

# KMZ Series

- Downsized from KMW series
- Endurance with ripple current : 2,000 hours at 105°C
- Rated voltage range : 420 & 450V<sub>dc</sub>, Capacitance range : 120 to 820μF
- Non solvent resistant type
- RoHS2 Compliant

KMZ

↓  
Downsized  
↑  
KMW P6-9

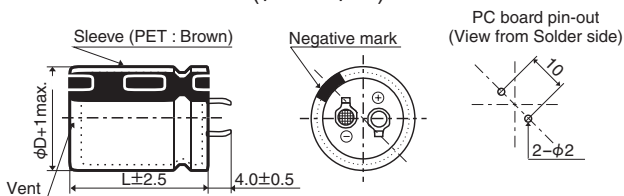


## ◆ SPECIFICATIONS

| Items  | Characteristics   |                                       |
|--|---|---------------------------------------|
| Category   | -25 to +105°C   |                                       |
| Temperature Range                                      |   |                                       |
| Rated Voltage Range                                    | 420 & 450V <sub>dc</sub>  |                                       |
| Capacitance Tolerance                                  | ±20% (M) (at 20°C, 120Hz)   |                                       |
| Leakage Current  | $I \leq 3\sqrt{CV}$<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 5 minutes)  |                                       |
| Dissipation Factor (tan δ)                             | Rated voltage (V <sub>dc</sub> )  | 420 & 450V                            |
|  | tan δ (Max.)  | 0.20 (at 20°C, 120Hz)                 |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )  | 420 & 450V                            |
|  | Z(-25°C)/Z(+20°C)   | 8 (at 120Hz)                          |
| Endurance  | The following specifications shall be satisfied when the capacitors are restored to 20°C after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for 2,000 hours at 105°C.   |                                       |
|  | Capacitance change  | ≤ ±20% of the initial value           |
|  | D.F. (tan δ)  | ≤ 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 1,000 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  | ≤ ±15% of the initial value           |
|  | D.F. (tan δ)  | ≤ 150% of the initial specified value |
|  | Leakage current   | ≤ The initial specified value         |

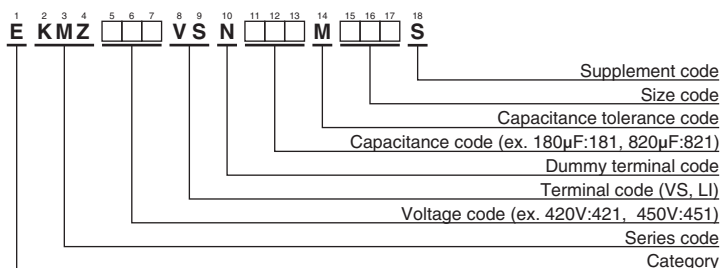
## ◆ DIMENSIONS [mm]

- Terminal Code : VS (φ22 to φ30) : Standard



The standard design has no plastic disc.

## ◆ PART NUMBERING SYSTEM



Please refer to "Product code guide (snap-in type)"

KMZ Series

◆STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (Arms/105°C, 120Hz) | Part No.           |
|-----------------------|----------|--------------------|-------|--|--------------------|
| 420                   | 150      | 22 × 25            | 0.20  | 0.87                                     | EKMZ421VSN151MP25S |
|                       | 180      | 22 × 30            | 0.20  | 1.00                                     | EKMZ421VSN181MP30S |
|                       | 180      | 25.4 × 25          | 0.20  | 1.02                                     | EKMZ421VSN181MQ25S |
|                       | 220      | 22 × 35            | 0.20  | 1.13                                     | EKMZ421VSN221MP35S |
|                       | 270      | 22 × 40            | 0.20  | 1.27                                     | EKMZ421VSN271MP40S |
|                       | 270      | 25.4 × 30          | 0.20  | 1.28                                     | EKMZ421VSN271MQ30S |
|                       | 270      | 30 × 25            | 0.20  | 1.28                                     | EKMZ421VSN271MR25S |
|                       | 330      | 22 × 45            | 0.20  | 1.44                                     | EKMZ421VSN331MP45S |
|                       | 330      | 25.4 × 35          | 0.20  | 1.48                                     | EKMZ421VSN331MQ35S |
|                       | 390      | 22 × 55            | 0.20  | 1.63                                     | EKMZ421VSN391MP55S |
|                       | 390      | 25.4 × 40          | 0.20  | 1.64                                     | EKMZ421VSN391MQ40S |
|                       | 390      | 30 × 30            | 0.20  | 1.55                                     | EKMZ421VSN391MR30S |
|                       | 470      | 25.4 × 50          | 0.20  | 1.86                                     | EKMZ421VSN471MQ50S |
|                       | 470      | 30 × 35            | 0.20  | 1.74                                     | EKMZ421VSN471MR35S |
|                       | 560      | 25.4 × 55          | 0.20  | 2.09                                     | EKMZ421VSN561MQ55S |
|                       | 560      | 30 × 40            | 0.20  | 1.96                                     | EKMZ421VSN561MR40S |
| 680                   | 30 × 50  | 0.20               | 2.25  | EKMZ421VSN681MR50S                       |                    |
| 820                   | 30 × 55  | 0.20               | 2.52  | EKMZ421VSN821MR55S                       |                    |

| WV (V <sub>dc</sub> ) | Cap (μF)  | Case size φD×L(mm) | tan δ | Rated ripple current (Arms/105°C, 120Hz) | Part No.           |
|-----------------------|-----------|--------------------|-------|--|--------------------|
| 450                   | 120       | 22 × 25            | 0.20  | 0.78                                     | EKMZ451VSN121MP25S |
|                       | 180       | 22 × 30            | 0.20  | 1.00                                     | EKMZ451VSN181MP30S |
|                       | 180       | 25.4 × 25          | 0.20  | 1.02                                     | EKMZ451VSN181MQ25S |
|                       | 220       | 22 × 35            | 0.20  | 1.13                                     | EKMZ451VSN221MP35S |
|                       | 220       | 25.4 × 30          | 0.20  | 1.16                                     | EKMZ451VSN221MQ30S |
|                       | 270       | 22 × 45            | 0.20  | 1.30                                     | EKMZ451VSN271MP45S |
|                       | 270       | 25.4 × 35          | 0.20  | 1.34                                     | EKMZ451VSN271MQ35S |
|                       | 270       | 30 × 25            | 0.20  | 1.28                                     | EKMZ451VSN271MR25S |
|                       | 330       | 22 × 50            | 0.20  | 1.47                                     | EKMZ451VSN331MP50S |
|                       | 330       | 25.4 × 40          | 0.20  | 1.51                                     | EKMZ451VSN331MQ40S |
|                       | 330       | 30 × 30            | 0.20  | 1.43                                     | EKMZ451VSN331MR30S |
|                       | 390       | 22 × 55            | 0.20  | 1.63                                     | EKMZ451VSN391MP55S |
|                       | 390       | 25.4 × 45          | 0.20  | 1.67                                     | EKMZ451VSN391MQ45S |
|                       | 390       | 30 × 35            | 0.20  | 1.59                                     | EKMZ451VSN391MR35S |
|                       | 470       | 25.4 × 55          | 0.20  | 1.91                                     | EKMZ451VSN471MQ55S |
|                       | 470       | 30 × 40            | 0.20  | 1.79                                     | EKMZ451VSN471MR40S |
| 560                   | 25.4 × 60 | 0.20               | 2.13  | EKMZ451VSN561MQ60S                       |                    |
| 560                   | 30 × 45   | 0.20               | 2.01  | EKMZ451VSN561MR45S                       |                    |
| 680                   | 30 × 50   | 0.20               | 2.25  | EKMZ451VSN681MR50S                       |                    |
| 820                   | 30 × 60   | 0.20               | 2.56  | EKMZ451VSN821MR60S                       |                    |

◆RATED RIPPLE CURRENT MULTIPLIERS

⊙ Frequency Multipliers

| Frequency(Hz) | 50   | 120  | 300  | 1k   | 10k  | 50k  |
|---------------|------|------|------|------|------|------|
| Multipliers   | 0.77 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |

The endurance of capacitors is reduced with internal heating produced by ripple current at the rate of halving the lifetime with every 5°C rise. When long life performance is required in actual use, the rms ripple current has to be reduced.