

## OCVZ Series

### Features

- 105°C, 2,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS Compliance



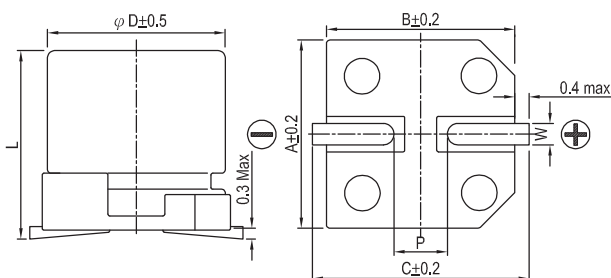
Marking color: Blue

### Specifications

| Items                                                                                       | Performance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
|---------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|------------------------------|--------------------|------------------------------|-----------------|-----------------------------------|-----------------|-----------------------------------|-----------------|------------------------|
| Category Temperature Range                                                                  | -55℃ ~ +105℃                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Capacitance Tolerance                                                                       | ±20% (at 120Hz, 20℃)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Leakage Current (at 20℃)*                                                                   | Rated voltage applied, after 2 minutes at 20℃.<br>See Standard Ratings                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Tanδ (at 120Hz, 20℃)                                                                        | See Standard Ratings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| ESR (at 100k ~ 300k Hz, 20℃)                                                                | See Standard Ratings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Endurance                                                                                   | <table><tr><td>Test Time</td><td>2,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr><tr><td>ESR</td><td>Less than 150% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2,000 hours at 105℃.</p>                                                         | Test Time          | 2,000 Hrs                    | Capacitance Change | Within ±20% of initial value | Tanδ            | Less than 150% of specified value | ESR             | Less than 150% of specified value | Leakage Current | Within specified value |
| Test Time                                                                                   | 2,000 Hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Capacitance Change                                                                          | Within ±20% of initial value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Tanδ                                                                                        | Less than 150% of specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| ESR                                                                                         | Less than 150% of specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Leakage Current                                                                             | Within specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Moisture Resistance                                                                         | <table><tr><td>Test Time</td><td>1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr><tr><td>ESR</td><td>Less than 150% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20℃ after subjecting them at 60℃, 90 to 95% RH for 1,000 hours. Leakage current should be tested voltage treatment*.</p> | Test Time          | 1,000 Hrs                    | Capacitance Change | Within ±20% of initial value | Tanδ            | Less than 150% of specified value | ESR             | Less than 150% of specified value | Leakage Current | Within specified value |
| Test Time                                                                                   | 1,000 Hrs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Capacitance Change                                                                          | Within ±20% of initial value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Tanδ                                                                                        | Less than 150% of specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| ESR                                                                                         | Less than 150% of specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Leakage Current                                                                             | Within specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Resistance to Soldering Heat *<br>(Please refer to page 25 for reflow soldering conditions) | <table><tr><td>Capacitance Change</td><td>Within ±10% of initial value</td></tr><tr><td>Tanδ</td><td>Within specified value</td></tr><tr><td>ESR</td><td>Within specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table>                                                                                                                                                                                                                                                                                  | Capacitance Change | Within ±10% of initial value | Tanδ               | Within specified value       | ESR             | Within specified value            | Leakage Current | Within specified value            |                 |                        |
| Capacitance Change                                                                          | Within ±10% of initial value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Tanδ                                                                                        | Within specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| ESR                                                                                         | Within specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Leakage Current                                                                             | Within specified value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                              |                    |                              |                 |                                   |                 |                                   |                 |                        |
| Ripple Current and Frequency Multipliers                                                    | <table><tr><td>Frequency (Hz)</td><td>120 ≤ f &lt; 1k</td><td>1k ≤ f &lt; 10k</td><td>10k ≤ f &lt; 100k</td><td>100k ≤ f &lt; 500k</td></tr><tr><td>Multiplier</td><td>0.05</td><td>0.3</td><td>0.7</td><td>1.0</td></tr></table>                                                                                                                                                                                                                                                                                                                  | Frequency (Hz)     | 120 ≤ f < 1k                 | 1k ≤ f < 10k       | 10k ≤ f < 100k               | 100k ≤ f < 500k | Multiplier                        | 0.05            | 0.3                               | 0.7             | 1.0                    |
| Frequency (Hz)                                                                              | 120 ≤ f < 1k                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1k ≤ f < 10k       | 10k ≤ f < 100k               | 100k ≤ f < 500k    |                              |                 |                                   |                 |                                   |                 |                        |
| Multiplier                                                                                  | 0.05                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 0.3                | 0.7                          | 1.0                |                              |                 |                                   |                 |                                   |                 |                        |

\* For any doubt about measured values, measure the leakage current again after the following voltage treatment.  
Voltage treatment: DC rated voltage is applied to the capacitors for 2 hours at 105 °C.

### Diagram of Dimensions



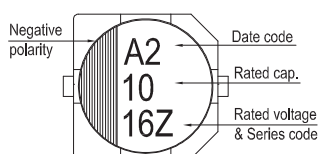
### Lead Spacing and Diameter

Unit: mm

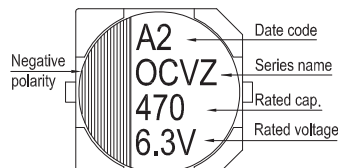
| φD  | L              | A    | B    | C    | W         | P ± 0.2 |
|-----|----------------|------|------|------|-----------|---------|
| 5   | 5.7 ± 0.3      | 5.3  | 5.3  | 5.9  | 0.5 ~ 0.8 | 1.5     |
| 6.3 | 4.4 ± 0.2      | 6.6  | 6.6  | 7.2  | 0.5 ~ 0.8 | 2.0     |
| 6.3 | 5.9 +0.1/-0.3  | 6.6  | 6.6  | 7.2  | 0.5 ~ 0.8 | 2.0     |
| 6.3 | 7.7 ± 0.3      | 6.6  | 6.6  | 7.2  | 0.5 ~ 0.8 | 2.0     |
| 8   | 6.7 ± 0.3      | 8.4  | 8.4  | 9.0  | 0.7 ~ 1.1 | 3.1     |
| 8   | 12.0 ± 0.5     | 8.4  | 8.4  | 9.0  | 0.7 ~ 1.1 | 3.1     |
| 10  | 7.7 ± 0.3      | 10.4 | 10.4 | 11.0 | 0.7 ~ 1.3 | 4.7     |
| 10  | 9.9 +0.1/-0.3  | 10.4 | 10.4 | 11.0 | 0.7 ~ 1.3 | 4.7     |
| 10  | 12.6 +0.1/-0.4 | 10.4 | 10.4 | 11.0 | 0.7 ~ 1.3 | 4.7     |

### MARKING

φD = 5 ~ 6.3



φD = 8 ~ 10



## Standard Ratings

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

Ripple Current: mA/rms at 100k Hz, 105°C

| W. V. (V) | Surge Voltage (V) | Capacitance (μF) | Size φ D×L(mm) | Tanδ (120Hz, 20°C) | L C (μA) | E S R (mΩ/at 100k ~ 300k Hz, 20°C Max) | Rated R. C. (mA/rms at 100k Hz, 105°C) |
|-----------|-------------------|------------------|----------------|--------------------|----------|----------------------------------------|----------------------------------------|
| 2.5V (0E) | 2.9               | 180              | 5 × 5.7        | 0.12               | 300      | 19                                     | 2,800                                  |
|           |                   | 330              | 6.3 × 4.4      | 0.12               | 500      | 16                                     | 3,180                                  |
|           |                   | 390              | 6.3 × 5.9      | 0.12               | 300      | 14                                     | 3,160                                  |
|           |                   | 560              | 6.3 × 5.9      | 0.12               | 300      | 16                                     | 3,500                                  |
|           |                   |                  | 6.3 × 7.7      | 0.12               | 420      | 9                                      | 4,200                                  |
|           |                   | 680              | 8 × 6.7        | 0.12               | 500      | 20                                     | 3,370                                  |
|           |                   | 820              | 8 × 12         | 0.15               | 500      | 9                                      | 5,380                                  |
|           |                   | 1,200            | 10 × 7.7       | 0.12               | 600      | 13                                     | 4,450                                  |
|           |                   | 1,500            | 8 × 12         | 0.15               | 750      | 12                                     | 5,150                                  |
|           | 2,700             | 10 × 12.6        | 0.15           | 1,350              | 9        | 5,600                                  |                                        |
| 4V (0G)   | 4.6               | 150              | 5 × 5.7        | 0.12               | 300      | 20                                     | 2,730                                  |
|           |                   | 270              | 6.3 × 5.9      | 0.12               | 300      | 15                                     | 3,160                                  |
|           |                   | 330              | 6.3 × 5.9      | 0.12               | 300      | 15                                     | 3,160                                  |
|           |                   | 390              | 6.3 × 7.7      | 0.12               | 468      | 9                                      | 4,200                                  |
|           |                   | 560              | 8 × 6.7        | 0.12               | 500      | 22                                     | 3,220                                  |
|           |                   |                  | 8 × 12         | 0.15               | 500      | 9                                      | 5,380                                  |
|           |                   | 1,000            | 10 × 7.7       | 0.12               | 800      | 14                                     | 4,300                                  |
|           |                   | 1,200            | 8 × 12         | 0.15               | 960      | 12                                     | 4,700                                  |
|           |                   | 1,500            | 8 × 12         | 0.15               | 1,200    | 12                                     | 4,700                                  |
|           | 2,200             | 10 × 12.6        | 0.15           | 1,760              | 9        | 5,700                                  |                                        |
| 6.3V (0J) | 7.2               | 120              | 5 × 5.7        | 0.12               | 300      | 21                                     | 2,660                                  |
|           |                   | 220              | 6.3 × 4.4      | 0.12               | 500      | 18                                     | 3,000                                  |
|           |                   |                  | 6.3 × 5.9      | 0.12               | 300      | 15                                     | 3,160                                  |
|           |                   | 330              | 6.3 × 5.9      | 0.12               | 415      | 17                                     | 3,390                                  |
|           |                   |                  | 6.3 × 7.7      | 0.12               | 623      | 9                                      | 4,200                                  |
|           |                   | 390              | 8 × 6.7        | 0.12               | 491      | 22                                     | 3,220                                  |
|           |                   | 820              | 8 × 12         | 0.15               | 1,033    | 13                                     | 4,700                                  |
|           |                   |                  | 10 × 7.7       | 0.12               | 1,033    | 14                                     | 4,300                                  |
|           |                   | 1,500            | 10 × 12.6      | 0.15               | 1,890    | 10                                     | 5,560                                  |
| 10V (1A)  | 12.0              | 68               | 5 × 5.7        | 0.12               | 300      | 23                                     | 2,540                                  |
|           |                   | 120              | 6.3 × 5.9      | 0.12               | 300      | 22                                     | 2,600                                  |
|           |                   | 150              | 6.3 × 7.7      | 0.12               | 450      | 15                                     | 3,400                                  |
|           |                   | 270              | 8 × 6.7        | 0.12               | 500      | 22                                     | 3,220                                  |
|           |                   | 470              | 10 × 7.7       | 0.12               | 940      | 19                                     | 3,800                                  |
| 16V (1C)  | 18.0              | 39               | 5 × 5.7        | 0.12               | 300      | 27                                     | 2,350                                  |
|           |                   |                  | 6.3 × 5.9      | 0.12               | 300      | 24                                     | 2,460                                  |
|           |                   | 68               | 6.3 × 5.9      | 0.12               | 300      | 25                                     | 2,440                                  |
|           |                   | 100              | 6.3 × 5.9      | 0.12               | 320      | 24                                     | 2,490                                  |
|           |                   | 150              | 8 × 6.7        | 0.12               | 500      | 22                                     | 3,220                                  |
|           |                   | 220              | 10 × 7.7       | 0.12               | 704      | 22                                     | 3,450                                  |
|           |                   | 270              | 8 × 12         | 0.15               | 864      | 12                                     | 4,850                                  |
|           |                   | 330              | 10 × 12.6      | 0.15               | 1,056    | 12                                     | 5,300                                  |
|           |                   | 470              | 10 × 12.6      | 0.15               | 1,504    | 10                                     | 6,100                                  |
|           |                   | 820              | 10 × 12.6      | 0.12               | 2,624    | 12                                     | 5,400                                  |
|           | 1,000             | 10 × 12.6        | 0.12           | 3,200              | 12       | 5,400                                  |                                        |



## Standard Ratings

Dimension:  $\phi$  D×L(mm)

Ripple Current: mA/rms at 100k Hz, 105°C

| W. V. (V) | Surge Voltage (V) | Capacitance (μF) | Size $\phi$ D×L(mm) | Tanδ (120Hz, 20°C) | L C (μA) | E S R (mΩ/at 100k ~ 300k Hz, 20°C Max) | Rated R. C. (mA/rms at 100k Hz, 105°C) |
|-----------|-------------------|------------------|---------------------|--------------------|----------|----------------------------------------|----------------------------------------|
| 20V(1D)   | 23.0              | 120              | 6.3 × 5.9           | 0.12               | 480      | 25                                     | 3,200                                  |
|           |                   | 390              | 8 × 12              | 0.12               | 1,560    | 14                                     | 4,950                                  |
|           |                   | 560              | 10 × 9.9            | 0.12               | 2,240    | 18                                     | 4,100                                  |
|           |                   |                  | 10 × 12.6           | 0.12               | 2,240    | 12                                     | 5,600                                  |
| 25V(1E)   | 29.0              | 56               | 6.3 × 5.9           | 0.12               | 280      | 30                                     | 2,800                                  |
|           |                   | 180              | 8 × 12              | 0.12               | 900      | 16                                     | 4,650                                  |
|           |                   | 220              | 10 × 9.9            | 0.12               | 1,100    | 20                                     | 3,800                                  |
|           |                   | 330              | 10 × 12.6           | 0.12               | 1,650    | 14                                     | 5,000                                  |
| 35V(1V)   | 40.0              | 22               | 6.3 × 5.9           | 0.12               | 154      | 35                                     | 2,600                                  |
|           |                   | 82               | 8 × 12              | 0.12               | 574      | 20                                     | 4,000                                  |
|           |                   | 120              | 10 × 12.6           | 0.12               | 840      | 18                                     | 4,400                                  |

## Part Numbering System

|             |             |                       |               |              |               |                  |                              |
|-------------|-------------|-----------------------|---------------|--------------|---------------|------------------|------------------------------|
| OCVZ Series | 820μF       | ±20%                  | 6.3V          | Carrier Tape |               | 10 $\phi$ × 7.7L | Pb-free and PET coating case |
| <b>OVZ</b>  | <b>821</b>  | <b>M</b>              | <b>0J</b>     | <b>TR</b>    | <b>-</b>      | <b>1008</b>      |                              |
| Series Name | Capacitance | Capacitance Tolerance | Rated Voltage | Package Type | Terminal Type | Case size        | Lead Wire and Coating Type   |

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 15.

## Данный компонент на территории Российской Федерации

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Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

На всех этапах разработки и производства наши партнеры могут получить квалифицированную поддержку опытных инженеров.

Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

### Офис по работе с юридическими лицами:

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