

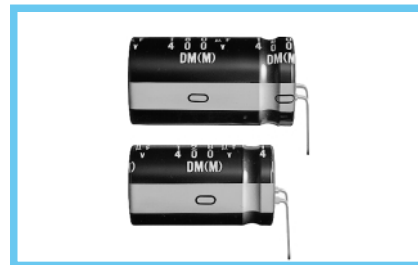
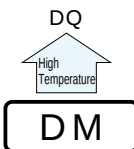
# DM series

85°C Horizontal Mounting Type



- For  $\phi 20$ ,  $\phi 22$  and  $\phi 25$ , but suited for horizontal mounting to assure flat and low-profile design.
- Adapted to the RoHS directive (2002/95/EC).

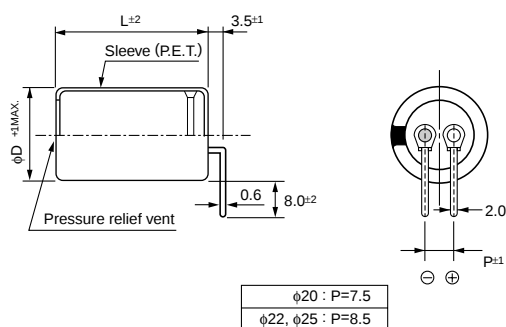
Products which are scheduled to be discontinued.  
Not recommended for new designs



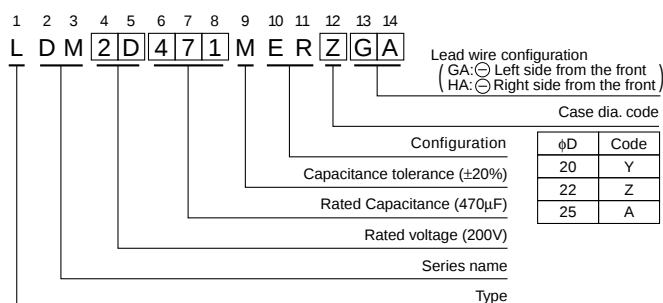
## Specifications

| Item                          | Performance Characteristics                                                                                                                                                                                                |                 |                    |                                                   |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|--------------------|---------------------------------------------------|
| Category Temperature Range    | - 40 to + 85°C (200V), - 25 to + 85°C (400V)                                                                                                                                                                               |                 |                    |                                                   |
| Rated Voltage Range           | 200 · 400V                                                                                                                                                                                                                 |                 |                    |                                                   |
| Rated Capacitance Range       | 82 to 1200μF                                                                                                                                                                                                               |                 |                    |                                                   |
| Capacitance Tolerance         | ±20% at 120Hz, 20°C                                                                                                                                                                                                        |                 |                    |                                                   |
| Leakage Current               | I ≤ 3·√CV(μA) (After 5 minutes' application of rated voltage) [C : Rated Capacitance (μF) V : Voltage (V)]                                                                                                                 |                 |                    |                                                   |
| Tangent of loss angle (tan δ) | Measurement frequency : 120Hz, Temperature : 20°C                                                                                                                                                                          |                 |                    |                                                   |
|                               | Rated voltage (V)                                                                                                                                                                                                          | 200             | 400                |                                                   |
|                               | tan δ (MAX.)                                                                                                                                                                                                               | 0.15            | 0.15               |                                                   |
| Stability at Low Temperature  | Measurement frequency : 120Hz                                                                                                                                                                                              |                 |                    |                                                   |
|                               | Rated voltage (V)                                                                                                                                                                                                          |                 |                    |                                                   |
|                               | 200                                                                                                                                                                                                                        |                 | 400                |                                                   |
|                               | Impedance ratio                                                                                                                                                                                                            | Z - 25°C/Z+20°C | 3                  | 8                                                 |
|                               | ZT/Z20(MAX.)                                                                                                                                                                                                               | Z - 40°C/Z+20°C | 12                 | —                                                 |
| 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 85°C, the peak voltage shall not exceed the rated voltage. |                 | Capacitance change | Within ±20% of initial value                      |
|                               |                                                                                                                                                                                                                            |                 | tan δ              | 200% or less of initial specified value           |
|                               |                                                                                                                                                                                                                            |                 | Leakage current    | Less than or equal to the initial specified value |
| Shelf Life                    | After storing the capacitors under no load at 85°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 characteristic requirements at right.               |                 | Capacitance change | Within ±15% of initial value                      |
|                               |                                                                                                                                                                                                                            |                 | tan δ              | 150% 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.                                                                                                                                                                           |                 |                    |                                                   |

## Drawing



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



## Dimensions

|                 |          | 200V (2D) |      |         | 400V (2G) |                                     |                 |
|-----------------|----------|-----------|------|---------|-----------|-------------------------------------|-----------------|
| Cap. ( $\mu$ F) | V (Code) | 20        | 22   | 25      | 20        | 22                                  | 25              |
| 82              | 820      |           |      |         | 20 × 30   | 0.78                                |                 |
| 100             | 101      |           |      |         | 20 × 30   | 0.90                                |                 |
| 120             | 121      |           |      |         | 20 × 35   | 1.02                                |                 |
| 150             | 151      |           |      |         | 20 × 40   | 1.17                                |                 |
| 180             | 181      |           |      |         | 20 × 50   | 1.30                                |                 |
| 220             | 221      |           |      |         |           | 22 × 40                             | 1.38            |
| 270             | 271      | 20 × 30   | 1.32 |         |           | 22 × 45                             | 1.55            |
| 330             | 331      | 20 × 30   | 1.49 |         |           | 22 × 60                             | 1.70            |
| 390             | 391      | 20 × 35   | 1.66 |         |           |                                     | 25 × 50         |
| 470             | 471      | 20 × 40   | 1.93 | 22 × 35 | 1.88      |                                     | 25 × 60         |
| 560             | 561      | 20 × 45   | 2.00 | 22 × 40 | 1.96      |                                     |                 |
| 680             | 681      | 20 × 50   | 2.30 | 22 × 45 | 2.43      | 25 × 35                             | 2.68            |
| 820             | 821      |           |      | 22 × 50 | 2.80      | 25 × 40                             | 2.80            |
| 1000            | 102      |           |      | 22 × 60 | 3.00      | 25 × 45                             | 3.12            |
| 1200            | 122      |           |      | 25 × 60 | 3.44      |                                     |                 |
|                 |          |           |      |         |           | Case size<br>$\phi D \times L$ (mm) | Rated<br>ripple |

\* Other ratings also available on request.

Rated Ripple (Arms) at 85°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.

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