

**UWX**

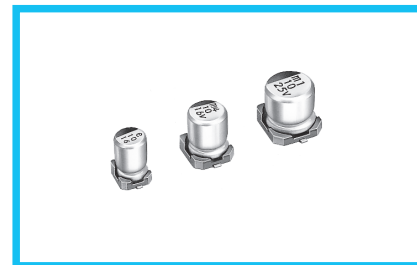
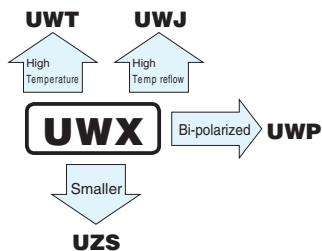
5.5mmL Chip Type



For SMD

Anti-Solvent  
Feature

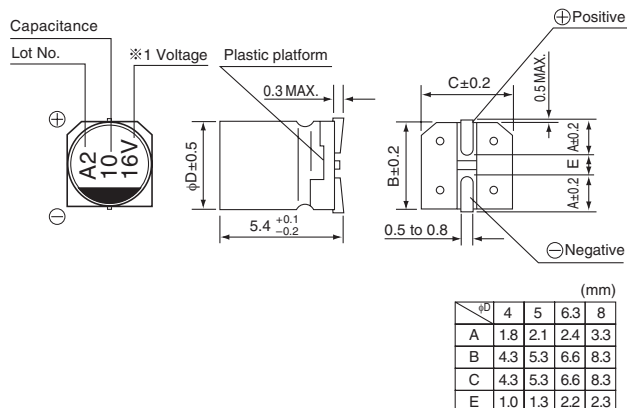
- Chip type with 5.5mm height.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine fed with carrier tape.
- Load life of 2000 hours at 85°C.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 compliant. Please contact us for details.



## Specifications

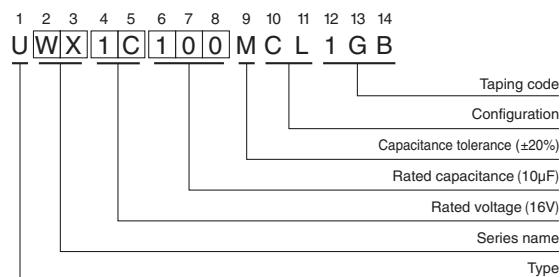
| Item                            | Performance Characteristics                                                                                                                                                                                                            |                 |             |             |                    |             |                                                                                        |             |    |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-------------|--------------------|-------------|----------------------------------------------------------------------------------------|-------------|----|
| Category Temperature Range      | −40 to +85°C                                                                                                                                                                                                                           |                 |             |             |                    |             |                                                                                        |             |    |
| Rated Voltage Range             | 4 to 50V                                                                                                                                                                                                                               |                 |             |             |                    |             |                                                                                        |             |    |
| Rated Capacitance Range         | 1 to 330μF                                                                                                                                                                                                                             |                 |             |             |                    |             |                                                                                        |             |    |
| 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 0.01CV or 3 (μA) ,whichever is greater.                                                                                                        |                 |             |             |                    |             |                                                                                        |             |    |
| Tangent of loss angle (tan δ)   | Measurement frequency : 120Hz at 20°C                                                                                                                                                                                                  |                 |             |             |                    |             |                                                                                        |             |    |
|                                 | Rated voltage (V)                                                                                                                                                                                                                      | 4               | 6.3         | 10          | 16                 | 25          | 35                                                                                     | 50          |    |
|                                 | tan δ (MAX.)                                                                                                                                                                                                                           | 0.35 (0.40)     | 0.26 (0.30) | 0.20 (0.24) | 0.16 (0.19)        | 0.14 (0.16) | 0.12 (0.14)                                                                            | 0.12 (0.14) |    |
| Values in ( ) applicable to WR. |                                                                                                                                                                                                                                        |                 |             |             |                    |             |                                                                                        |             |    |
| Stability at Low Temperature    | Measurement frequency : 120Hz                                                                                                                                                                                                          |                 |             |             |                    |             |                                                                                        |             |    |
|                                 | Rated voltage (V)                                                                                                                                                                                                                      |                 | 4           | 6.3         | 10                 | 16          | 25                                                                                     | 35          | 50 |
|                                 | Impedance ratio                                                                                                                                                                                                                        | Z−25°C / Z+20°C | 7           | 4           | 3                  | 2           | 2                                                                                      | 2           | 2  |
|                                 | ZT / Z20 (MAX.)                                                                                                                                                                                                                        | Z−40°C / Z+20°C | 15          | 8           | 8                  | 4           | 4                                                                                      | 3           | 3  |
| Endurance                       | The specifications listed at right shall be met when the capacitors are restored to 20°C after the rated voltage is applied for 2000 hours at 85°C.                                                                                    |                 |             |             | Capacitance change |             | Within ±20% of the initial capacitance value (Within ±25% for 4 V and WR series units) |             |    |
|                                 |                                                                                                                                                                                                                                        |                 |             |             | tan δ              |             | 200% 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 85°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.                                                                                                                                                                                                           |                 |             |             |                    |             |                                                                                        |             |    |

## Chip Type



※ 1. Voltage mark for 6.3V is 「6V」.

## Type numbering system (Example : 16V 10μF)



UWX

## ■ Dimensions

| V         |      | 4   |     | 6.3  |          | 10   |          | 16   |         | 25   |         | 35   |         | 50                   |                 |
|-----------|------|-----|-----|------|----------|------|----------|------|---------|------|---------|------|---------|----------------------|-----------------|
| Cap. (μF) | Code | 0G  |     | 0J   |          | 1A   |          | 1C   |         | 1E   |         | 1V   |         | 1H                   |                 |
| 1         | 010  |     |     |      |          |      |          |      |         |      |         |      |         | 4                    | 8.4             |
| 2.2       | 2R2  |     |     |      |          |      |          |      |         |      |         |      |         | 4                    | 13              |
| 3.3       | 3R3  |     |     |      |          |      |          |      |         |      |         |      |         | 4                    | 17              |
| 4.7       | 4R7  |     |     |      |          |      |          |      |         | 4    | 16      | 4    | 18      | •5                   | 20 (18)         |
| 10        | 100  |     |     |      |          |      |          | 4    | 23      | •5   | 27 (24) | •5   | 29 (24) | ○6.3                 | 33 (30)         |
| 22        | 220  |     |     | 4    | 28       | •5   | 33 (30)  | •5   | 37 (30) | ○6.3 | 42 (38) | ○6.3 | 46 (39) | □8                   | 52 (43)         |
| 33        | 330  | 4   | 28  | •5   | 37 (34)  | •5   | 41 (34)  | ○6.3 | 49 (44) | ○6.3 | 52 (46) | □8   | 62 (53) | 8                    | 71              |
| 47        | 470  | 4   | 33  | •5   | 45 (40)  | ○6.3 | 52 (47)  | ○6.3 | 58 (52) | □8   | 70 (60) | 8    | 80      |                      |                 |
| 56        | 560  | 5   | 42  | ○6.3 | 52 (46)  | ○6.3 | 57 (50)  | ○6.3 | 63 (57) | □8   | 76 (65) |      |         |                      |                 |
| 100       | 101  | 5   | 56  | ○6.3 | 70 (47)  | ○6.3 | 76 (54)  | 6.3  | 86      | 8    | 110     |      |         |                      |                 |
| 150       | 151  | 6.3 | 79  | 6.3  | 71       | □8   | 111 (76) |      |         |      |         |      |         |                      |                 |
| 220       | 221  | 6.3 | 96  | □8   | 110 (74) | 8    | 135      |      |         |      |         |      |         |                      |                 |
| 330       | 331  | 8   | 145 | 8    | 170      |      |          |      |         |      |         |      |         | Case size<br>φD (mm) | Rated<br>ripple |

Size φ4 is available for capacitors marked. " • " " } In such a case, W/R will be put at 2nd and 3rd digit of  
 Size φ5 is available for capacitors marked. " ○ " } type numbering system.  
 Size φ6.3 is available for capacitors marked. " □ " }

Rated ripple current (mA<sub>rms</sub>) at 85°C 120Hz  
 ( ) = UWR

## ● 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           |

- Taping specifications are given in page 23.
- Recommended land size, soldering by reflow are given in page 18, 19.
- Please select UUR(p.168), UUG(p.174) if high C/V products are required.
- Please refer to page 3 for the minimum order quantity.