

# ALUMINUM ELECTROLYTIC CAPACITORS



**DQ** 105°C Horizontal Mounting Type series

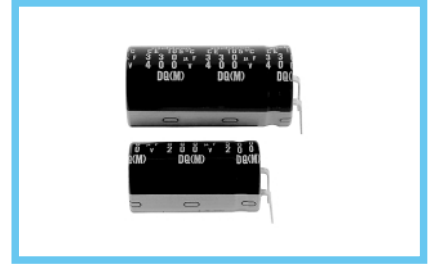


Smaller

**DQ**



DM



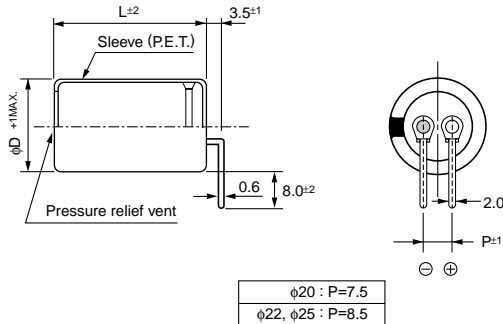
- Horizontal mounting version for  $\phi 20$ ,  $\phi 22$  and  $\phi 25$ .
- Suited for use in flat electronic devices where height space is limited.
- Adapted to the RoHS directive (2002/95/EC).

Products which are scheduled to be discontinued. Not recommended for new designs

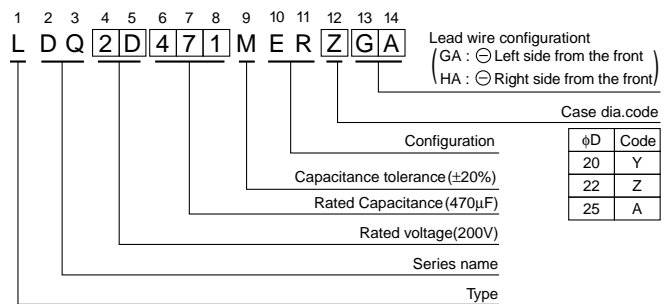
## Specifications

| Item                                  | Performance Characteristics   |                                |   |
|---------------------------------------|---|--------------------------------|---|
| Category Temperature Range            | - 40 to +105°C (200V), - 25 to +105°C (400V)  |                                |   |
| Rated Voltage Range                   | 200 · 400V  |                                |   |
| Rated Capacitance Range               | 68 to 1200 $\mu$ F  |                                |   |
| Capacitance Tolerance                 | $\pm 20\%$ at 120Hz, 20°C   |                                |   |
| Leakage Current                       | $I \leq 3\sqrt{CV}$ ( $\mu$ A) (After 5 minutes' application of rated voltage) [C : Rated Capacitance ( $\mu$ F) V : Voltage (V)]   |                                |   |
| Tangent of loss angle (tan $\delta$ ) | Measurement frequency : 120Hz, Temperature : 20°C   |                                |   |
|                                       | Rated voltage (V)   | 200      400                   |   |
| Stability at Low Temperature          | Measurement frequency : 120Hz   |                                |   |
|                                       | Rated voltage (V)   | 200      400                   |   |
|                                       | Impedance ratio   | Z - 25°C/Z+20°C      3      8  |   |
| Endurance                             | ZT/Z20(MAX.)  | Z - 40°C/Z+20°C      12      — |   |
|                                       | 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 $\pm 20\%$ of initial value                |
| Shelf Life                            | After storing the capacitors under no load at 105°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the requirements listed at right.                       | tan $\delta$                   | 200% or less of initial specified value           |
|                                       |   | Leakage current                | Less than or equal to the initial specified value |
| Marking                               | Printed with white color letter on black sleeve.  | Capacitance change             | Within $\pm 15\%$ of initial value                |
|                                       |   | tan $\delta$                   | 150% or less of initial specified value           |
|                                       |   | Leakage current                | Less than or equal to the initial specified value |

## Drawing



## Type numbering system (Example : 200V 470 $\mu$ F)



## Dimensions

| Cap. ( $\mu$ F) | V(Code) | 200V (2D) |          |       |      | 400V (2G) |       |      |                        |        |
|-----------------|---------|-----------|----------|-------|------|-----------|-------|------|------------------------|--------|
|                 |         | Code      | $\phi D$ | 20    | 22   | 25        | 20    | 22   | 25                     |        |
| 68              | 680     |           |          |       |      |           | 20×30 | 0.56 |                        |        |
| 82              | 820     |           |          |       |      |           | 20×30 | 0.64 |                        |        |
| 100             | 101     |           |          |       |      |           | 20×35 | 0.70 |                        |        |
| 120             | 121     |           |          |       |      |           | 20×40 | 0.75 | 22×35                  | 0.75   |
| 150             | 151     |           |          |       |      |           | 20×45 | 0.83 | 22×40                  | 0.88   |
| 180             | 181     |           |          |       |      |           | 20×50 | 0.95 | 22×45                  | 0.95   |
| 220             | 221     |           |          |       |      |           |       |      | 22×50                  | 1.10   |
| 270             | 271     | 20×30     | 1.10     |       |      |           |       |      | 22×60                  | 1.22   |
| 330             | 331     | 20×35     | 1.20     |       |      |           |       |      | 25×45                  | 1.22   |
| 390             | 391     | 20×40     | 1.31     |       |      |           |       |      | 25×50                  | 1.44   |
| 470             | 471     | 20×45     | 1.45     | 22×35 | 1.45 |           |       |      |                        |        |
| 560             | 561     | 20×50     | 1.58     | 22×40 | 1.60 | 25×35     | 1.60  |      |                        |        |
| 680             | 681     |           |          | 22×45 | 1.78 | 25×40     | 1.78  |      |                        |        |
| 820             | 821     |           |          | 22×60 | 2.04 | 25×45     | 2.04  |      |                        |        |
| 1000            | 102     |           |          |       |      | 25×50     | 2.30  |      |                        |        |
| 1200            | 122     |           |          |       |      | 25×60     | 2.65  |      |                        |        |
|                 |         |           |          |       |      |           |       |      | Case size              | Rated  |
|                 |         |           |          |       |      |           |       |      | $\phi D \times L$ (mm) | ripple |

\* Other rating also available on request.

Rated Ripple (Arms) at 105°C, 120Hz

## Frequency coefficient of rated ripple current

| Frequency (Hz) | 50   | 60   | 120  | 300  | 1k   | 10k  | 50k or more |
|----------------|------|------|------|------|------|------|-------------|
| 200V           | 0.81 | 0.85 | 1.00 | 1.17 | 1.32 | 1.45 | 1.50        |
| 400V           | 0.77 | 0.82 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43        |

Minimum order quantity : 50pcs.

CAT.8100X