

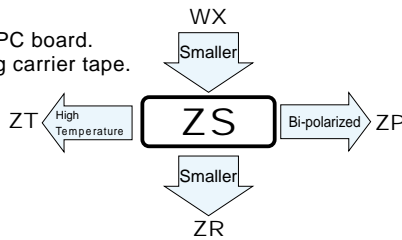
ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

ZS 4.5mmL Chip Type
series



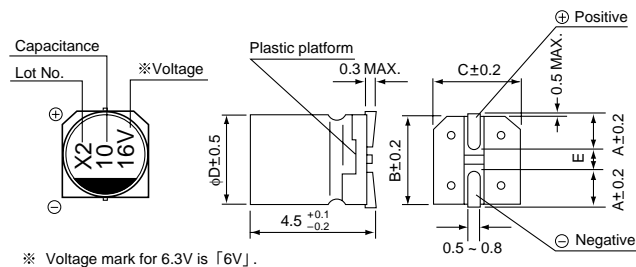
- Chip type with 4.5mm height.
- Designed for surface mounting on high density PC board.
- Applicable to automatic mounting machine using carrier tape.
- Adapted to the RoHS directive (2002/95/EC).



Specifications

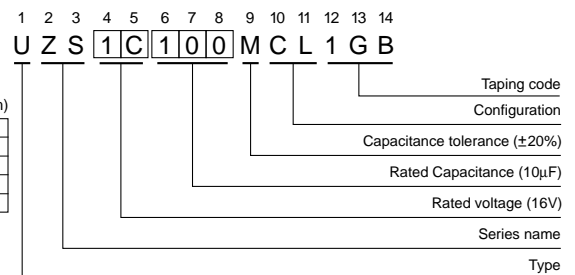
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|------------------------------|--|-----------------|------|------|--------------------|------|---|------|----|
| Item | Performance Characteristics | | | | | | | | |
| Category Temperature Range | -40 ~ + 85°C | | | | | | | | |
| Rated Voltage Range | 4 ~ 50V | | | | | | | | |
| Rated Capacitance Range | 0.1 ~ 220μF | | | | | | | | |
| Capacitance Tolerance | ±20% at 120Hz, 20°C | | | | | | | | |
| Leakage Current | After 2 minutes' application of rated voltage, leakage current is not more than 0.01 CV or 3 (μA) ,whichever is greater. | | | | | | | | |
| tan δ | Measurement frequency : 120Hz, Temperature : 20°C | | | | | | | | |
| | Rated voltage (V) | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 | |
| | tan δ (MAX.) | 0.50 | 0.30 | 0.24 | 0.19 | 0.16 | 0.14 | 0.14 | |
| 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 | After 2000 hours' application of rated voltage at 85°C,capacitors meet the characteristics requirements listed at right. | | | | Capacitance change | | Within ±20% of initial value | | |
| | | | | | tan δ | | 200% or less of initial specified value | | |
| | | | | | Leakage current | | Initial specified value or less | | |
| Shelf Life | After storing the capacitors under no load at 85°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above. | | | | | | | | |
| Resistance to soldering heat | The capacitors shall be kept on the hot plate maintained at 250°C for 30 seconds. After removing from the hot plate and restored at room temperature,they meet the characteristic requirements listed at right. | | | | Capacitance change | | Within ±10% of initial value | | |
| | | | | | tan δ | | Initial specified value or less | | |
| | | | | | Leakage current | | Initial specified value or less | | |
| Marking | Black print on the case top. | | | | | | | | |

Chip Type



※ Voltage mark for 6.3V is 「6V」.

Type numbering system (Example : 16V 10μF)



Dimensions

| V | | 4 | 6.3 | 10 | 16 | 25 | 35 | 50 |
|-----------|------|--------|--------|--------|--------|--------|--------|--------|
| Cap. (μF) | Code | 0G | 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 46 | |
| 33 | 330 | 4 28 | 5 37 | 5 41 | 6.3 49 | 6.3 52 | | |
| 47 | 470 | 4 33 | 5 45 | 6.3 52 | 6.3 58 | | | |
| 100 | 101 | 5 56 | 6.3 70 | | | | | |
| 220 | 221 | 6.3 96 | | | | | | |

Rated Ripple (mArms) at 85°C 120Hz

Frequency coefficient of rated ripple current

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

- Taping specifications are given in page 24.
- Recommended land size, soldering by reflow are given in page 25, 26.
- Please select UR(p.70), UG(p.75) series if high C/V products are required.
- Please refer to page 3 for the minimum order quantity.

CAT.8100V