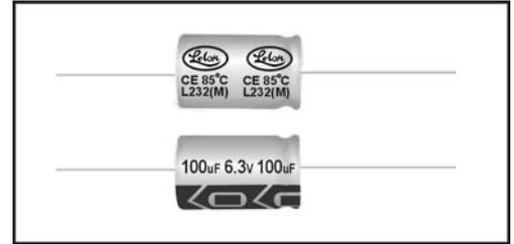




## CE02 Type

### Features

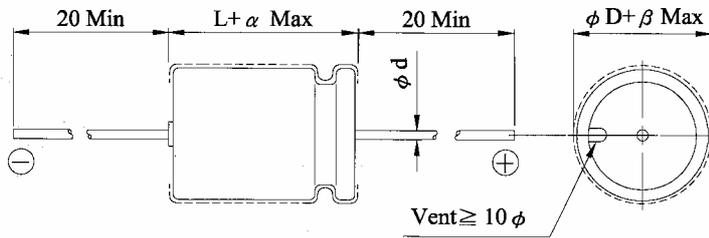
- 85°C, standard low leakage current series.



### SPECIFICATIONS

| Items                                      | Performance  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
|--|--|-------------------|---------------|-----------------|--------------------|------------------------------|--------------------|-----------------------------------|-----------------|------------------------|-----|-------------|-----------------|-------------------|-----------|------|------|------|------|------|-------------|------|-------------------|------|------|------|---------------|------|------|------|------|------|
|  | TL   | TLA               |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Life                                       | At 85°C, 1000 Hrs  | At 85°C, 2000 Hrs |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Operating Temperature Range                | -40°C ~ +85°C  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Capacitance Tolerance                      | ±20% (at 120Hz, 20°C)  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Leakage Current (at 20°C)                  | I = 0.002CV or 0.4 (µA) whichever is greater (after 2 minutes)<br>Where, C= rated capacitance in µF. V = rated DC working voltage in V.  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Dissipation Factor (Tan δ at 120Hz, 20°C)  | <table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tan δ (max)</td> <td>0.24</td> <td>0.21</td> <td>0.17</td> <td>0.15</td> <td>0.12</td> <td>0.10</td> <td>0.09</td> <td>0.08</td> </tr> </tbody> </table> <p>When the capacitance exceeds 1000 µF, 0.02 shall be added every 1000 µF increase.</p>   |                   | Rated Voltage | 6.3             | 10                 | 16                           | 25                 | 35                                | 50              | 63                     | 100 | Tan δ (max) | 0.24            | 0.21              | 0.17      | 0.15 | 0.12 | 0.10 | 0.09 | 0.08 |             |      |                   |      |      |      |               |      |      |      |      |      |
| Rated Voltage                              | 6.3  | 10                | 16            | 25              | 35                 | 50                           | 63                 | 100                               |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Tan δ (max)                                | 0.24   | 0.21              | 0.17          | 0.15            | 0.12               | 0.10                         | 0.09               | 0.08                              |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Low Temperature Characteristics (at 120Hz) | <p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <thead> <tr> <th colspan="2">Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance Ratio</td> <td>Z(-25°C)/Z(+20°C)</td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table> |                   | Rated Voltage |                 | 6.3                | 10                           | 16                 | 25                                | 35              | 50                     | 63  | 100         | Impedance Ratio | Z(-25°C)/Z(+20°C) | 5         | 4    | 3    | 2    | 2    | 2    | 2           | 2    | Z(-40°C)/Z(+20°C) | 10   | 8    | 6    | 4             | 4    | 3    | 3    | 3    |      |
| Rated Voltage                              |  | 6.3               | 10            | 16              | 25                 | 35                           | 50                 | 63                                | 100             |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Impedance Ratio                            | Z(-25°C)/Z(+20°C)  | 5                 | 4             | 3               | 2                  | 2                            | 2                  | 2                                 | 2               |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
|  | Z(-40°C)/Z(+20°C)  | 10                | 8             | 6               | 4                  | 4                            | 3                  | 3                                 | 3               |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Load Life Test                             | <table border="1"> <tbody> <tr> <td>Test Time</td> <td>1000 / 2000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>With in ±20%of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 1000/2000 hrs at 85°C.</p>  |                   | Test Time     | 1000 / 2000 Hrs | Capacitance Change | With in ±20%of initial value | Dissipation Factor | Less than 200% of specified value | Leakage Current | Within specified value |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Test Time                                  | 1000 / 2000 Hrs  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Capacitance Change                         | With in ±20%of initial value   |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Dissipation Factor                         | Less than 200% of specified value  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Leakage Current                            | Within specified value   |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Shelf Life Test                            | <table border="1"> <tbody> <tr> <td>Test Time</td> <td>1000 Hrs</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±20%of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1000 hrs at 85°C without voltage applied.</p>   |                   | Test Time     | 1000 Hrs        | Capacitance Change | Within ±20%of initial value  | Dissipation Factor | Less than 200% of specified value | Leakage Current | Within specified value |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Test Time                                  | 1000 Hrs   |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Capacitance Change                         | Within ±20%of initial value  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Dissipation Factor                         | Less than 200% of specified value  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Leakage Current                            | Within specified value   |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Ripple Current & Frequency Multipliers     | <table border="1"> <thead> <tr> <th>Freq.(Hz)</th> <th>60</th> <th>120</th> <th>500</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Cap.(µF)</td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Under 100</td> <td>0.75</td> <td>1.00</td> <td>1.35</td> <td>1.55</td> <td>2.00</td> </tr> <tr> <td>100 to 1000</td> <td>0.83</td> <td>1.00</td> <td>1.23</td> <td>1.32</td> <td>1.50</td> </tr> <tr> <td>1000 up above</td> <td>0.90</td> <td>1.00</td> <td>1.12</td> <td>1.10</td> <td>1.15</td> </tr> </tbody> </table>                               |                   | Freq.(Hz)     | 60              | 120                | 500                          | 1K                 | 10K up                            | Cap.(µF)        |                        |     |             |                 |                   | Under 100 | 0.75 | 1.00 | 1.35 | 1.55 | 2.00 | 100 to 1000 | 0.83 | 1.00              | 1.23 | 1.32 | 1.50 | 1000 up above | 0.90 | 1.00 | 1.12 | 1.10 | 1.15 |
| Freq.(Hz)                                  | 60   | 120               | 500           | 1K              | 10K up             |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Cap.(µF)                                   |  |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Under 100                                  | 0.75   | 1.00              | 1.35          | 1.55            | 2.00               |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| 100 to 1000                                | 0.83   | 1.00              | 1.23          | 1.32            | 1.50               |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| 1000 up above                              | 0.90   | 1.00              | 1.12          | 1.10            | 1.15               |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |
| Other Standards                            | JIS C 5101-4   |                   |               |                 |                    |                              |                    |                                   |                 |                        |     |             |                 |                   |           |      |      |      |      |      |             |      |                   |      |      |      |               |      |      |      |      |      |

DIAGRAM OF DIMENSIONS



Unit: mm

LEAD DIAMETER

|          |     |     |   |     |    |    |     |    |
|----------|-----|-----|---|-----|----|----|-----|----|
| $\phi D$ | 5   | 6.3 | 8 | 10  | 13 | 16 | 18  | 22 |
| $\phi d$ | 0.6 |     |   | 0.8 |    |    | 1.0 |    |
| $\alpha$ | 1.5 |     |   | 2.0 |    |    |     |    |
| $\beta$  | 0.5 |     |   | 1.0 |    |    |     |    |

Dimension:  $\phi D \times L$ (mm)

Ripple Current: mA/rms at 120 Hz, 85°C

DIMENSION & PERMISSIBLE RIPPLE CURRENT

| $\mu F$ | V.DC<br>Contents | 6.3V (0J)         |      | 10V (1A)          |      | 16V (1C)          |      | 25V (1E)          |      | 35V (1V)          |      | 50V (1H)          |      | 63V (1J)          |      | 100V (2A)         |      |
|---------|------------------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|-------------------|------|
|         |                  | $\phi D \times L$ | mA   |
| 0.1     | 0R1              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 1.5  | 5 × 12            | 3    | 5 × 12            | 3    |
| 0.22    | R22              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 3.5  | 5 × 12            | 4.5  | 5 × 12            | 4.5  |
| 0.33    | R33              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 5    | 5 × 12            | 7.5  | 5 × 12            | 7.5  |
| 0.47    | R47              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 6    | 5 × 12            | 9    | 5 × 12            | 9    |
| 1       | 010              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 10   | 5 × 12            | 15   | 5 × 12            | 15   |
| 2.2     | 2R2              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 20   | 5 × 12            | 20   | 5 × 12            | 30   |
| 3.3     | 3R3              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 30   | 5 × 12            | 42   | 5 × 12            | 48   |
| 4.7     | 4R7              |                   |      |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 50   | 5 × 12            | 54   | 6.3 × 13          | 61   |
| 10      | 100              |                   |      |                   |      |                   |      |                   |      | 5 × 12            | 66   | 5 × 12            | 79   | 6.3 × 13          | 79   | 6.3 × 13          | 90   |
| 22      | 220              |                   |      |                   |      | 5 × 12            | 83   | 5 × 12            | 89   | 6.3 × 13          | 104  | 6.3 × 13          | 125  | 6.3 × 13          | 139  | 8 × 16            | 149  |
| 33      | 330              | 5 × 12            | 85   | 5 × 12            | 92   | 5 × 12            | 102  | 6.3 × 13          | 117  | 6.3 × 13          | 137  | 6.3 × 13          | 171  | 8 × 13            | 171  | 10 × 17           | 209  |
| 47      | 470              | 5 × 12            | 101  | 5 × 12            | 117  | 6.3 × 13          | 129  | 6.3 × 13          | 149  | 6.3 × 13          | 182  | 8 × 13            | 204  | 8 × 16            | 233  | 10 × 21           | 261  |
| 100     | 101              | 6.3 × 13          | 158  | 6.3 × 13          | 171  | 6.3 × 13          | 202  | 8 × 13            | 243  | 8 × 16            | 266  | 10 × 17           | 340  | 10 × 17           | 356  | 13 × 22           | 433  |
| 220     | 221              | 6.3 × 16          | 250  | 6.3 × 16          | 272  | 8 × 16            | 333  | 8 × 16            | 412  | 10 × 21           | 472  | 10 × 21           | 575  | 13 × 27           | 601  | 16 × 33           | 712  |
| 330     | 331              | 8 × 16            | 342  | 8 × 16            | 424  | 10 × 17           | 467  | 10 × 17           | 528  | 13 × 22           | 630  | 13 × 27           | 736  | 16 × 27           | 787  | 16 × 37           | 895  |
| 470     | 471              | 8 × 16            | 408  | 8 × 16            | 506  | 10 × 21           | 584  | 10 × 21           | 686  | 13 × 27           | 786  | 16 × 27           | 939  | 16 × 33           | 973  | 18 × 37           | 1109 |
| 1000    | 102              | 10 × 17           | 681  | 10 × 21           | 773  | 10 × 21           | 927  | 13 × 27           | 1046 | 16 × 27           | 1226 | 16 × 37           | 1458 | 18 × 43           | 1559 |                   |      |
| 2200    | 222              | 13 × 22           | 1151 | 13 × 22           | 1248 | 16 × 27           | 1536 | 16 × 33           | 1719 | 18 × 37           | 2009 | 22 × 43           | 2440 |                   |      |                   |      |
| 3300    | 332              | 13 × 27           | 1473 | 13 × 27           | 1597 | 16 × 27           | 1882 | 18 × 37           | 2246 | 18 × 43           | 2533 |                   |      |                   |      |                   |      |
| 4700    | 472              | 16 × 27           | 1879 | 16 × 27           | 2038 | 16 × 37           | 2390 | 18 × 43           | 2760 | 22 × 43           | 3190 |                   |      |                   |      |                   |      |

Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели, кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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