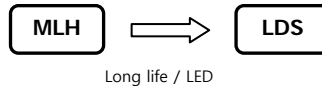




## LDS series

- Long Life
- High Ripple
- RoHS Compliant

- 105°C 6,000Hrs assured.
- Long life, High ripple
- For LED Light, LED power
- RoHS compliant
- Halogen-free capacitors are also available.

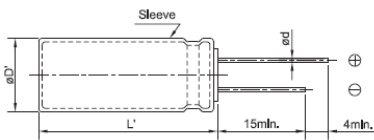


### Specifications

| Item  | Characteristics   |           |               |           |
|---|---|-----------|---------------|-----------|
| Rated Voltage Range                               | 160 ~ 400 Vdc   |           | 450 ~ 500 Vdc |           |
| Operating Temperature Range                       | -40 ~ +105 °C   |           | -25 ~ +105 °C |           |
| Capacitance Tolerance                             | ±20% (M) (at 20°C, 120Hz)   |           |               |           |
| Leakage Current                                   | I=0.01CV+10(μA) at 160~400Vdc, I=0.03CV+10(μA) at 450~500Vdc (at 20°C, 2min)<br>Where, I:Max. Leakage current(μA), C:Nominal capacitance(μF), V:Rated voltage(Vdc)  |           |               |           |
| Dissipation Factor(Tanδ)                          | Rated voltage (Vdc)   | 160 ~ 400 | 450           | 500       |
|   | Tanδ (max.)   | 0.08      | 0.12          | 0.20      |
| (at 20°C, 120Hz)                                  |   |           |               |           |
| Temperature characteristics (Max,impedance ratio) | Rated voltage (Vdc)   | 160 ~ 250 | 350 ~ 400     | 450 ~ 500 |
|   | Z(-25°C)/Z(20°C)  | 3         | 5             | 6         |
|   | Z(-40°C)/Z(20°C)  | 6         | 6             | -         |
| (at 120Hz)  |   |           |               |           |
| Load life   | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for specified life times at 105°C6,000hrs.<br>Capacitance change ≤±20%of the initial value<br>Tan δ ≤200% of the initial specified value<br>Leakage current ≤The initial specified value  |           |               |           |
| Shelf life  | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. The rated voltage shall be applied to the capacitors for a minimum of 30 minutes at least 24 hours and not more than 48 hours before the measurements.<br>Capacitance change ≤±20% of the initial value<br>Tanδ ≤200% of the initial specified value<br>Leakage current ≤200%The initial specified value |           |               |           |

### Dimensions

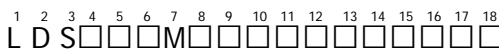
Unit(mm)



| ØD  | 8           | 10  | 12.5      | 16  | 18  | 20  | 22   |
|-----|-------------|-----|-----------|-----|-----|-----|------|
| ød  | 0.5         | 0.6 | 0.6       | 0.6 | 0.8 | 0.8 | 0.8  |
| F   | 3.5         | 5.0 | 5.0       | 7.5 | 7.5 | 7.5 | 10.0 |
| ØD' | ØD+0.5 max. |     |           |     |     |     |      |
| L'  | L+1.5 max   |     | L+2.0 max |     |     |     |      |

- Printed gold color letter on PET dark green sleeve

### Code numbering system



- Taping, Cutting
- Terminal type
- Size (8X16: F16)
- Capacitance
- Capacitance tolerance(M:±20%, K:±10%, V :-10~20%)
- Ratedvoltage(ex. 160V→160)
- Series name

|       |   |
|-------|---|
| Ø8    | F |
| Ø10   | G |
| Ø12.5 | X |
| Ø16   | J |
| Ø18   | K |
| Ø20   | L |
| Ø22   | M |

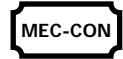


LDS series ■ Standard Ratings

Note1) Ripple current = mA/105°C, 100kHz

| VV (Vdc)  | Cap (uF)  | Size ØxL (mm) | Tan δ | Ripple <sup>1)</sup> | Code No            |
|-----------|-----------|---------------|-------|----------------------|--------------------|
| 160       | 1.0       | 6.3 x 12      | 0.08  | 40                   | LDS160□1R0E12CS□□□ |
|           | 1.5       | 6.3 x 12      | 0.08  | 50                   | LDS160□1R5E12CS□□□ |
|           | 1.8       | 6.3 x 12      | 0.08  | 56                   | LDS160□1R8E12CS□□□ |
|           | 2.2       | 6.3 x 12      | 0.08  | 60                   | LDS160□2R2E12CS□□□ |
|           | 2.8       | 6.3 x 12      | 0.08  | 65                   | LDS160□2R8E12CS□□□ |
|           | 3.3       | 6.3 x 12      | 0.08  | 68                   | LDS160□3R3E12CS□□□ |
|           | 4.7       | 6.3 x 12      | 0.08  | 72                   | LDS160□4R7E12CS□□□ |
|           | 5.6       | 8 x 12        | 0.08  | 76                   | LDS160□5R6F12CS□□□ |
|           | 6.8       | 8 x 12        | 0.08  | 96                   | LDS160□6R8F12CS□□□ |
|           | 10        | 8 x 12        | 0.08  | 206                  | LDS160□1R0F12CS□□□ |
|           |           | 8 x 16        | 0.08  | 216                  | LDS160□100F12CS□□□ |
|           | 15        | 8 x 16        | 0.08  | 225                  | LDS160□100F16CS□□□ |
|           |           | 8 x 20        | 0.08  | 360                  | LDS160□220F20CS□□□ |
|           | 22        | 10 x 16       | 0.08  | 360                  | LDS160□220G16CS□□□ |
|           |           | 10 x 20       | 0.08  | 450                  | LDS160□330G20CS□□□ |
| 47        | 10 x 20   | 0.08          | 500   | LDS160□470G20CS□□□   |                    |
| 68        | 12.5 x 20 | 0.08          | 600   | LDS160□680X20CS□□□   |                    |
| 100       | 12.5 x 25 | 0.08          | 722   | LDS160□101X25CS□□□   |                    |
|           | 16 x 20   | 0.08          | 722   | LDS160□101G20CS□□□   |                    |
| 150       | 16 x 25   | 0.08          | 798   | LDS160□151G25CS□□□   |                    |
| 200       | 1.0       | 6.3 x 12      | 0.08  | 42                   | LDS200□1R0E12CS□□□ |
|           | 1.5       | 6.3 x 12      | 0.08  | 54                   | LDS200□1R0E12CS□□□ |
|           | 1.8       | 6.3 x 12      | 0.08  | 60                   | LDS200□1R0E12CS□□□ |
|           | 2.2       | 6.3 x 12      | 0.08  | 68                   | LDS200□1R0E12CS□□□ |
|           | 3.3       | 6.3 x 12      | 0.08  | 72                   | LDS200□1R0E12CS□□□ |
|           | 4.7       | 6.3 x 12      | 0.08  | 78                   | LDS200□1R0E12CS□□□ |
|           | 5.6       | 8 x 12        | 0.08  | 98                   | LDS200□1R0E12CS□□□ |
|           | 6.8       | 8 x 16        | 0.08  | 103                  | LDS200□1R0E12CS□□□ |
|           | 10        | 8 x 16        | 0.08  | 189                  | LDS200□1R0E12CS□□□ |
|           | 15        | 8 x 16        | 0.08  | 213                  | LDS200□1R0E12CS□□□ |
|           |           | 8 x 20        | 0.08  | 250                  | LDS200□1R0E12CS□□□ |
|           | 22        | 8 x 20        | 0.08  | 380                  | LDS200□1R0E12CS□□□ |
|           |           | 10 x 16       | 0.08  | 380                  | LDS200□1R0E12CS□□□ |
|           | 33        | 10 x 20       | 0.08  | 450                  | LDS200□1R0E12CS□□□ |
|           | 47        | 12.5 x 20     | 0.08  | 580                  | LDS200□1R0E12CS□□□ |
| 68        | 12.5 x 25 | 0.08          | 665   | LDS200□1R0E12CS□□□   |                    |
| 100       | 16 x 25   | 0.08          | 760   | LDS200□1R0E12CS□□□   |                    |
| 150       | 16 x 30   | 0.08          | 895   | LDS200□1R0E12CS□□□   |                    |
| 250       | 1.0       | 6.3 x 12      | 0.08  | 46                   | LDS250□1R0E12CS□□□ |
|           | 1.5       | 6.3 x 12      | 0.08  | 58                   | LDS250□1R5E12CS□□□ |
|           | 1.8       | 6.3 x 12      | 0.08  | 62                   | LDS250□1R8E12CS□□□ |
|           | 2.2       | 6.3 x 12      | 0.08  | 75                   | LDS250□2R2E12CS□□□ |
|           | 2.8       | 6.3 x 12      | 0.08  | 78                   | LDS250□2R8E12CS□□□ |
|           | 3.3       | 6.3 x 12      | 0.08  | 83                   | LDS250□3R3E12CS□□□ |
|           | 4.7       | 8 x 12        | 0.08  | 102                  | LDS250□4R7F12CS□□□ |
|           | 5.6       | 8 x 12        | 0.08  | 105                  | LDS250□5R6F12CS□□□ |
|           | 6.8       | 8 x 16        | 0.08  | 115                  | LDS250□6R8F16CS□□□ |
|           | 8.2       | 8 x 16        | 0.08  | 120                  | LDS250□8R2F16CS□□□ |
|           | 10        | 8 x 16        | 0.08  | 150                  | LDS250□100F16CS□□□ |
|           | 15        | 8 x 20        | 0.08  | 367                  | LDS250□150F20CS□□□ |
|           | 22        | 10 x 16       | 0.08  | 430                  | LDS250□220G16CS□□□ |
|           | 33        | 12.5 x 20     | 0.08  | 535                  | LDS250□330X20CS□□□ |
|           | 47        | 12.5 x 20     | 0.08  | 627                  | LDS250□470X20CS□□□ |
| 12.5 x 25 |           | 0.08          | 660   | LDS250□470X25CS□□□   |                    |
| 68        | 16 x 25   | 0.08          | 720   | LDS250□680G25CS□□□   |                    |
| 100       | 16 x 30   | 0.08          | 836   | LDS250□101G30CS□□□   |                    |
| 150       | 16 x 35   | 0.08          | 978   | LDS250□151G35CS□□□   |                    |
| 350       | 1.0       | 6.3 x 12      | 0.08  | 50                   | LDS350□1R0E12CS□□□ |
|           | 1.5       | 6.3 x 12      | 0.08  | 52                   | LDS350□1R5E12CS□□□ |
|           | 1.8       | 6.3 x 12      | 0.08  | 54                   | LDS350□1R8E12CS□□□ |
|           | 2.2       | 6.3 x 12      | 0.08  | 57                   | LDS350□2R2E12CS□□□ |
|           | 2.8       | 8 x 12        | 0.08  | 65                   | LDS350□2R8F12CS□□□ |
| 3.3       | 8 x 12    | 0.08          | 72    | LDS350□3R3F12CS□□□   |                    |

| VV (Vdc) | Cap (uF)  | Size ØxL (mm) | Tan δ | Ripple <sup>1)</sup> | Code No            |
|----------|-----------|---------------|-------|----------------------|--------------------|
| 350      | 4.7       | 8 x 12        | 0.08  | 85                   | LDS350□4R7F12CS□□□ |
|          | 5.6       | 8 x 16        | 0.08  | 103                  | LDS350□5R6F16CS□□□ |
|          | 6.8       | 8 x 20        | 0.08  | 128                  | LDS350□6R8F20CS□□□ |
|          | 8.2       | 8 x 20        | 0.08  | 144                  | LDS350□8R2F20CS□□□ |
|          | 10        | 8 x 20        | 0.08  | 207                  | LDS350□100F20CS□□□ |
|          | 15        | 10 x 20       | 0.08  | 285                  | LDS350□150G20CS□□□ |
|          | 22        | 12.5 x 20     | 0.08  | 410                  | LDS350□220X20CS□□□ |
|          | 33        | 12.5 x 25     | 0.08  | 480                  | LDS350□330X25CS□□□ |
|          | 47        | 16 x 20       | 0.08  | 550                  | LDS350□470G20CS□□□ |
|          | 68        | 18 x 20       | 0.08  | 700                  | LDS350□680K20CS□□□ |
| 100      | 18 x 30   | 0.08          | 900   | LDS350□101K30CS□□□   |                    |
| 400      | 1.0       | 6.3 x 12      | 0.08  | 59                   | LDS400□1R0E12CS□□□ |
|          | 1.2       | 6.3 x 12      | 0.08  | 63                   | LDS400□1R2E12CS□□□ |
|          | 1.5       | 8 x 12        | 0.08  | 72                   | LDS400□1R5F12CS□□□ |
|          | 1.8       | 8 x 12        | 0.08  | 75                   | LDS400□1R8F12CS□□□ |
|          | 2.2       | 6.3 x 12      | 0.08  | 68                   | LDS400□2R2E12CS□□□ |
|          |           | 8 x 12        | 0.08  | 78                   | LDS400□2R2F12CS□□□ |
|          | 2.8       | 8 x 16        | 0.08  | 85                   | LDS400□2R8F16CS□□□ |
|          |           | 8 x 12        | 0.08  | 91                   | LDS400□3R3F12CS□□□ |
|          | 3.3       | 8 x 16        | 0.08  | 95                   | LDS400□3R3F16CS□□□ |
|          |           | 8 x 12        | 0.08  | 104                  | LDS400□4R7F12CS□□□ |
|          | 4.7       | 8 x 16        | 0.08  | 110                  | LDS400□4R7F16CS□□□ |
|          |           | 8 x 20        | 0.08  | 138                  | LDS400□5R6F20CS□□□ |
|          | 5.6       | 10 x 16       | 0.08  | 138                  | LDS400□5R6G16CS□□□ |
|          |           | 8 x 20        | 0.08  | 148                  | LDS400□6R8F20CS□□□ |
|          | 6.8       | 10 x 16       | 0.08  | 148                  | LDS400□6R8G16CS□□□ |
| 10 x 16  |           | 0.08          | 218   | LDS400□8R2G16CS□□□   |                    |
| 8.2      | 10 x 20   | 0.08          | 230   | LDS400□8R2G20CS□□□   |                    |
|          | 10 x 16   | 0.08          | 226   | LDS400□100G16CS□□□   |                    |
| 10       | 10 x 20   | 0.08          | 238   | LDS400□100G20CS□□□   |                    |
|          | 12.5 x 20 | 0.08          | 300   | LDS400□150X20CS□□□   |                    |
| 22       | 12.5 x 25 | 0.08          | 380   | LDS400□220X25CS□□□   |                    |
|          | 16 x 20   | 0.08          | 380   | LDS400□220J20CS□□□   |                    |
| 33       | 16 x 25   | 0.08          | 550   | LDS400□330J25CS□□□   |                    |
|          | 16 x 30   | 0.08          | 579   | LDS400□330J30CS□□□   |                    |
| 47       | 12.5 x 40 | 0.08          | 630   | LDS400□470X40CS□□□   |                    |
|          | 16 x 35   | 0.08          | 637   | LDS400□470J35CS□□□   |                    |
| 68       | 18 x 30   | 0.08          | 760   | LDS400□680K30CS□□□   |                    |
| 100      | 18 x 40   | 0.08          | 1,100 | LDS400□101K40CS□□□   |                    |
| 450      | 1.0       | 8 x 12        | 0.12  | 60                   | LDS450□1R0F12CS□□□ |
|          | 1.5       | 8 x 12        | 0.12  | 70                   | LDS450□1R5F12CS□□□ |
|          | 1.8       | 8 x 12        | 0.12  | 72                   | LDS450□1R8F12CS□□□ |
|          | 2.2       | 8 x 16        | 0.12  | 75                   | LDS450□2R2F16CS□□□ |
|          | 2.8       | 8 x 16        | 0.12  | 79                   | LDS450□2R8F16CS□□□ |
|          | 3.3       | 8 x 16        | 0.12  | 86                   | LDS450□3R3F16CS□□□ |
|          | 4.7       | 8 x 20        | 0.12  | 99                   | LDS450□4R7F20CS□□□ |
|          | 5.6       | 10 x 16       | 0.12  | 115                  | LDS450□5R6G16CS□□□ |
|          | 6.8       | 10 x 20       | 0.12  | 158                  | LDS450□6R8G20CS□□□ |
|          | 8.2       | 10 x 20       | 0.12  | 209                  | LDS450□8R2G20CS□□□ |
|          | 10        | 10 x 20       | 0.12  | 225                  | LDS450□100G20CS□□□ |
|          | 15        | 12.5 x 20     | 0.12  | 332                  | LDS450□150X20CS□□□ |
|          | 22        | 12.5 x 25     | 0.12  | 427                  | LDS450□220X25CS□□□ |
|          | 33        | 10 x 45       | 0.12  | 510                  | LDS450□330G45CS□□□ |
|          |           | 16 x 25       | 0.12  | 522                  | LDS450□330J25CS□□□ |
| 47       | 12.5 x 45 | 0.12          | 660   | LDS450□470X45CS□□□   |                    |
|          | 16 x 35   | 0.12          | 700   | LDS450□470J35CS□□□   |                    |
| 68       | 18 x 30   | 0.12          | 769   | LDS450□680K30CS□□□   |                    |
| 100      | 18 x 40   | 0.12          | 950   | LDS450□101K40CS□□□   |                    |
| 500      | 10        | 12.5 x 20     | 0.20  | 259                  | LDS500□100X20CS□□□ |
|          |           | 12.5 x 25     | 0.20  | 272                  | LDS500□100X25CS□□□ |
|          | 15        | 12.5 x 25     | 0.20  | 356                  | LDS500□150X25CS□□□ |
| 16 x 20  |           | 0.20          | 356   | LDS500□150J20CS□□□   |                    |



**LDS series**

■ **Standard Ratings**

Note1) Ripple current = mArms/105°C,100kHz

| WV (Vdc) | Cap (uF) | Size ØxL (mm) | Tan δ | Ripple <sup>1)</sup> | Code No            |
|----------|----------|---------------|-------|----------------------|--------------------|
| 500      | 22       | 12.5 x 35     | 0.20  | 453                  | LDS500□220X35CS□□□ |
|          |          | 16 x 25       | 0.20  | 453                  | LDS500□220J25CS□□□ |
|          | 33       | 18 x 25       | 0.20  | 567                  | LDS500□330K25CS□□□ |
|          | 47       | 18 x 30       | 0.20  | 713                  | LDS500□470K30CS□□□ |
|          | 68       | 22 x 30       | 0.20  | 1,000                | LDS500□680L30CS□□□ |
|          | 100      | 22 x 35       | 0.20  | 1,400                | LDS500□101L35CS□□□ |

■ **Rated ripple current multipliers**

| Frequency (Hz) | 120 | 1K  | 10K | 50K  | 100K |
|----------------|-----|-----|-----|------|------|
| <b>Factor</b>  | 0.5 | 0.8 | 0.9 | 0.95 | 1.0  |