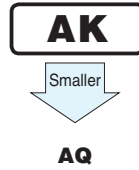


# ALUMINUM ELECTROLYTIC CAPACITORS

## AK series

Snap-in Terminal Type, 105°C Permissible Abnormal Voltage

- Withstanding 2000 hours application of rated ripple current at 105°C.
- Extended voltage range at 200V, 400V and 420V.
- Improved safety features for abnormally excessive voltage.
- Ideally suited for the equipment used at voltage fluctuating area.
- Compliant the RoHS directive (2011/65/EU).



### Specifications

| Item                          | Performance Characteristics   |                  |                    |                    |   |
|-------------------------------|---|------------------|--------------------|--------------------|---|
| Category Temperature Range    | - 25 to +105°C  |                  |                    |                    |   |
| Rated Voltage Range           | 200 · 400 · 420V  |                  |                    |                    |   |
| Rated Capacitance Range       | 33 to 1200μF  |                  |                    |                    |   |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C   |                  |                    |                    |   |
| Leakage Current               | $I \leq 3\sqrt{CV}$ (μA) (After 5 minutes' application of rated voltage) [C : Rated Capacitance (μF) V : Voltage (V)]   |                  |                    |                    |   |
| Tangent of loss angle (tan δ) | 0.20MAX. 120Hz at 20°C  |                  |                    |                    |   |
| Stability at Low Temperature  | Rated voltage(V)  |                  | 200                | 400 · 420          |   |
|                               | Impedance ratio (MAX)   | Z - 25°C/Z+20°C  | 8                  | 8                  |   |
| Endurance                     | The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 2000 hours at 105°C, the peak voltage shall not exceed the rated voltage. |                  |                    | 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 105°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 requirements listed at right.                        |                  |                    | Capacitance change | Within ±15% of the initial capacitance value      |
|                               |   |                  |                    | tan δ              | 150% or less than the initial specified value     |
|                               |   |                  |                    | Leakage current    | Less than or equal to the initial specified value |
| Safety Performance            | The pressure relief vent will operate in normal conditions, with no dangerous conditions such as flames, ignitions or dispersion of pieces of the capacitor and/or case.  |                  |                    |                    |   |
|                               | rating  |                  | test conditions    |                    |   |
|                               | Voltage (V)   | Capacitance (μF) | Limited DC current | Test voltage       |   |
|                               | 200   | C < 330          | 4 A                | 300VDC and 375VDC  |   |
|                               |   | 330 ≤ C < 470    | 5 A                |                    |   |
|                               |   | 470 ≤ C          | 7 A                |                    |   |
| 400                           | C < 100   | 2 A              | 500VDC and 600VDC  |                    |   |
|                               | 100 ≤ C < 220   | 4 A              |                    |                    |   |
|                               | 220 ≤ C   | 7 A              |                    |                    |   |
| 420                           | C < 100   | 2 A              | 520VDC and 630VDC  |                    |   |
|                               | 100 ≤ C < 220   | 4 A              |                    |                    |   |
|                               | 220 ≤ C   | 7 A              |                    |                    |   |
| Marking                       | Printed with white color letter on black sleeve   |                  |                    |                    |   |

### Drawing



### Type numbering system (Example : 200V 680μF)



※ Please contact to us if other configurations are required.

Minimum order quantity : 50pcs.

● Dimension table in next page.

**AK** series

■ Dimensions

| 200V (2D) |                 |             |                      |                |
|-----------|-----------------|-------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Ripple (mA) | Leakage Current (mA) | Code           |
| 47        | 22 × 20         | 350         | 0.29                 | LAK2D470MELZ20 |
| 100       | 22 × 20         | 500         | 0.42                 | LAK2D101MELZ20 |
| 150       | 25 × 20         | 650         | 0.51                 | LAK2D151MELA20 |
| 180       | 22 × 25         | 700         | 0.56                 | LAK2D181MELZ25 |
|           | 30 × 20         | 700         | 0.56                 | LAK2D181MELB20 |
| 220       | 22 × 25         | 740         | 0.62                 | LAK2D221MELZ25 |
| 270       | 22 × 30         | 900         | 0.69                 | LAK2D271MELZ30 |
|           | 25 × 25         | 850         | 0.69                 | LAK2D271MELA25 |
|           | 35 × 20         | 1100        | 0.69                 | LAK2D271MELC20 |
| 330       | 22 × 30         | 1050        | 0.77                 | LAK2D331MELZ30 |
|           | 25 × 30         | 1050        | 0.77                 | LAK2D331MELA30 |
|           | 30 × 25         | 1050        | 0.77                 | LAK2D331MELB25 |
| 390       | 22 × 35         | 1200        | 0.83                 | LAK2D391MELZ35 |
|           | 25 × 30         | 1200        | 0.83                 | LAK2D391MELA30 |
|           | 30 × 25         | 1200        | 0.83                 | LAK2D391MELB25 |
| 470       | 22 × 40         | 1300        | 0.91                 | LAK2D471MELZ40 |
|           | 25 × 35         | 1300        | 0.91                 | LAK2D471MELA35 |
|           | 30 × 25         | 1350        | 0.91                 | LAK2D471MELB25 |
| 560       | 22 × 45         | 1500        | 1.00                 | LAK2D561MELZ45 |
|           | 25 × 40         | 1500        | 1.00                 | LAK2D561MELA40 |
|           | 30 × 35         | 1550        | 1.00                 | LAK2D561MELB35 |
|           | 35 × 25         | 1550        | 1.00                 | LAK2D561MELC25 |
| 680       | 25 × 50         | 1700        | 1.10                 | LAK2D681MELA50 |
|           | 30 × 40         | 1700        | 1.10                 | LAK2D681MELB40 |
|           | 35 × 30         | 1700        | 1.10                 | LAK2D681MELC30 |
| 820       | 30 × 45         | 1990        | 1.21                 | LAK2D821MELB45 |
|           | 35 × 35         | 1990        | 1.21                 | LAK2D821MELC35 |
| 1000      | 30 × 50         | 2100        | 1.34                 | LAK2D102MELB50 |
|           | 35 × 40         | 2100        | 1.34                 | LAK2D102MELC40 |
| 1200      | 35 × 50         | 2300        | 1.46                 | LAK2D122MELC50 |

| 420V (W6) |                 |             |                      |                |
|-----------|-----------------|-------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Ripple (mA) | Leakage Current (mA) | Code           |
| 33        | 22 × 25         | 250         | 0.35                 | LAKW6330MELZ25 |
| 47        | 22 × 25         | 350         | 0.42                 | LAKW6470MELZ25 |
| 56        | 22 × 25         | 380         | 0.46                 | LAKW6560MELZ25 |
| 68        | 22 × 30         | 450         | 0.50                 | LAKW6680MELZ30 |
|           | 25 × 25         | 450         | 0.50                 | LAKW6680MELA25 |
| 82        | 22 × 35         | 640         | 0.55                 | LAKW6820MELZ35 |
|           | 25 × 30         | 640         | 0.55                 | LAKW6820MELA30 |
| 100       | 22 × 40         | 690         | 0.61                 | LAKW6101MELZ40 |
|           | 25 × 30         | 690         | 0.61                 | LAKW6101MELA30 |
|           | 30 × 25         | 690         | 0.61                 | LAKW6101MELB25 |
| 120       | 22 × 45         | 750         | 0.67                 | LAKW6121MELZ45 |
|           | 25 × 35         | 750         | 0.67                 | LAKW6121MELA35 |
|           | 30 × 30         | 750         | 0.67                 | LAKW6121MELB30 |
|           | 35 × 25         | 750         | 0.67                 | LAKW6121MELC25 |
| 150       | 25 × 40         | 820         | 0.75                 | LAKW6151MELA40 |
|           | 30 × 30         | 820         | 0.75                 | LAKW6151MELB30 |
|           | 35 × 25         | 820         | 0.75                 | LAKW6151MELC25 |
| 180       | 25 × 45         | 900         | 0.82                 | LAKW6181MELA45 |
|           | 30 × 35         | 900         | 0.82                 | LAKW6181MELB35 |
|           | 35 × 30         | 900         | 0.82                 | LAKW6181MELC30 |
| 220       | 30 × 40         | 1000        | 0.91                 | LAKW6221MELB40 |
|           | 35 × 35         | 1000        | 0.91                 | LAKW6221MELC35 |
| 270       | 30 × 45         | 1100        | 1.01                 | LAKW6271MELB45 |
|           | 35 × 40         | 1100        | 1.01                 | LAKW6271MELC40 |
| 330       | 35 × 45         | 1200        | 1.11                 | LAKW6331MELC45 |

Rated ripple current (mArms) at 105°C 120Hz

| 400V (2G) |                 |             |                      |                |
|-----------|-----------------|-------------|----------------------|----------------|
| Cap. (μF) | Size φD × L(mm) | Ripple (mA) | Leakage Current (mA) | Code           |
| 33        | 22 × 20         | 220         | 0.34                 | LAK2G330MELZ20 |
| 39        | 22 × 20         | 300         | 0.37                 | LAK2G390MELZ20 |
| 47        | 22 × 25         | 350         | 0.41                 | LAK2G470MELZ25 |
|           | 25 × 20         | 350         | 0.41                 | LAK2G470MELA20 |
|           | 30 × 20         | 400         | 0.41                 | LAK2G470MELB20 |
| 56        | 22 × 25         | 380         | 0.44                 | LAK2G560MELZ25 |
|           | 25 × 20         | 380         | 0.44                 | LAK2G560MELA20 |
| 68        | 22 × 25         | 400         | 0.49                 | LAK2G680MELZ25 |
|           | 25 × 25         | 450         | 0.49                 | LAK2G680MELA25 |
|           | 30 × 20         | 500         | 0.49                 | LAK2G680MELB20 |
| 82        | 22 × 30         | 500         | 0.54                 | LAK2G820MELZ30 |
|           | 25 × 25         | 500         | 0.54                 | LAK2G820MELA25 |
|           | 30 × 20         | 500         | 0.54                 | LAK2G820MELB20 |
| 100       | 22 × 35         | 550         | 0.60                 | LAK2G101MELZ35 |
|           | 25 × 30         | 530         | 0.60                 | LAK2G101MELA30 |
|           | 30 × 25         | 530         | 0.60                 | LAK2G101MELB25 |
|           | 35 × 20         | 550         | 0.60                 | LAK2G101MELC20 |
| 120       | 22 × 40         | 600         | 0.65                 | LAK2G121MELZ40 |
|           | 25 × 30         | 600         | 0.65                 | LAK2G121MELA30 |
|           | 30 × 25         | 600         | 0.65                 | LAK2G121MELB25 |
| 150       | 22 × 45         | 700         | 0.73                 | LAK2G151MELZ45 |
|           | 25 × 35         | 700         | 0.73                 | LAK2G151MELA35 |
|           | 30 × 30         | 700         | 0.73                 | LAK2G151MELB30 |
|           | 35 × 25         | 700         | 0.73                 | LAK2G151MELC25 |
| 180       | 22 × 50         | 800         | 0.80                 | LAK2G181MELZ50 |
|           | 25 × 40         | 800         | 0.80                 | LAK2G181MELA40 |
|           | 30 × 30         | 800         | 0.80                 | LAK2G181MELB30 |
|           | 35 × 25         | 800         | 0.80                 | LAK2G181MELC25 |
| 220       | 25 × 45         | 900         | 0.88                 | LAK2G221MELA45 |
|           | 30 × 35         | 900         | 0.88                 | LAK2G221MELB35 |
|           | 35 × 30         | 900         | 0.88                 | LAK2G221MELC30 |
| 270       | 30 × 40         | 980         | 0.98                 | LAK2G271MELB40 |
|           | 35 × 35         | 960         | 0.98                 | LAK2G271MELC35 |
|           | 30 × 50         | 1210        | 1.08                 | LAK2G331MELB50 |
| 330       | 35 × 40         | 1210        | 1.08                 | LAK2G331MELC40 |
| 390       | 35 × 45         | 1320        | 1.18                 | LAK2G391MELC45 |
| 470       | 35 × 50         | 1450        | 1.30                 | LAK2G471MELC50 |

● Frequency coefficient of rated ripple current

| Coefficient | Frequency (Hz) | 50   | 60   | 120  | 1k   | 10k or more |
|-------------|----------------|------|------|------|------|-------------|
|             | 200V           | 400  | 0.85 | 0.88 | 1.00 | 1.15        |
| 400         | 420V           | 0.88 | 0.90 | 1.00 | 1.10 | 1.15        |



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- Техническая поддержка проекта;
- Защита от снятия компонента с производства.



#### Как с нами связаться

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