

## 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°C ~ +105°C                                                          |
| Capacitance Tolerance                    | ±20% (at 120Hz, 20°C)                                                   |
| Leakage Current (at 20°C)*               | Rated voltage applied, after 2 minutes at 20°C.<br>See Standard Ratings |
| Tanδ (at 120Hz, 20°C)                    | See Standard Ratings                                                    |
| ESR (at 100k ~ 300k Hz, 20°C)            | See Standard Ratings                                                    |
| Endurance                                | Test Time                                                               |
|                                          | 2,000 Hrs                                                               |
|                                          | Capacitance Change                                                      |
|                                          | Within ±20% of initial value                                            |
|                                          | Tanδ                                                                    |
| Moisture Resistance                      | Less than 150% of specified value                                       |
|                                          | ESR                                                                     |
|                                          | Less than 150% of specified value                                       |
|                                          | Leakage Current                                                         |
|                                          | Within specified value                                                  |
| Resistance to Soldering Heat *           | Test Time                                                               |
|                                          | 1,000 Hrs                                                               |
|                                          | Capacitance Change                                                      |
|                                          | Within ±20% of initial value                                            |
|                                          | Tanδ                                                                    |
| Ripple Current and Frequency Multipliers | Less than 150% of specified value                                       |
|                                          | ESR                                                                     |
|                                          | Less than 150% of specified value                                       |
|                                          | Leakage Current                                                         |
|                                          | Within specified value                                                  |

\* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hours at 105°C.

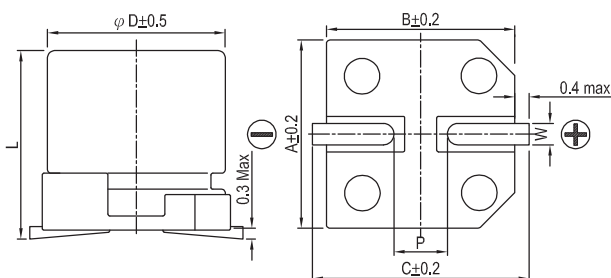
\* The above specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours. Leakage current should be tested voltage treatment\*.

|                    |                              |
|--------------------|------------------------------|
| Capacitance Change | Within ±10% of initial value |
| Tanδ               | Within specified value       |
| ESR                | Within specified value       |
| Leakage Current    | Within specified value       |

| 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



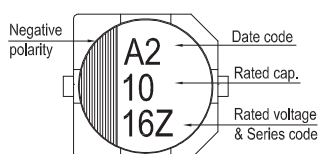
### Lead Spacing and Diameter

Unit: mm

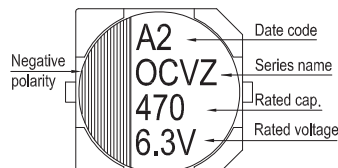
| φD  | L              | A    | B    | C    | W         | P ± 0.2 |
|-----|----------------|------|------|------|-----------|---------|
| 5   | 5.7 ± 0.3      | 5.3  | 5.3  | 5.9  | 0.5 ~ 0.8 | 1.5     |
| 6.3 | 4.4 ± 0.2      | 6.6  | 6.6  | 7.2  | 0.5 ~ 0.8 | 2.0     |
| 6.3 | 5.9 +0.1/-0.3  | 6.6  | 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 ( $\mu$ F) | Size $\phi D \times L$ (mm) | Tan $\delta$ (120Hz, 20°C) | L C ( $\mu$ A) | E S R (m $\Omega$ /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.