

WJ

5.5mmL Chip Type  
High Temperature (260°C) Reflow  
series

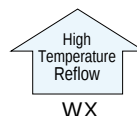


For SMD

Anti-Solvent  
Feature

- Corresponding with 260°C peak reflow soldering  
Recommended reflow condition : 260°C peak 5 sec. 230°C over 60 sec. 2 times
- 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).

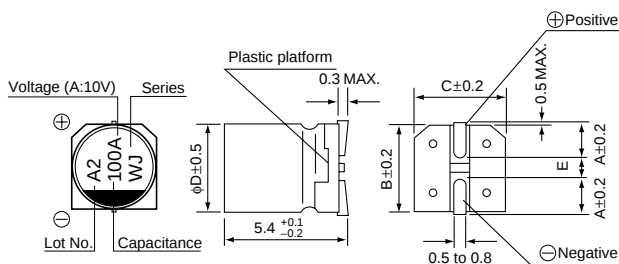
WJ



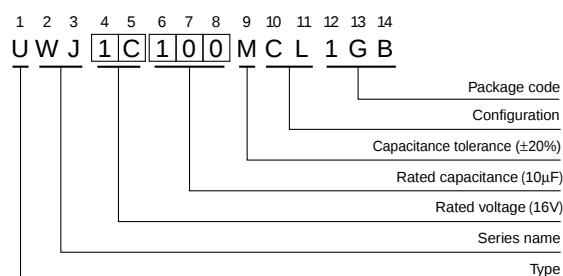
## Specifications

| Item                          | Performance Characteristics                                                                                                                                                                                                            |                 |                                                   |      |      |      |      |    |                    |  |                                                   |  |  |  |  |  |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------|------|------|------|------|----|--------------------|--|---------------------------------------------------|--|--|--|--|--|
| Category Temperature Range    | −40 to +85°C                                                                                                                                                                                                                           |                 |                                                   |      |      |      |      |    |                    |  |                                                   |  |  |  |  |  |
| Rated Voltage Range           | 6.3 to 50V                                                                                                                                                                                                                             |                 |                                                   |      |      |      |      |    |                    |  |                                                   |  |  |  |  |  |
| Rated Capacitance Range       | 0.1 to 150μF                                                                                                                                                                                                                           |                 |                                                   |      |      |      |      |    |                    |  |                                                   |  |  |  |  |  |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C                                                                                                                                                                                                                    |                 |                                                   |      |      |      |      |    |                    |  |                                                   |  |  |  |  |  |
| Leakage Current               | After 2 minutes' application of rated voltage, 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)                                                                                                                                                                                                                      | 6.3             | 10                                                | 16   | 25   | 35   | 50   |    |                    |  |                                                   |  |  |  |  |  |
|                               | tan δ (MAX.)                                                                                                                                                                                                                           | 0.26            | 0.20                                              | 0.16 | 0.14 | 0.12 | 0.12 |    |                    |  |                                                   |  |  |  |  |  |
| Stability at Low Temperature  | Measurement frequency : 120Hz                                                                                                                                                                                                          |                 |                                                   |      |      |      |      |    |                    |  |                                                   |  |  |  |  |  |
|                               | Rated voltage (V)                                                                                                                                                                                                                      |                 | 6.3                                               | 10   | 16   | 25   | 35   | 50 |                    |  |                                                   |  |  |  |  |  |
|                               | Impedance ratio                                                                                                                                                                                                                        | Z−25°C / Z+20°C | 4                                                 | 3    | 2    | 2    | 2    | 2  |                    |  |                                                   |  |  |  |  |  |
|                               | ZT / Z20 (MAX.)                                                                                                                                                                                                                        | Z−40°C / Z+20°C | 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      |  |  |  |  |  |
|                               |                                                                                                                                                                                                                                        |                 |                                                   |      |      |      |      |    | 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



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



## Voltage

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

|   | φD | (mm) |     |     |
|---|----|------|-----|-----|
|   |    | 4    | 5   | 6.3 |
| A |    | 1.8  | 2.1 | 2.4 |
| B |    | 4.3  | 5.3 | 6.6 |
| C |    | 4.3  | 5.3 | 6.6 |
| E |    | 1.0  | 1.3 | 2.2 |

●Dimension table in next page.

## ■Dimensions

| Cap. (μF) | Code | 6.3 |    | 10  |    | 16  |    | 25  |    | 35  |    | 50                    |                 |
|-----------|------|-----|----|-----|----|-----|----|-----|----|-----|----|-----------------------|-----------------|
|           |      | 0J  |    | 1A  |    | 1C  |    | 1E  |    | 1V  |    | 1H                    |                 |
| 0.1       | 0R1  |     |    |     |    |     |    |     |    |     |    | 4                     | 1.0             |
| 0.22      | R22  |     |    |     |    |     |    |     |    |     |    | 4                     | 2.0             |
| 0.33      | R33  |     |    |     |    |     |    |     |    |     |    | 4                     | 2.8             |
| 0.47      | R47  |     |    |     |    |     |    |     |    |     |    | 4                     | 4.0             |
| 1         | 010  |     |    |     |    |     |    |     |    |     |    | 4                     | 8.4             |
| 2.2       | 2R2  |     |    |     |    |     |    |     |    |     |    | 4                     | 13              |
| 3.3       | 3R3  |     |    |     |    |     |    |     |    |     |    | 4                     | 17              |
| 4.7       | 4R7  |     |    |     |    |     |    | 4   | 16 | 4   | 18 | 5                     | 20              |
| 10        | 100  |     |    |     |    | 4   | 23 | 5   | 27 | 5   | 29 | 6.3                   | 33              |
| 22        | 220  | 4   | 28 | 5   | 33 | 5   | 37 | 6.3 | 42 | 6.3 | 45 |                       |                 |
| 33        | 330  | 5   | 37 | 5   | 41 | 6.3 | 49 | 6.3 | 52 |     |    |                       |                 |
| 47        | 470  | 5   | 45 | 6.3 | 52 | 6.3 | 58 |     |    |     |    |                       |                 |
| 100       | 101  | 6.3 | 70 | 6.3 | 76 | 6.3 | 86 |     |    |     |    |                       |                 |
| 150       | 151  | 6.3 | 71 |     |    |     |    |     |    |     |    | Case size<br>φ D (mm) | Rated<br>ripple |

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

## ●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 refer to page 3 for the minimum order quantity.

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