

# ALUMINUM ELECTROLYTIC CAPACITORS



**AQ** Snap-in Terminal Type, 105°C Permissible Abnormal Voltage, Smaller-sized (692 type) series



- Withstanding 2000 hours application of rated ripple current of 105°C.
- Extended voltage range at 200V, 220V and 400V.
- Smaller case sizes and higher ripple current than AK series.
- Improved safety features for abnormally excessive voltage.
- Ideally suited for the equipment used at voltage fluctuating area.
- Compliant to the RoHS directive (2002/95/EC).



## Specifications

| Item                          | Performance Characteristics   |   |                    |                               |
|-------------------------------|---|---|--------------------|-------------------------------|
| Category Temperature Range    | -25 to +105°C   |   |                    |                               |
| Rated Voltage Range           | 200 · 220 · 400V  |   |                    |                               |
| Rated Capacitance Range       | 33 to 1500μF  |   |                    |                               |
| 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, 20°C  |   |                    |                               |
| Stability at Low Temperature  | Rated voltage(V)  |   | 200 · 220          | 400                           |
|                               | 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. |   |                    | Measurement frequency : 120Hz |
|                               | Capacitance change  | Within ±20% of the initial capacitance value  |                    |                               |
|                               | tan δ   | 200% or less than 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.                        |   |                    | Measurement frequency : 120Hz |
|                               | Capacitance change  | Within ±15% of the initial capacitance value  |                    |                               |
|                               | tan δ   | 150% or less than 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)   | Rated Capacitance (μF)                        | Limited DC current | Test voltage                  |
|                               | 200   | C < 330                                       | 4 A                | 300VDC and 375VDC             |
|                               |   | 330 ≤ C < 470                                 | 5 A                |                               |
|                               |   | 470 ≤ C                                       | 7 A                |                               |
|                               | 220   | C < 330                                       | 4 A                | 320VDC and 405VDC             |
| 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   |                    |                               |
| Marking                       | Printed with white color letter on black sleeve   |   |                    |                               |

## Drawing



(PC board hole dimensions)

(Terminal dimensions)

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



※ Please contact to us if other configurations are required.

Minimum order quantity : 50pcs.

● Dimension table in next page.

## ■ Dimensions

| Cap.(μF) | V(Code)<br>Code | φD    | 200V (2D) |       |       |    | 220V (2P) |       |       |       | 400V (2G) |       |       |       |                     |
|----------|-----------------|-------|-----------|-------|-------|----|-----------|-------|-------|-------|-----------|-------|-------|-------|---------------------|
|          |                 |       | 22        | 25    | 30    | 35 | 22        | 25    | 30    | 35    | 22        | 25    | 30    | 35    |                     |
| 33       | 330             |       |           |       |       |    |           |       |       |       |           | 22×25 |       |       |                     |
|          |                 |       |           |       |       |    |           |       |       |       |           | 0.25  |       |       |                     |
| 39       | 390             |       |           |       |       |    |           |       |       |       |           | 22×25 |       |       |                     |
|          |                 |       |           |       |       |    |           |       |       |       |           | 0.30  |       |       |                     |
| 47       | 470             |       |           |       |       |    |           |       |       |       |           | 22×25 |       |       |                     |
|          |                 |       |           |       |       |    |           |       |       |       |           | 0.35  |       |       |                     |
| 56       | 560             |       |           |       |       |    |           |       |       |       |           | 22×25 |       |       |                     |
|          |                 |       |           |       |       |    |           |       |       |       |           | 0.45  |       |       |                     |
| 68       | 680             |       |           |       |       |    |           |       |       |       |           | 22×25 |       |       |                     |
|          |                 |       |           |       |       |    |           |       |       |       |           | 0.51  |       |       |                     |
| 82       | 820             |       |           |       |       |    |           |       |       |       |           | 22×30 | 25×25 |       |                     |
|          |                 |       |           |       |       |    |           |       |       |       |           | 0.58  | 0.58  |       |                     |
| 100      | 101             |       |           |       |       |    | 22×20     |       |       |       |           | 22×30 | 25×25 |       |                     |
|          |                 |       |           |       |       |    | 0.50      |       |       |       |           | 0.66  | 0.66  |       |                     |
| 120      | 121             |       |           |       |       |    | 22×25     |       |       |       |           | 22×35 | 25×30 | 30×25 |                     |
|          |                 |       |           |       |       |    | 0.60      |       |       |       |           | 0.76  | 0.76  | 0.76  |                     |
| 150      | 151             |       |           |       |       |    | 22×25     | 25×20 |       |       |           | 22×40 | 25×35 | 30×25 |                     |
|          |                 |       |           |       |       |    | 0.65      | 0.65  |       |       |           | 0.85  | 0.85  | 0.85  |                     |
| 180      | 181             | 22×25 | 25×20     |       |       |    | 22×25     | 25×25 |       |       |           |       | 25×40 | 30×30 | 35×25               |
|          |                 | 0.70  | 0.70      |       |       |    | 0.70      | 0.70  |       |       |           |       | 0.95  | 0.95  | 0.95                |
| 220      | 221             | 22×25 |           |       |       |    | 22×30     | 25×25 | 30×20 |       |           |       | 25×45 | 30×35 | 35×30               |
|          |                 | 0.90  |           |       |       |    | 0.90      | 0.90  | 0.90  |       |           |       | 1.24  | 1.24  | 1.24                |
| 270      | 271             | 22×25 |           |       |       |    | 22×35     | 25×30 | 30×25 | 35×20 |           |       |       | 30×40 | 35×35               |
|          |                 | 1.00  |           |       |       |    | 1.00      | 1.00  | 1.00  | 1.00  |           |       |       | 1.30  | 1.30                |
| 330      | 331             | 22×30 | 25×25     |       |       |    | 22×40     | 25×30 | 30×25 | 35×25 |           |       |       | 30×45 | 35×35               |
|          |                 | 1.20  | 1.20      |       |       |    | 1.20      | 1.20  | 1.20  | 1.20  |           |       |       | 1.47  | 1.47                |
| 390      | 391             | 22×35 | 25×30     |       |       |    | 22×45     | 25×35 | 30×30 | 35×25 |           |       |       |       | 35×40               |
|          |                 | 1.35  | 1.35      |       |       |    | 1.35      | 1.35  | 1.35  | 1.35  |           |       |       |       | 1.59                |
| 470      | 471             | 22×40 | 25×30     | 30×25 |       |    |           | 25×40 | 30×30 | 35×25 |           |       |       |       | 35×45               |
|          |                 | 1.45  | 1.45      | 1.45  |       |    |           | 1.45  | 1.45  | 1.45  |           |       |       |       | 1.87                |
| 560      | 561             | 22×45 | 25×35     | 30×30 |       |    |           | 25×45 | 30×35 | 35×30 |           |       |       |       |                     |
|          |                 | 1.60  | 1.60      | 1.60  |       |    |           | 1.60  | 1.60  | 1.60  |           |       |       |       |                     |
| 680      | 681             | 22×50 | 25×40     | 30×30 | 35×25 |    |           |       | 30×40 | 35×35 |           |       |       |       |                     |
|          |                 | 1.75  | 1.75      | 1.75  | 1.75  |    |           |       | 1.75  | 1.75  |           |       |       |       |                     |
| 820      | 821             |       | 25×50     | 30×35 | 35×30 |    |           |       | 30×45 | 35×40 |           |       |       |       |                     |
|          |                 |       | 2.11      | 2.11  | 2.11  |    |           |       | 2.11  | 2.11  |           |       |       |       |                     |
| 1000     | 102             |       |           | 30×45 | 35×35 |    |           |       |       | 35×45 |           |       |       |       |                     |
|          |                 |       |           | 2.40  | 2.40  |    |           |       |       | 2.40  |           |       |       |       |                     |
| 1200     | 122             |       |           | 30×50 | 35×40 |    |           |       |       |       |           |       |       |       |                     |
|          |                 |       |           | 2.65  | 2.65  |    |           |       |       |       |           |       |       |       |                     |
| 1500     | 152             |       |           |       | 35×45 |    |           |       |       |       |           |       |       |       |                     |
|          |                 |       |           |       | 3.08  |    |           |       |       |       |           |       |       |       |                     |
|          |                 |       |           |       |       |    |           |       |       |       |           |       |       |       | Case size φD×L (mm) |
|          |                 |       |           |       |       |    |           |       |       |       |           |       |       |       | Rated ripple        |

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

## ● Frequency coefficient of rated ripple current

| Frequency (Hz) | 50   | 60   | 120  | 1k   | 10k or more |
|----------------|------|------|------|------|-------------|
| 200-220V       | 0.85 | 0.88 | 1.00 | 1.15 | 1.20        |
| 400V           | 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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