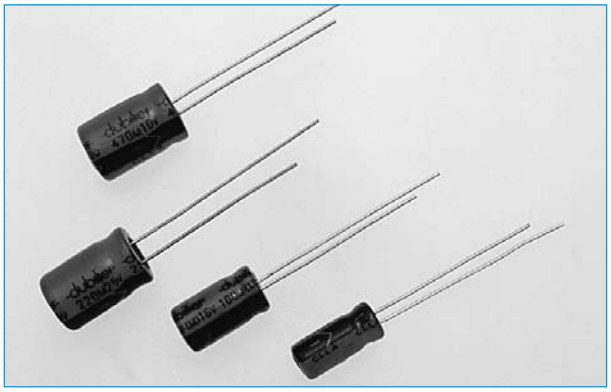
- Miniature case sizes
- Very low-leakage current
- Extremely low stable leakage current characteristics
- Close capacitance tolerance ± 20% (± 10% available)



The CLLA is a radial electrolytic capacitor offering very low-leakage currents.

Typical applications include audio and timing circuits.

Product is available loose, taped & boxed.

## SPECIFICATION

| Item | Performance Characteristics | | | | | |
|---|---|---|---|---|---|---|
| Operating Temperature Range | -40 to +105˚C | | | | | |
| Rated Working Voltage Range | 10 to 50V DC | | | | | |
| Nominal Capacitance Range | 0.1 to 220µF | | | | | |
| Capacitance Tolerance | ± 20% (± 10% on request) | | | | | |
| Leakage Current | I ≤ 0.002CV or 0.3[µA] whichever is greater after 2 minutes (30 sec: ≤ 10µF) application of rated working voltage at +20˚C | | | | | |
| tan ∂ (120Hz +20°C) | Working voltage [V] | 10 | 16 | 25 | 50 | *0.06 for C ≤ 1µF |
| | tan ∂ max. | 0.17 | 0.13 | 0.10 | *0.08 | |
| High Temperature Loading | Test Conditions<br>Duration: 2000 hours<br>Applied voltage: Rated DC working voltage<br>Ambient temperature: +105˚C<br>Post Test Requirements at +20˚C<br>Leakage current: ≤ Initial specified value<br>Capacitance change: ≤ ± 20˚C of initial measured value<br>tan ∂: ≤ 150% of initial specified value | | | | | |
| Shelf Life | Test Conditions<br>Duration: 500 hours<br>Ambient temperature: +105˚C<br>Applied voltage: (None)<br>Post Test Requirements at +20˚C<br>Leakage current: ≤ initial specified value<br>Capacitance change: ≤ ± 20% of initial measured value<br>tan ∂: ≤ 150% of initial specified value<br>*Pre-treatment for measurements.<br>Measurements shall be conducted after application of DC working voltage for 30 minutes. | | | | | |

## ORDERING INFORMATION

| CLLA | 10 | 16 | TA |
|---|---|---|---|
| Range | Capacitance | Voltage | Options<br>TA = 5mm Tape/Ammo box<br>For others add pitch e.g. TA 2mm = 2mm pitch<br>Blank = Loose |

## RANGE

| UF/Volts | 6.3v | 10v | 16v | 25v | 35v | 50v | 63v | 100v |
|---|---|---|---|---|---|---|---|---|
| 0.47uf | | | | | | 5x11 | 5x11 | 5x11 |
| 1.0uf | | | | | | 5x11 | 5x11 | 5x11 |
| 2.2uf | | | | | | 5x11 | 5x11 | 5x11 |
| 3.3uf | | | | | | 5x11 | 5x11 | 5x11 |
| 4.7uf | | | | 5x11 | 5x11 | 5x11 | 5x11 | 5x11 |
| 10uf | | | 5x11 | 5x11 | 5x11 | 5x11 | 5x11 | 6.3x11 |
| 22uf | | 5x11 | 5x11 | 5x11 | 5x11 | 6.3x11 | 6.3x11 | 8x11 |
| 33uf | 5x11 | 5x11 | 5x11 | 5x11 | 5x11 | 6.3x11 | 8x11 | 10x12 |
| 47uf | 5x11 | 5x11 | 5x11 | 5x11 | 6.3x11 | 6.3x11 | 8x11 | 10x16 |
| 100uf | 5x11 | 5x11 | 6.3x11 | 6.3x11 | 8x11 | 10x12 | 10x12 | 13x20 |
| 220uf | 6.3x11 | 6.3x11 | 8x11 | 8x11 | 10x12.5 | 10x16 | 13x20 | 18x36 |
| 330uf | 6.3x11 | 8x11 | 8x11 | 10x12 | 10x16 | 10x20 | 13x20 | 18x40 |
| 470uf | 8x11.5 | 8x11 | 10x12.5 | 10x16 | 10x20 | 13x25 | 18x36 | |
| 1000uf | 10x13 | 10x16 | 10x20 | 13x20 | 18x36 | 18x40 | | |
| 2200uf | 13x20 | 13x20 | 18x36 | 18x40 | | | | |
| 3300uf | 13x20 | 16x36 | 18x40 | | | | | |
| 4700uf | 18x36 | 18x40 | | | | | | |

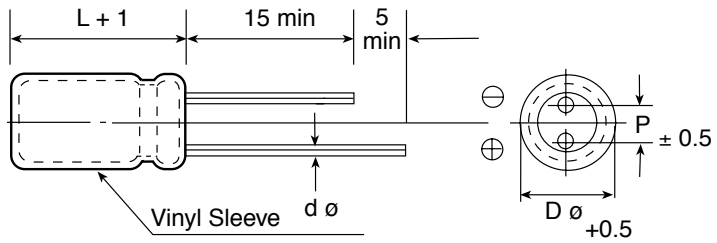
## PERMISSIBLE RIPPLE CURRENT

120 Hz, 85˚ mA, rms)

| UF/Volts | 6.3v | 10v | 16v | 25v | 35v | 50v | 63v | 100v |
|---|---|---|---|---|---|---|---|---|
| 0.47uf | | | | | | 5 | 7 | 5 |
| 1.0uf | | | | | | 10 | 1 | 10 |
| 2.2uf | | | | | | 14 | 30 | 18 |
| 3.3uf | | | | | | 21 | 36 | 24 |
| 4.7uf | | | | 18 | 21 | 45 | 27 | 27 |
| 10uf | | | 24 | 30 | 33 | 39 | 42 | 45 |
| 22uf | | 33 | 45 | 48 | 97 | 57 | 69 | 78 |
| 33uf | 33 | 48 | 54 | 57 | 63 | 75 | 84 | 102 |
| 47uf | 45 | 57 | 66 | 69 | 84 | 90 | 114 | 138 |
| 100uf | 78 | 81 | 105 | 111 | 138 | 250 | 180 | 240 |
| 220uf | 272 | 198 | 180 | 590 | 222 | 910 | 640 | 1010 |
| 330uf | 388 | 198 | 216 | 252 | 294 | 398 | 750 | 1377 |
| 470uf | 507 | 234 | 282 | 324 | 384 | 825 | 1385 | |
| 1000uf | 896 | 378 | 474 | 570 | 1723 | 2070 | | |
| 2200uf | 1513 | 660 | 1100 | 2174 | | | | |
| 3300uf | 1902 | 2155 | 2250 | | | | | |
| 4700uf | 2272 | 2560 | | | | | | |

Additional case sizes may be available please ask.

## OUTLINE DRAWING




| Dø | 5 | 6.3 | 8 | 10 |
|---|---|---|---|---|
| P | 2.0 | 2.5 | 3.5 | 5.0 |
| dø | 0.5 | | 0.6 | |