

# SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS



**CK**

Chip type, Low Impedance, High CV Series

**IZI** Low Impedance **S** Solvent Proof



- Chip type, low impedance temperature range up to 105°C
- Designed for surface mounting on high density PC board
- Applicable to automatic insertion machine using carrier tape
- Complied to the RoHS directive

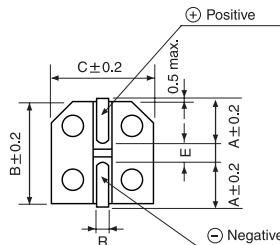
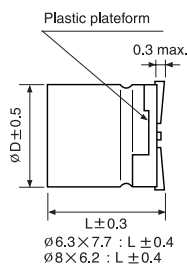
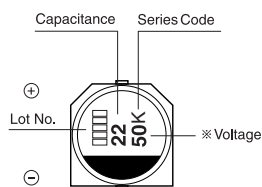
**ZC** → **CK**  
Low Imp.

| Item   | Characteristics   |                                    |      |      |      |      |      |        |      |      |
|--|---|------------------------------------|------|------|------|------|------|--------|------|------|
| Operating temperature range  | -55 ~ +105°C  |                                    |      |      |      |      |      |        |      |      |
| Leakage current max.   | $I = 0.01CV$ or $3\mu A$ whichever is greater (after 2 minutes)   |                                    |      |      |      |      |      |        |      |      |
| Capacitance tolerance  | $\pm 20\%$ at 120Hz, 20°C   |                                    |      |      |      |      |      |        |      |      |
| Dissipation factor max. (at 120Hz, 20°C)                                   | WV  | 6.3                                | 10   | 16   | 25   | 35   | 50   | 63     | 80   | 100  |
|  | tan $\delta$  | 0.24                               | 0.19 | 0.16 | 0.14 | 0.12 | 0.12 | 0.10   | 0.10 | 0.10 |
| Low temperature characteristics (Impedance ratio at 120Hz)                 | WV  | 6.3                                | 10   | 16   | 25   | 35   | 50   | 63-100 |      |      |
|  | Z-25°C/Z+20°C   | 2                                  | 2    | 2    | 2    | 2    | 2    | 3      |      |      |
|  | Z-55°C/Z+20°C   | 3                                  | 3    | 3    | 3    | 3    | 3    | 4      |      |      |
| Load life (after application of the rated voltage for 2000 hours at 105°C) | Leakage current   | Less than specified value          |      |      |      |      |      |        |      |      |
|  | Capacitance change  | Within $\pm 25\%$ of initial value |      |      |      |      |      |        |      |      |
|  | tan $\delta$  | Less than 200% of specified value  |      |      |      |      |      |        |      |      |
| Shelf life (at 105°C)  | After 1000 hours no load test, leakage current, capacitance and tan $\delta$ are same as load life value.                             |                                    |      |      |      |      |      |        |      |      |
| Resistance to soldering heat   | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them at 250°C for 30 seconds. |                                    |      |      |      |      |      |        |      |      |
|  | Leakage current   | Less than specified value          |      |      |      |      |      |        |      |      |
|  | Capacitance change  | Within $\pm 10\%$ of initial value |      |      |      |      |      |        |      |      |
|  | tan $\delta$  | Less than specified value          |      |      |      |      |      |        |      |      |

## ● DRAWING

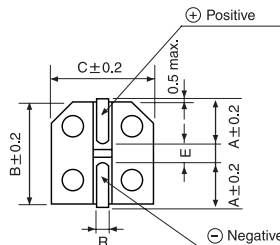
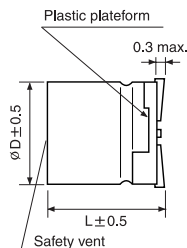
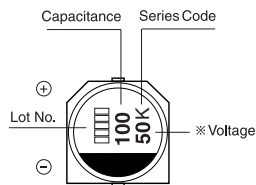
Unit : mm

( $\phi 6.3, \phi 8 \times 6.2$ )

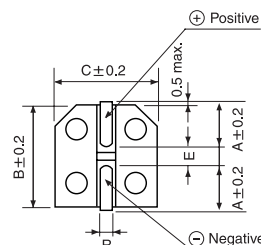
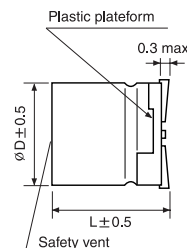
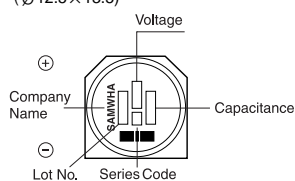


| $\phi D \times L$ | W   | A   | B    | C    | E   | R       |
|-------------------|-----|-----|------|------|-----|---------|
| 6.3 × 5.8         | 7.1 |     | 6.6  | 6.6  | 2.2 | 0.5-0.8 |
| 6.3 × 7.7         |     | 2.4 | 6.6  | 6.6  | 2.2 | 0.5-0.8 |
| 8 × 6.2           |     | 3.3 | 8.3  | 8.3  | 2.3 | 0.5-0.8 |
| 8 × 10            |     | 2.9 | 8.3  | 8.3  | 3.1 | 0.8-1.1 |
| 10 × 10           |     | 3.2 | 10.3 | 10.3 | 4.5 | 0.8-1.1 |
| 12.5 × 13.5       |     | 4.6 | 12.8 | 12.8 | 4.5 | 1.1-1.4 |

( $\phi 8 \times 10, \phi 10 \times 10$ )



( $\phi 12.5 \times 13.5$ )



CHIP TYPES

# SURFACE MOUNT ALUMINUM ELECTROLYTIC CAPACITORS

**CK** series

● DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

| $\mu\text{F}$ \diagdown WV | 6.3     |      |     | 10      |      |     | 16      |      |     | 25   |      |     | 35      |      |     | 50      |      |     |
|----------------------------|---------|------|-----|---------|------|-----|---------|------|-----|--|------|-----|---------|------|-----|---------|------|-----|
| 10                         |         |      |     |         |      |     |         |      |     |  |      |     |         |      |     | 6.3×5.8 | 0.88 | 165 |
| 15                         |         |      |     |         |      |     |         |      |     |  |      |     |         |      |     | 6.3×5.8 | 0.88 | 165 |
| 22                         |         |      |     |         |      |     |         |      |     |  |      |     |         |      |     | 6.3×5.8 | 0.88 | 165 |
| 33                         |         |      |     |         |      |     | 6.3×5.8 | 0.44 | 230 | 6.3×5.8                                    | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×7.7 | 0.68 | 280 |
|                            |         |      |     |         |      |     |         |      |     |  |      |     |         |      |     | 8×6.2   | 0.63 | 300 |
| 47                         |         |      |     | 6.3×5.8 | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×5.8                                    | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×7.7 | 0.68 | 280 |
|                            |         |      |     |         |      |     |         |      |     |  |      |     |         |      |     | 8×6.2   | 0.63 | 300 |
| 68                         | 6.3×5.8 | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×5.8                                    | 0.44 | 230 | 6.3×7.7 | 0.34 | 280 | 8×10    | 0.34 | 450 |
|                            |         |      |     |         |      |     |         |      |     |  |      |     | 8×6.2   | 0.26 | 300 |         |      |     |
| 100                        | 6.3×5.8 | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×7.7                                    | 0.34 | 280 | 8×10    | 0.17 | 450 | 10×10   | 0.18 | 670 |
|                            |         |      |     |         |      |     |         |      |     | 8×6.2                                      | 0.26 | 300 |         |      |     |         |      |     |
| 150                        | 6.3×5.8 | 0.44 | 230 | 6.3×5.8 | 0.44 | 230 | 6.3×7.7 | 0.34 | 280 | 8×10                                       | 0.17 | 450 | 8×10    | 0.17 | 450 |         |      |     |
|                            |         |      |     |         |      |     | 8×6.2   | 0.26 | 300 |  |      |     |         |      |     |         |      |     |
| 220                        | 6.3×5.8 | 0.44 | 230 | 6.3×7.7 | 0.34 | 280 | 6.3×7.7 | 0.34 | 280 | 8×10                                       | 0.17 | 450 | 10×10   | 0.09 | 670 |         |      |     |
|                            |         |      |     | 8×6.2   | 0.26 | 300 | 8×6.2   | 0.26 | 300 |  |      |     |         |      |     |         |      |     |
| 330                        | 6.3×7.7 | 0.34 | 280 | 8×10    | 0.17 | 450 | 8×10    | 0.17 | 450 | 10×10                                      | 0.09 | 670 |         |      |     |         |      |     |
|                            | 8×6.2   | 0.26 | 300 |         |      |     |         |      |     |  |      |     |         |      |     |         |      |     |
| 470                        | 8×10    | 0.17 | 450 | 8×10    | 0.17 | 450 | 10×10   | 0.09 | 670 | ← Ripple current (mA rms) at 105°C, 100kHz |      |     |         |      |     |         |      |     |
| 680                        | 8×10    | 0.17 | 450 | 10×10   | 0.09 | 670 |         |      |     | ↑ Impedance (Ω) at 20°C, 100kHz            |      |     |         |      |     |         |      |     |
| 1000                       | 10×10   | 0.09 | 670 |         |      |     |         |      |     | ↑ Case size ØD × L (mm)                    |      |     |         |      |     |         |      |     |
| 1500                       | 10×10   | 0.09 | 670 |         |      |     |         |      |     |  |      |     |         |      |     |         |      |     |

| $\mu\text{F}$ \diagdown WV | 63        |      |     | 80        |      |     | 100       |      |     |
|----------------------------|-----------|------|-----|-----------|------|-----|-----------|------|-----|
| 10                         | 6.3×5.8   | 2.3  | 80  | 6.3×7.7   | 2.4  | 60  |           |      |     |
| 22                         | 6.3×7.7   | 2.1  | 120 | 8×10      | 1.3  | 130 | 8×10      | 1.3  | 130 |
| 33                         | 8×10      | 0.7  | 250 | 8×10      | 1.3  | 130 | 10×10     | 0.7  | 200 |
| 47                         | 8×10      | 0.7  | 250 | 10×10     | 0.7  | 200 | 12.5×13.5 | 0.35 | 500 |
| 68                         | 10×10     | 0.45 | 400 | 12.5×13.5 | 0.35 | 500 | 12.5×13.5 | 0.35 | 500 |
| 100                        | 10×10     | 0.45 | 400 | 12.5×13.5 | 0.35 | 500 |           |      |     |
| 150                        | 12.5×13.5 | 0.32 | 800 | 12.5×13.5 | 0.35 | 500 |           |      |     |
| 220                        | 12.5×13.5 | 0.32 | 800 |           |      |     |           |      |     |