

# Alchip™-MZK Series

- Endurance : 5,000 hours at 105°C
- Low impedance
- Rated voltage range : 6.3 to 35V
- Nominal capacitance range : 10 to 150μF
- Suitable for low profile products
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS Compliant

MVY → Longer life → **MZK**  
P92

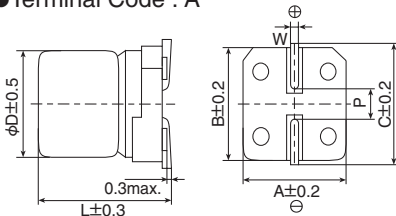


## ◆ SPECIFICATIONS

| Items   | Characteristics   |                                      |      |      |      |      |
|---|---|--------------------------------------|------|------|------|------|
| <b>Category</b>   | -25 to +105°C   |                                      |      |      |      |      |
| <b>Temperature Range</b>                                      | -25 to +105°C   |                                      |      |      |      |      |
| <b>Rated Voltage Range</b>                                    | 6.3 to 35V <sub>dc</sub>  |                                      |      |      |      |      |
| <b>Capacitance Tolerance</b>                                  | ±20%(M) (at 20°C, 120Hz)  |                                      |      |      |      |      |
| <b>Leakage Current</b>  | I=0.01CV or 3μA, whichever is greater<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C, after 2 minutes)   |                                      |      |      |      |      |
| <b>Dissipation Factor (tan δ)</b>                             | Rated voltage (V <sub>dc</sub> )  | 6.3V                                 | 10V  | 16V  | 25V  | 35V  |
|   | tan δ (Max.)  | 0.32                                 | 0.28 | 0.26 | 0.16 | 0.14 |
| <b>Low Temperature Characteristics (Max. Impedance Ratio)</b> | Rated voltage(V <sub>dc</sub> )   | 6.3V                                 | 10V  | 16V  | 25V  | 35V  |
|   | Z(-10°C)/Z(+20°C)   | 4                                    | 3    | 2    | 2    | 2    |
| <b>Endurance</b>  | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 5,000 hours at 105°C.   |                                      |      |      |      |      |
|   | Capacitance change  | ≤ ±30% of the initial value          |      |      |      |      |
|   | D.F. (tan δ)  | ≤300% of the initial specified value |      |      |      |      |
|   | Leakage current   | ≤The initial specified value         |      |      |      |      |
| <b>Shelf Life</b>   | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 105°C without voltage applied. Before the measurement, the capacitor shall be preconditioned by applying voltage according to Item 4.1 of JIS C 5101-4. |                                      |      |      |      |      |
|   | Capacitance change  | ≤ ±30% of the initial value          |      |      |      |      |
|   | D.F. (tan δ)  | ≤300% of the initial specified value |      |      |      |      |
|   | Leakage current   | ≤The initial specified value         |      |      |      |      |

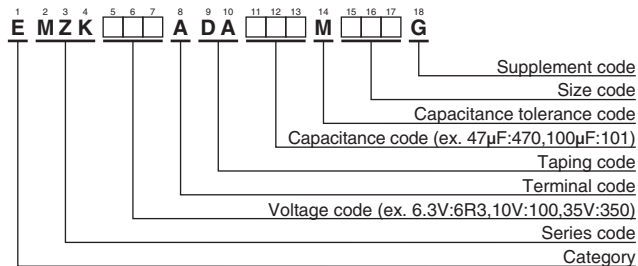
## ◆ DIMENSIONS [mm]

- Terminal Code : A



| Size code | D   | L   | A   | B   | C   | W          | P   |
|-----------|-----|-----|-----|-----|-----|------------|-----|
| E61       | 5   | 5.8 | 5.3 | 5.3 | 5.9 | 0.5 to 0.8 | 1.4 |
| F61       | 6.3 | 5.8 | 6.6 | 6.6 | 7.2 | 0.5 to 0.8 | 1.9 |

## ◆ PART NUMBERING SYSTEM



Please refer to "Product code guide (surface mount type)"

## ◆ MARKING

EX) 35V47μF



- Rated voltage symbol

| Rated voltage (V <sub>dc</sub> ) | 6.3 | 10 | 16 | 25 | 35 |
|----------------------------------|-----|----|----|----|----|
| Symbol                           | j   | A  | C  | E  | V  |

Alchip™ - **MZK** Series

◆ **STANDARD RATINGS**

| WV (V <sub>dc</sub> ) | Cap (μF) | Size code | Impedance (Ω max./20°C, 100kHz) | Rated ripple current (mA <sub>rms</sub> /105°C, 100kHz) | Part No.           |
|-----------------------|----------|-----------|---------------------------------|---|--------------------|
| 6.3                   | 100      | E61       | 2.2                             | 95  | EMZK6R3ADA101ME61G |
| 10                    | 150      | F61       | 1.1                             | 140   | EMZK100ADA151MF61G |
| 16                    | 33       | E61       | 2.2                             | 95  | EMZK160ADA330ME61G |
|                       | 47       | E61       | 2.2                             | 95  | EMZK160ADA470ME61G |
|                       | 100      | F61       | 1.1                             | 140   | EMZK160ADA101MF61G |
| 25                    | 68       | F61       | 1.1                             | 140   | EMZK250ADA680MF61G |
| 35                    | 10       | E61       | 2.2                             | 95  | EMZK350ADA100ME61G |
|                       | 10       | F61       | 1.1                             | 140   | EMZK350ADA100MF61G |
|                       | 22       | E61       | 2.2                             | 95  | EMZK350ADA220ME61G |
|                       | 22       | F61       | 1.1                             | 140   | EMZK350ADA220MF61G |
|                       | 33       | F61       | 1.1                             | 140   | EMZK350ADA330MF61G |
|                       | 47       | F61       | 1.1                             | 140   | EMZK350ADA470MF61G |

◆ **RATED RIPPLE CURRENT MULTIPLIERS**

● Frequency Multipliers

| Frequency(Hz)            | 120  | 1k   | 10k  | 100k |
|--------------------------|------|------|------|------|
| 6.3 to 35V <sub>dc</sub> | 0.40 | 0.75 | 0.90 | 1.00 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.