

**UZG**3.95mmLmax. Chip Type,  
Wide Temperature Range

- Chip type with 3.95mmLmax height. Operating over wide temperature range of  $-40$  to  $+105^{\circ}\text{C}$ .
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Compliant to the RoHS directive (2011/65/EU, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

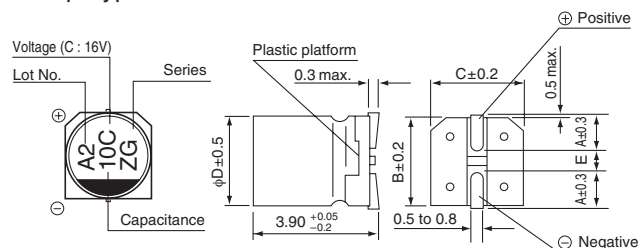
**UZG**

## Specifications

| Item                          | Performance Characteristics                                                                                                                                                                                                             |      |      |      |                    |      |                                                   |            |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|------|------|--------------------|------|---------------------------------------------------|------------|
| Category Temperature Range    | −40 to +105°C                                                                                                                                                                                                                           |      |      |      |                    |      |                                                   |            |
| Rated Voltage Range           | 6.3 to 50V                                                                                                                                                                                                                              |      |      |      |                    |      |                                                   |            |
| Rated Capacitance Range       | 1 to 100μF                                                                                                                                                                                                                              |      |      |      |                    |      |                                                   |            |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C                                                                                                                                                                                                                     |      |      |      |                    |      |                                                   |            |
| Leakage Current ※             | After 2 minutes' application of rated voltage at 20°C, leakage current is not more than 0.01 CV or 3 (μA) , whichever is greater.                                                                                                       |      |      |      |                    |      |                                                   |            |
| Tangent of loss angle (tan δ) | Rated voltage (V)                                                                                                                                                                                                                       | 6.3  | 10   | 16   | 25                 | 35   | 50                                                | 120Hz 20°C |
|                               | tan δ (max.)                                                                                                                                                                                                                            | 0.38 | 0.32 | 0.20 | 0.16               | 0.14 | 0.14                                              |            |
| Stability at Low Temperature  | Rated voltage (V)                                                                                                                                                                                                                       | 6.3  | 10   | 16   | 25                 | 35   | 50                                                | 120Hz      |
|                               | Impedance ratio Z(−25°C) / Z(+20°C)                                                                                                                                                                                                     | 6    | 5    | 3    | 3                  | 3    | 3                                                 |            |
|                               | ZT / Z20 (max.) Z(−40°C) / Z(+20°C)                                                                                                                                                                                                     | 10   | 10   | 6    | 6                  | 4    | 4                                                 |            |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 1000 hours at 105°C.                                                                                    |      |      |      | Capacitance change |      | Within ±30% of the initial capacitance value      |            |
|                               |                                                                                                                                                                                                                                         |      |      |      | tan δ              |      | 300% or less than the initial specified value     |            |
|                               |                                                                                                                                                                                                                                         |      |      |      | Leakage current    |      | Less than or equal to the initial specified value |            |
| Shelf Life                    | After storing the capacitors under no load at 105°C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above. |      |      |      |                    |      |                                                   |            |
| Resistance to soldering heat  | The capacitors are kept on a hot plate for 30 seconds, which is maintained at 250°C. The capacitors shall meet the characteristic requirements listed at right when they are removed from the plate and restored to 20°C.               |      |      |      | Capacitance change |      | Within ±10% of the initial capacitance value      |            |
|                               |                                                                                                                                                                                                                                         |      |      |      | tan δ              |      | Less than or equal to the initial specified value |            |
|                               |                                                                                                                                                                                                                                         |      |      |      | Leakage current    |      | Less than or equal to the initial specified value |            |
| Marking                       | Black print on the case top.                                                                                                                                                                                                            |      |      |      |                    |      |                                                   |            |

※ I : Leakage Current ( $\mu\text{A}$ ), C : Rated Capacitance ( $\mu\text{F}$ ), V : Rated Voltage (V)

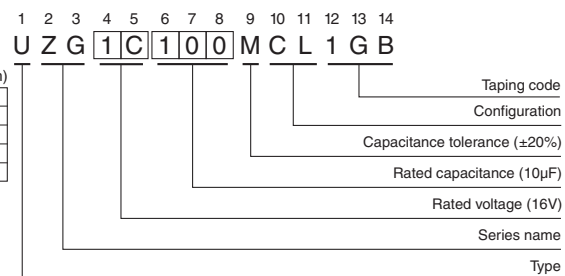
## Chip Type



### Voltage

|      |     |    |    |    |    |    |
|------|-----|----|----|----|----|----|
| V    | 6.3 | 10 | 16 | 25 | 35 | 50 |
| Code | j   | A  | C  | E  | V  | H  |

## Type numbering system (Example : 16V $10\mu\text{F}$ )



## Frequency coefficient of rated ripple current

|             |       |        |        |       |                |
|-------------|-------|--------|--------|-------|----------------|
| Frequency   | 50 Hz | 120 Hz | 300 Hz | 1 kHz | 10 kHz or more |
| Coefficient | 0.70  | 1.00   | 1.17   | 1.36  | 1.50           |

UZG

## ■ Dimensions

| Rated Voltage<br>(V)<br>(code) | Rated Capacitance<br>( $\mu$ F) | Case Size<br>$\phi$ D $\times$ L (mm) | $\tan \delta$ | Leakage Current<br>( $\mu$ A)<br>(at 20°C after<br>2 minutes) | Rated Ripple<br>(mA <sub>rms</sub> )<br>(105°C/120Hz) | Part Number    |
|--------------------------------|---------------------------------|---------------------------------------|---------------|---------------------------------------------------------------|-------------------------------------------------------|----------------|
| 6.3<br>(0J)                    | 22                              | 4 $\times$ 3.9                        | 0.38          | 3                                                             | 19                                                    | UZG0J220MCL1GB |
|                                | 33                              | 5 $\times$ 3.9                        | 0.38          | 3                                                             | 26                                                    | UZG0J330MCL1GB |
|                                | 47                              | 5 $\times$ 3.9                        | 0.38          | 3                                                             | 32                                                    | UZG0J470MCL1GB |
|                                | 100                             | 6.3 $\times$ 3.9                      | 0.38          | 6.3                                                           | 52                                                    | UZG0J101MCL1GB |
| 10<br>(1A)                     | 22                              | 5 $\times$ 3.9                        | 0.32          | 3                                                             | 24                                                    | UZG1A220MCL1GB |
|                                | 33                              | 5 $\times$ 3.9                        | 0.32          | 3.3                                                           | 30                                                    | UZG1A330MCL1GB |
|                                | 47                              | 6.3 $\times$ 3.9                      | 0.32          | 4.7                                                           | 40                                                    | UZG1A470MCL1GB |
| 16<br>(1C)                     | 10                              | 4 $\times$ 3.9                        | 0.20          | 3                                                             | 16                                                    | UZG1C100MCL1GB |
|                                | 22                              | 5 $\times$ 3.9                        | 0.20          | 3.52                                                          | 26                                                    | UZG1C220MCL1GB |
|                                | 33                              | 6.3 $\times$ 3.9                      | 0.20          | 5.28                                                          | 35                                                    | UZG1C330MCL1GB |
|                                | 47                              | 6.3 $\times$ 3.9                      | 0.20          | 7.52                                                          | 44                                                    | UZG1C470MCL1GB |
| 25<br>(1E)                     | 4.7                             | 4 $\times$ 3.9                        | 0.16          | 3                                                             | 11                                                    | UZG1E4R7MCL1GB |
|                                | 10                              | 5 $\times$ 3.9                        | 0.16          | 3                                                             | 20                                                    | UZG1E100MCL1GB |
|                                | 22                              | 6.3 $\times$ 3.9                      | 0.16          | 5.5                                                           | 33                                                    | UZG1E220MCL1GB |
|                                | 33                              | 6.3 $\times$ 3.9                      | 0.16          | 8.25                                                          | 42                                                    | UZG1E330MCL1GB |
| 35<br>(1V)                     | 4.7                             | 4 $\times$ 3.9                        | 0.14          | 3                                                             | 13                                                    | UZG1V4R7MCL1GB |
|                                | 10                              | 5 $\times$ 3.9                        | 0.14          | 3.5                                                           | 22                                                    | UZG1V100MCL1GB |
|                                | 22                              | 6.3 $\times$ 3.9                      | 0.14          | 7.7                                                           | 36                                                    | UZG1V220MCL1GB |
| 50<br>(1H)                     | 1                               | 4 $\times$ 3.9                        | 0.14          | 3                                                             | 5.4                                                   | UZG1H010MCL1GB |
|                                | 2.2                             | 4 $\times$ 3.9                        | 0.14          | 3                                                             | 9.6                                                   | UZG1H2R2MCL1GB |
|                                | 3.3                             | 4 $\times$ 3.9                        | 0.14          | 3                                                             | 12                                                    | UZG1H3R3MCL1GB |
|                                | 4.7                             | 5 $\times$ 3.9                        | 0.14          | 3                                                             | 16                                                    | UZG1H4R7MCL1GB |
|                                | 10                              | 6.3 $\times$ 3.9                      | 0.14          | 5                                                             | 26                                                    | UZG1H100MCL1GB |

- For taping specifications, recommended land size/soldering by reflow and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.