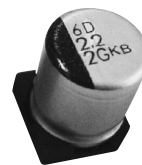


# Alchip™-MKB Series

- Low ESR
- Endurance : 3,000 hours at 105°C
- Rated voltage 400V, Capacitance 2.2 to 4.7μF
- RoHS Compliant

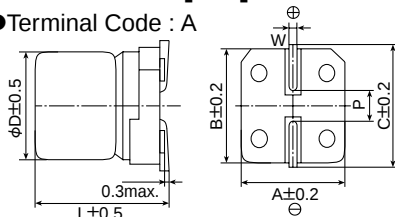


## SPECIFICATIONS

| Items                                                  | Characteristics                                                                                                                                                                                                                                                                       |                                      |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| Category                                               | -40 to +105°C                                                                                                                                                                                                                                                                         |                                      |
| Temperature Range                                      |                                                                                                                                                                                                                                                                                       |                                      |
| Rated Voltage Range                                    | 400V <sub>dc</sub>                                                                                                                                                                                                                                                                    |                                      |
| Capacitance Tolerance                                  | ±20%(M) (20°C, 120Hz)                                                                                                                                                                                                                                                                 |                                      |
| Leakage Current                                        | I=0.04CV+100(max.)<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 1 minute)                                                                                                                                              |                                      |
| Dissipation Factor (tanδ)                              | Rated voltage(V <sub>dc</sub> )                                                                                                                                                                                                                                                       | 400V                                 |
|                                                        | tanδ (Max.)                                                                                                                                                                                                                                                                           | 0.25 (20°C, 120Hz)                   |
| Low Temperature Characteristics (Max. impedance Ratio) | Rated voltage(V <sub>dc</sub> )                                                                                                                                                                                                                                                       | 400V                                 |
|                                                        | Z(-25°C)/Z(+20°C)                                                                                                                                                                                                                                                                     | 6                                    |
|                                                        | Z(-40°C)/Z(+20°C)                                                                                                                                                                                                                                                                     | 10 (120Hz)                           |
| Endurance                                              | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 3,000 hours at 105°C.                                                                                                                                 |                                      |
|                                                        | Capacitance change                                                                                                                                                                                                                                                                    | ≤±20% of the initial value           |
|                                                        | D.F. (tanδ)                                                                                                                                                                                                                                                                           | ≤200% of the initial specified value |
|                                                        | Leakage current                                                                                                                                                                                                                                                                       | ≤The initial specified value         |
| Shelf life                                             | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 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                                                                                                                                                                                                                                                                    | ≤±20% of the initial value           |
|                                                        | D.F. (tanδ)                                                                                                                                                                                                                                                                           | ≤200% 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   |
|-----------|----|------|------|------|------|------------|-----|
| HA0       | 8  | 10.0 | 8.3  | 8.3  | 9.0  | 0.7 to 1.1 | 3.1 |
| JA0       | 10 | 10.0 | 10.3 | 10.3 | 11.0 | 0.7 to 1.1 | 4.5 |

## MARKING

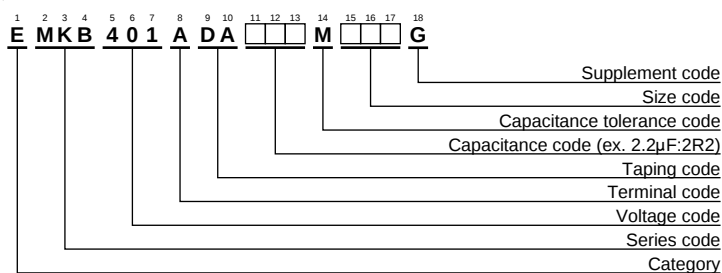
EX) 400V3.9μF



- Rated voltage symbol

| Rated voltage (V <sub>dc</sub> ) | Symbol |
|----------------------------------|--------|
| 400                              | 2G     |

## PART NUMBERING SYSTEM



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

## STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Size code | ESR (Ω <sub>max</sub> /120Hz) |       | Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz) | Part No.           |
|-----------------------|----------|-----------|-------------------------------|-------|--------------------------------------------------------|--------------------|
|                       |          |           | 20°C                          | -40°C |                                                        |                    |
| 400                   | 2.2      | HA0       | 20                            | 1,000 | 26                                                     | EMKB401ADA2R2MHA0G |
|                       | 3.3      | JA0       | 10                            | 500   | 37                                                     | EMKB401ADA3R3MJA0G |
|                       | 3.9      | JA0       | 10                            | 500   | 38                                                     | EMKB401ADA3R9MJA0G |
|                       | 4.7      | JA0       | 10                            | 500   | 39                                                     | EMKB401ADA4R7MJA0G |

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