**

I=0.02CV or 5mA whichever is smaller. (After 5 minutes application of rated voltage)

I=Leakage Current(μA) V=Rated Voltage(V) C=Rated Capacitance(μF)

**Endurance**

After applying rated voltage with rated ripple current for 3000hrs at 85℃, the capacitors shall meet the following requirements.

| | |
|---|---|
| Capacitance Change | Within ±15% of the initial value. |
| Dissipation Factor | Not more than 175% of the specified value. |
| Leakage Current | Not more than the specified value. |

**Shelf Life**

After storage for 500 hours with no voltage applied at 85℃, the capacitors shall be subjected to the voltage treatment in JIS C 5102 and shall be meet the following requirements.

| | |
|---|---|
| Capacitance Change | Within ±15% of the initial value. |
| Dissipation Factor | Not more than 150% of the specified value. |
| Leakage Current | Not more than the specified value. |

## ◆MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

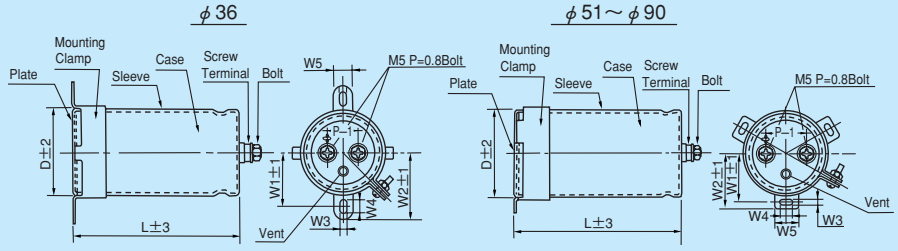
| (Hz) Frequency | | 60(50) | 120 | 400 | 1k | 10k≦ |
|---|---|---|---|---|---|---|
| Coefficient | 10～50WV | 0.80 | 1.00 | 1.03 | 1.05 | 1.08 |
| | 63～100WV | 0.80 | 1.00 | 1.05 | 1.07 | 1.10 |
| | 160～450WV | 0.80 | 1.00 | 1.10 | 1.13 | 1.18 |

## ◆PART NUMBER

□□□ (Rated Voltage) LSQ (Series) □□□□□ (Rated Capacitance) □ (Capacitance Tolerance) □□□ (Option) D×L (Case Size)

## ◆DIMENSIONS

(mm)




| φD | W1 | W2 | W3 | W4 | W5 | P |
|---|---|---|---|---|---|---|
| 36 | 24.0 | 30.0 | 3.5 | 7 | 10 | 12.7 |
| 51 | 32.5 | 37.5 | 4.5 | 6 | 12 | 21.8 |
| 64 | 38.0 | 43.0 | 4.5 | 8 | 14 | 28.2 |
| 77 | 43.5 | 49.0 | 4.5 | 7 | 14 | 31.4 |
| 90 | 50.8 | 56.0 | 4.5 | 8 | 16 | 31.4 |

※Please notice the following conditions for use.
（1） Maximum screw terminal tightening torque; 33kgÆcm or less.
（2） Maximum ripple current shall be 50Arms or less because of the rated current of M5 screw terminal.

## ◆STANDARD SIZE, RATED RIPPLE CURRENT

| WV / Cap(μF) | 10V | | 16V | | 25V | | 35V | | 50V | | 63V | | 80V | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 3300 | | | | | | | | | | | | | 36×50 | 2.5 |
| 3900 | | | | | | | | | | | | | 36×50 | 2.6 |
| 4700 | | | | | | | | | | | | | 36×50 | 2.8 |
| 5600 | | | | | | | | | | | 36×50 | 3.0 | 36×63 | 2.9 |
| 6800 | | | | | | | | | 36×50 | 3.3 | 36×50 | 3.2 | 36×83 | 3.7 |
| 8200 | | | | | | | | | 36×50 | 3.7 | 36×63 | 3.8 | 36×83 | 4.2 |
| 10000 | | | | | | | 36×50 | 3.6 | 36×50 | 4.3 | 36×83 | 4.1 | 36×98 | 5.0 |
| 12000 | | | | | | | 36×50 | 3.7 | 36×63 | 5.3 | 36×83 | 4.4 | 36×118 | 5.4 |
| 15000 | | | | | | | 36×50 | 4.0 | 36×83 | 5.5 | 36×98 | 5.5 | 51×83 | 7.7 |
| 18000 | | | | | 36×50 | 5.0 | 36×63 | 4.7 | 36×83 | 5.7 | 36×118 | 6.2 | 51×83 | 7.8 |
| 22000 | | | | | 36×63 | 5.4 | 36×83 | 5.6 | 36×98 | 6.1 | 51×83 | 7.1 | 51×83 | 8.0 |
| 27000 | | | 36×50 | 5.1 | 36×83 | 5.8 | 36×83 | 6.2 | 36×118 | 6.7 | 51×83 | 7.4 | 51×98 | 8.7 |
| 33000 | | | 36×63 | 5.5 | 36×83 | 6.0 | 36×83 | 6.3 | 51×83 | 7.1 | 51×98 | 8.8 | 51×118 | 10.5 |
| 39000 | 36×50 | 5.3 | 36×83 | 7.0 | 36×83 | 6.7 | 36×98 | 7.6 | 51×83 | 7.4 | 51×118 | 10.0 | 64×99 | 12.1 |
| 47000 | 36×63 | 6.0 | 36×83 | 7.3 | 36×98 | 8.0 | 36×118 | 8.7 | 51×98 | 8.7 | 64×99 | 11.9 | 64×99 | 14.4 |
| 56000 | 36×83 | 6.3 | 36×98 | 7.6 | 36×118 | 8.4 | 51×83 | 10.0 | 51×98 | 9.8 | 64×99 | 12.6 | 64×119 | 15.0 |
| 68000 | 36×83 | 7.9 | 36×98 | 10.3 | 51×83 | 9.3 | 51×83 | 10.8 | 51×118 | 12.0 | 64×119 | 15.0 | 64×139 | 16.8 |
| 82000 | 36×83 | 8.4 | 36×118 | 10.5 | 51×83 | 10.0 | 51×98 | 12.0 | 64×99 | 12.3 | 77×101 | 16.4 | 77×121 | 19.4 |
| 100000 | 36×118 | 9.3 | 51×83 | 10.9 | 51×98 | 12.0 | 51×118 | 13.6 | 64×119 | 14.2 | 77×121 | 18.9 | 77×141 | 21.5 |
| 120000 | 51×83 | 10.0 | 51×98 | 11.1 | 51×118 | 12.9 | 64×99 | 13.8 | 64×119 | 16.0 | 77×141 | 21.6 | 90×141 | 22.3 |
| 150000 | 51×83 | 11.0 | 51×98 | 12.6 | 64×99 | 15.3 | 64×99 | 14.6 | 77×121 | 18.6 | 90×141 | 26.0 | | |
| 180000 | 51×98 | 12.1 | 51×118 | 13.2 | 64×99 | 15.5 | 64×119 | 16.7 | 77×141 | 19.5 | | | | |
| 220000 | 51×98 | 14.0 | 64×99 | 14.7 | 64×119 | 18.0 | 77×101 | 17.4 | 90×141 | 23.3 | | | | |
| 270000 | 51×118 | 14.2 | 64×119 | 15.4 | 77×101 | 18.8 | 77×141 | 23.1 | 90×141 | 24.8 | | | | |
| 330000 | 64×99 | 17.3 | 64×139 | 18.3 | 77×121 | 23.2 | 77×151 | 25.9 | | | | | | |
| 390000 | 64×119 | 18.0 | 77×121 | 19.0 | 77×141 | 23.5 | 90×141 | 26.5 | | | | | | |
| 470000 | 64×139 | 19.3 | 77×141 | 22.0 | 90×141 | 24.7 | 90×151 | 28.3 | | | | | | |
| 560000 | 77×121 | 20.1 | 77×151 | 23.0 | 90×141 | 26.2 | | | | | | | | |
| 680000 | 77×141 | 24.0 | | | | | | | | | | | | |

| WV / Cap(μF) | 100V | | 160V | | 200V | | 250V | | 350V | | 400V | | 450V | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 270 | | | | | | | | | | | 36×50 | 1.3 | 36×50 | 1.6 |
| 330 | | | | | | | | | | | 36×50 | 1.7 | 36×63 | 1.8 |
| 390 | | | | | | | | | 36×50 | 1.9 | 36×63 | 1.8 | 36×83 | 2.2 |
| 470 | | | | | | | 36×50 | 1.6 | 36×63 | 2.1 | 36×83 | 2.3 | 36×83 | 2.4 |
| 560 | | | | | | | 36×50 | 1.6 | 36×83 | 2.4 | 36×83 | 2.7 | 36×98 | 2.8 |
| 680 | | | | | 36×50 | 1.6 | 36×50 | 1.7 | 36×83 | 2.9 | 36×98 | 2.9 | 36×118 | 3.1 |
| 820 | | | | | 36×50 | 1.7 | 36×63 | 1.8 | 36×98 | 3.4 | 36×98 | 3.4 | 51×83 | 3.6 |
| 1000 | | | | | 36×63 | 2.2 | 36×83 | 2.4 | 36×98 | 3.8 | 36×118 | 3.9 | 51×83 | 4.0 |
| 1200 | | | 36×50 | 2.3 | 36×63 | 2.3 | 36×83 | 2.4 | 36×118 | 4.2 | 51×83 | 4.2 | 51×98 | 4.8 |
| 1500 | | | 36×63 | 3.2 | 36×83 | 2.9 | 36×98 | 3.1 | 51×83 | 4.7 | 51×98 | 4.8 | 51×118 | 5.7 |
| 1800 | | | 36×83 | 3.4 | 36×83 | 2.9 | 36×118 | 3.4 | 51×98 | 6.3 | 51×98 | 5.7 | 64×99 | 6.5 |
| 2200 | 36×50 | 2.5 | 36×83 | 3.6 | 36×98 | 3.6 | 51×83 | 3.9 | 51×98 | 6.4 | 51×118 | 7.0 | 64×99 | 7.2 |
| 2700 | 36×50 | 2.7 | 36×98 | 3.8 | 36×118 | 4.0 | 51×83 | 4.0 | 64×99 | 8.8 | 64×99 | 7.9 | 64×119 | 8.7 |
| 3300 | 36×50 | 3.2 | 36×118 | 4.7 | 51×83 | 4.6 | 51×98 | 5.4 | 64×99 | 8.8 | 64×119 | 9.5 | 77×121 | 10.5 |
| 3900 | 36×63 | 3.3 | 51×83 | 5.3 | 51×83 | 4.7 | 51×118 | 6.0 | 64×119 | 10.3 | 77×101 | 10.7 | 77×121 | 12.0 |
| 4700 | 36×83 | 3.5 | 51×83 | 5.6 | 51×98 | 7.1 | 64×99 | 7.3 | 77×101 | 12.0 | 77×121 | 12.8 | 77×141 | 13.3 |
| 5600 | 36×83 | 3.8 | 51×98 | 6.4 | 51×118 | 8.3 | 64×99 | 7.3 | 77×121 | 12.7 | 77×141 | 14.5 | 90×141 | 15.8 |
| 6800 | 36×98 | 4.5 | 51×98 | 7.5 | 64×99 | 9.5 | 64×119 | 8.9 | 77×141 | 16.0 | 77×151 | 17.5 | 90×151 | 18.7 |
| 8200 | 36×118 | 6.0 | 51×118 | 8.1 | 64×99 | 10.0 | 77×101 | 8.9 | 90×141 | 19.0 | 90×141 | 18.0 | | |
| 10000 | 36×118 | 6.3 | 64×99 | 9.9 | 64×119 | 11.1 | 77×121 | 11.8 | 90×141 | 20.0 | 90×151 | 20.5 | | |
| 12000 | 51×83 | 6.6 | 64×119 | 10.8 | 77×101 | 11.6 | 77×141 | 13.1 | | | | | | |
| 15000 | 51×83 | 8.5 | 77×101 | 12.7 | 77×121 | 12.9 | 90×141 | 16.5 | | | | | | |
| 18000 | 51×98 | 8.9 | 77×121 | 14.1 | 77×141 | 15.2 | | | | | | | | |
| 22000 | 51×118 | 10.2 | 77×141 | 16.6 | 90×141 | 15.6 | | | | | | | | |
| 27000 | 64×99 | 11.0 | 90×141 | 17.7 | | | | | | | | | | |
| 33000 | 64×119 | 11.7 | 90×141 | 18.9 | | | | | | | | | | |
| 39000 | 77×101 | 12.5 | | | | | | | | | | | | |
| 47000 | 77×121 | 14.5 | | | | | | | | | | | | |
| 56000 | 77×141 | 16.2 | | | | | | | | | | | | |
| 68000 | 77×151 | 18.3 | | | | | | | | | | | | |
| 82000 | 90×141 | 20.1 | | | | | | | | | | | | |
| 100000 | 90×141 | 21.0 | | | | | | | | | | | | |

Ripple Current (A r.m.s./120Hz, 85℃)
Case Size φD×L(mm)