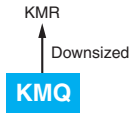


# KMQ Series

- Endurance with ripple current : 2,000 hours at 105°C
- Non solvent resistant type
- RoHS2 Compliant



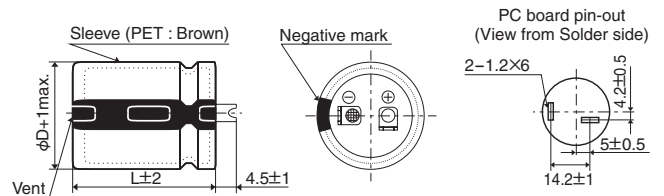
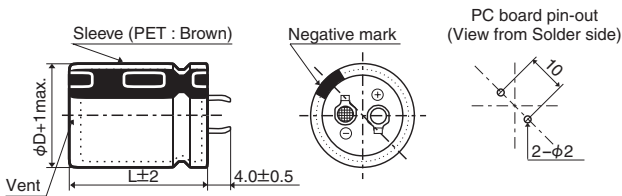
## SPECIFICATIONS

| Items  | Characteristics   |                                       |      |                     |      |             |      |             |  |                  |  |
|--|---|---------------------------------------|------|---------------------|------|-------------|------|-------------|--|------------------|--|
| Category   | -40 to +105°C (35&50V <sub>dc</sub> ), -25 to +105°C (160 to 450V <sub>dc</sub> )   |                                       |      |                     |      |             |      |             |  |                  |  |
| Temperature Range                                      |   |                                       |      |                     |      |             |      |             |  |                  |  |
| Rated Voltage Range                                    | 35&50V <sub>dc</sub> , 160 to 450V <sub>dc</sub>  |                                       |      |                     |      |             |      |             |  |                  |  |
| Capacitance Tolerance                                  | ±20% (M) (at 20°C, 120Hz)   |                                       |      |                     |      |             |      |             |  |                  |  |
| Leakage Current  | I ≤ 3√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> )  | 35V                                   |      | 50V                 |      | 160 to 250V |      | 315 to 400V |  | 420 & 450V       |  |
|  | Nominal capacitance (µF)  | 10,000 > C ≥ 10,000                   |      | 10,000 > C ≥ 10,000 |      | —           |      | —           |  | —                |  |
|  | tan δ (Max.)  | 0.30                                  | 0.35 | 0.25                | 0.30 | 0.15        | 0.15 | 0.20        |  | (at 20°C, 120Hz) |  |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )  | 35&50V                                |      | 160 to 250V         |      | 315 to 450V |      |             |  |                  |  |
|  | Z(-25°C)/Z(+20°C)   | 4                                     |      | 4                   |      | 8           |      |             |  |                  |  |
|  | Z(-40°C)/Z(+20°C)   | 10                                    |      | —                   |      | —           |      | (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]

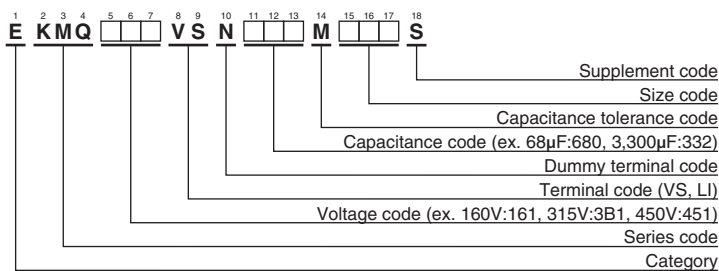
Terminal Code : VS (φ22 to φ35) : Standard

Terminal Code : LI (φ35)



The standard design has no plastic disc.

## PART NUMBERING SYSTEM



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

◆ 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.           | WV (V <sub>dc</sub> ) | Cap (μF) | Case size ϕD×L(mm) | tan δ     | Rated ripple current (Arms/105°C, 120Hz) | Part No.           |                    |
|-----------------------|----------|--------------------|-------|--|--------------------|-----------------------|----------|--------------------|-----------|--|--------------------|--------------------|
| 35                    | 4,700    | 22 × 25            | 0.30  | 1.87                                     | EKMQ350VSN472MP25S | 160                   | 1,800    | 30 × 40            | 0.15      | 2.70                                     | EKMQ161VSN182MR40S |                    |
|                       | 5,600    | 22 × 25            | 0.30  | 2.04                                     | EKMQ350VSN562MP25S |                       | 1,800    | 35 × 30            | 0.15      | 2.70                                     | EKMQ161VSN182MA30S |                    |
|                       | 5,600    | 25.4 × 25          | 0.30  | 2.00                                     | EKMQ350VSN562MQ25S |                       | 2,200    | 30 × 45            | 0.15      | 2.90                                     | EKMQ161VSN222MR45S |                    |
|                       | 6,800    | 22 × 30            | 0.30  | 2.36                                     | EKMQ350VSN682MP30S |                       | 2,200    | 35 × 35            | 0.15      | 2.90                                     | EKMQ161VSN222MA35S |                    |
|                       | 6,800    | 25.4 × 25          | 0.30  | 2.21                                     | EKMQ350VSN682MQ25S |                       | 2,700    | 30 × 50            | 0.15      | 3.10                                     | EKMQ161VSN272MR50S |                    |
|                       | 8,200    | 22 × 35            | 0.30  | 2.65                                     | EKMQ350VSN822MP35S |                       | 2,700    | 35 × 40            | 0.15      | 3.10                                     | EKMQ161VSN272MA40S |                    |
|                       | 8,200    | 25.4 × 30          | 0.30  | 2.49                                     | EKMQ350VSN822MQ30S |                       | 3,300    | 35 × 50            | 0.15      | 3.30                                     | EKMQ161VSN332MA50S |                    |
|                       | 8,200    | 30 × 25            | 0.30  | 2.62                                     | EKMQ350VSN822MR25S |                       | 180      | 390                | 22 × 25   | 0.15                                     | 1.30               | EKMQ181VSN391MP25S |
|                       | 10,000   | 22 × 40            | 0.35  | 3.00                                     | EKMQ350VSN103MP40S |                       |          | 470                | 22 × 30   | 0.15                                     | 1.40               | EKMQ181VSN471MP30S |
|                       | 10,000   | 25.4 × 35          | 0.35  | 2.88                                     | EKMQ350VSN103MQ35S |                       |          | 560                | 22 × 30   | 0.15                                     | 1.50               | EKMQ181VSN561MP30S |
|                       | 10,000   | 30 × 25            | 0.35  | 2.90                                     | EKMQ350VSN103MR25S |                       |          | 560                | 25.4 × 25 | 0.15                                     | 1.50               | EKMQ181VSN102MR25S |
|                       | 12,000   | 22 × 50            | 0.35  | 3.47                                     | EKMQ350VSN123MP50S |                       |          | 680                | 22 × 35   | 0.15                                     | 1.70               | EKMQ181VSN681MP35S |
|                       | 12,000   | 25.4 × 35          | 0.35  | 3.15                                     | EKMQ350VSN123MQ35S |                       |          | 680                | 25.4 × 30 | 0.15                                     | 1.70               | EKMQ181VSN681MQ30S |
|                       | 12,000   | 30 × 30            | 0.35  | 3.25                                     | EKMQ350VSN123MR30S |                       |          | 820                | 22 × 40   | 0.15                                     | 2.00               | EKMQ181VSN821MP40S |
|                       | 12,000   | 35 × 25            | 0.35  | 3.20                                     | EKMQ350VSN123MA25S |                       |          | 820                | 25.4 × 30 | 0.15                                     | 2.00               | EKMQ181VSN102MR30S |
|                       | 15,000   | 25.4 × 40          | 0.35  | 3.61                                     | EKMQ350VSN153MQ40S |                       |          | 820                | 30 × 25   | 0.15                                     | 2.00               | EKMQ181VSN821MR25S |
|                       | 15,000   | 30 × 35            | 0.35  | 3.78                                     | EKMQ350VSN153MR35S |                       |          | 1,000              | 22 × 45   | 0.15                                     | 2.20               | EKMQ181VSN102MP45S |
|                       | 15,000   | 35 × 25            | 0.35  | 3.60                                     | EKMQ350VSN153MA25S |                       |          | 1,000              | 25.4 × 40 | 0.15                                     | 2.20               | EKMQ181VSN102MQ40S |
|                       | 18,000   | 25.4 × 50          | 0.35  | 4.14                                     | EKMQ350VSN183MQ50S |                       |          | 1,000              | 30 × 30   | 0.15                                     | 2.20               | EKMQ181VSN102MR30S |
|                       | 18,000   | 30 × 40            | 0.35  | 4.30                                     | EKMQ350VSN183MR40S |                       |          | 1,000              | 35 × 25   | 0.15                                     | 2.20               | EKMQ181VSN102MA25S |
| 18,000                | 35 × 30  | 0.35               | 4.10  | EKMQ350VSN183MA30S                       | 1,200              | 25.4 × 45             |          | 0.15               | 2.30      | EKMQ181VSN122MQ45S                       |                    |                    |
| 22,000                | 30 × 50  | 0.35               | 5.00  | EKMQ350VSN223MR50S                       | 1,200              | 30 × 35               |          | 0.15               | 2.30      | EKMQ181VSN122MR35S                       |                    |                    |
| 22,000                | 35 × 35  | 0.35               | 4.64  | EKMQ350VSN223MA35S                       | 1,200              | 35 × 30               |          | 0.15               | 2.30      | EKMQ181VSN122MA30S                       |                    |                    |
| 27,000                | 35 × 40  | 0.35               | 5.37  | EKMQ350VSN273MA40S                       | 1,500              | 25.4 × 50             |          | 0.15               | 2.50      | EKMQ181VSN152MQ50S                       |                    |                    |
| 33,000                | 35 × 50  | 0.35               | 6.00  | EKMQ350VSN333MA50S                       | 1,500              | 30 × 40               |          | 0.15               | 2.50      | EKMQ181VSN152MR40S                       |                    |                    |
| 50                    | 2,700    | 22 × 25            | 0.25  | 1.65                                     | EKMQ500VSN272MP25S | 1,500                 |          | 35 × 30            | 0.15      | 2.50                                     | EKMQ181VSN152MA30S |                    |
|                       | 3,300    | 22 × 30            | 0.25  | 1.92                                     | EKMQ500VSN332MP30S | 1,800                 |          | 30 × 45            | 0.15      | 2.70                                     | EKMQ181VSN182MR45S |                    |
|                       | 3,300    | 25.4 × 25          | 0.25  | 1.76                                     | EKMQ500VSN332MQ25S | 1,800                 | 35 × 35  | 0.15               | 2.70      | EKMQ181VSN182MA35S                       |                    |                    |
|                       | 3,900    | 22 × 30            | 0.25  | 2.08                                     | EKMQ500VSN392MP30S | 2,200                 | 30 × 50  | 0.15               | 2.90      | EKMQ181VSN222MR50S                       |                    |                    |
|                       | 3,900    | 25.4 × 25          | 0.25  | 2.04                                     | EKMQ500VSN392MQ25S | 2,200                 | 35 × 40  | 0.15               | 2.90      | EKMQ181VSN222MA40S                       |                    |                    |
|                       | 4,700    | 22 × 35            | 0.25  | 2.43                                     | EKMQ500VSN472MP35S | 2,700                 | 35 × 50  | 0.15               | 3.10      | EKMQ181VSN272MA50S                       |                    |                    |
|                       | 4,700    | 25.4 × 30          | 0.25  | 2.50                                     | EKMQ500VSN472MQ30S | 200                   | 390      | 22 × 25            | 0.15      | 1.31                                     | EKMQ201VSN391MP25S |                    |
|                       | 4,700    | 30 × 25            | 0.25  | 2.29                                     | EKMQ500VSN472MR25S |                       | 470      | 22 × 30            | 0.15      | 1.45                                     | EKMQ201VSN471MP30S |                    |
|                       | 5,600    | 22 × 40            | 0.25  | 2.63                                     | EKMQ500VSN562MP40S |                       | 560      | 22 × 30            | 0.15      | 1.67                                     | EKMQ201VSN561MP30S |                    |
|                       | 5,600    | 25.4 × 35          | 0.25  | 2.61                                     | EKMQ500VSN562MQ35S |                       | 560      | 25.4 × 25          | 0.15      | 1.67                                     | EKMQ201VSN561MQ25S |                    |
|                       | 5,600    | 30 × 25            | 0.25  | 2.80                                     | EKMQ500VSN562MR25S |                       | 680      | 22 × 40            | 0.15      | 1.75                                     | EKMQ201VSN681MP40S |                    |
|                       | 6,800    | 22 × 50            | 0.25  | 3.05                                     | EKMQ500VSN682MP50S |                       | 680      | 25.4 × 30          | 0.15      | 1.75                                     | EKMQ201VSN681MQ30S |                    |
|                       | 6,800    | 25.4 × 40          | 0.25  | 2.94                                     | EKMQ500VSN682MQ40S |                       | 820      | 22 × 45            | 0.15      | 2.04                                     | EKMQ201VSN821MP45S |                    |
|                       | 6,800    | 30 × 30            | 0.25  | 3.30                                     | EKMQ500VSN682MR30S |                       | 820      | 25.4 × 35          | 0.15      | 2.04                                     | EKMQ201VSN821MQ35S |                    |
|                       | 6,800    | 35 × 25            | 0.25  | 2.77                                     | EKMQ500VSN682MA25S |                       | 820      | 30 × 25            | 0.15      | 2.04                                     | EKMQ201VSN821MR25S |                    |
|                       | 8,200    | 25.4 × 45          | 0.25  | 3.60                                     | EKMQ500VSN822MQ45S |                       | 1,000    | 22 × 50            | 0.15      | 2.30                                     | EKMQ201VSN102MP50S |                    |
|                       | 8,200    | 30 × 35            | 0.25  | 3.60                                     | EKMQ500VSN822MR35S |                       | 1,000    | 25.4 × 45          | 0.15      | 2.30                                     | EKMQ201VSN102MQ45S |                    |
|                       | 8,200    | 35 × 30            | 0.25  | 3.60                                     | EKMQ500VSN822MA30S |                       | 1,000    | 30 × 30            | 0.15      | 2.30                                     | EKMQ201VSN102MR30S |                    |
|                       | 10,000   | 25.4 × 50          | 0.30  | 4.00                                     | EKMQ500VSN103MQ50S |                       | 1,000    | 35 × 25            | 0.15      | 2.30                                     | EKMQ201VSN102MA25S |                    |
|                       | 10,000   | 30 × 40            | 0.30  | 4.00                                     | EKMQ500VSN103MR40S |                       | 1,200    | 25.4 × 50          | 0.15      | 2.65                                     | EKMQ201VSN122MQ50S |                    |
| 10,000                | 35 × 30  | 0.30               | 4.00  | EKMQ500VSN103MA30S                       | 1,200              |                       | 30 × 35  | 0.15               | 2.65      | EKMQ201VSN122MR35S                       |                    |                    |
| 12,000                | 30 × 50  | 0.30               | 4.29  | EKMQ500VSN123MR50S                       | 1,200              |                       | 35 × 30  | 0.15               | 2.65      | EKMQ201VSN122MA30S                       |                    |                    |
| 12,000                | 35 × 35  | 0.30               | 4.37  | EKMQ500VSN123MA35S                       | 1,500              |                       | 30 × 40  | 0.15               | 2.80      | EKMQ201VSN152MR40S                       |                    |                    |
| 15,000                | 35 × 40  | 0.30               | 4.50  | EKMQ500VSN153MA40S                       | 1,500              |                       | 35 × 30  | 0.15               | 2.80      | EKMQ201VSN152MA30S                       |                    |                    |
| 18,000                | 35 × 50  | 0.30               | 5.30  | EKMQ500VSN183MA50S                       | 1,800              |                       | 30 × 45  | 0.15               | 3.08      | EKMQ201VSN182MR45S                       |                    |                    |
| 160                   | 470      | 22 × 25            | 0.15  | 1.40                                     | EKMQ161VSN471MP25S |                       | 1,800    | 35 × 40            | 0.15      | 3.08                                     | EKMQ201VSN182MA40S |                    |
|                       | 560      | 22 × 30            | 0.15  | 1.50                                     | EKMQ161VSN561MP30S | 2,200                 | 35 × 45  | 0.15               | 3.48      | EKMQ201VSN222MA45S                       |                    |                    |
|                       | 680      | 22 × 30            | 0.15  | 1.70                                     | EKMQ161VSN681MP30S | 250                   | 220      | 22 × 25            | 0.15      | 1.00                                     | EKMQ251VSN221MP25S |                    |
|                       | 680      | 25.4 × 25          | 0.15  | 1.70                                     | EKMQ161VSN681MQ25S |                       | 270      | 22 × 25            | 0.15      | 1.10                                     | EKMQ251VSN271MP25S |                    |
|                       | 820      | 22 × 35            | 0.15  | 2.00                                     | EKMQ161VSN821MP35S |                       | 330      | 22 × 30            | 0.15      | 1.20                                     | EKMQ251VSN331MP30S |                    |
|                       | 820      | 25.4 × 30          | 0.15  | 2.00                                     | EKMQ161VSN821MQ30S |                       | 330      | 25.4 × 25          | 0.15      | 1.20                                     | EKMQ251VSN331MQ25S |                    |
|                       | 820      | 30 × 25            | 0.15  | 2.00                                     | EKMQ161VSN821MR25S |                       | 390      | 22 × 35            | 0.15      | 1.30                                     | EKMQ251VSN391MP35S |                    |
|                       | 1,000    | 22 × 40            | 0.15  | 2.20                                     | EKMQ161VSN102MP40S |                       | 390      | 25.4 × 25          | 0.15      | 1.30                                     | EKMQ251VSN391MQ25S |                    |
|                       | 1,000    | 25.4 × 35          | 0.15  | 2.20                                     | EKMQ161VSN102MQ35S |                       | 470      | 22 × 40            | 0.15      | 1.40                                     | EKMQ251VSN471MP40S |                    |
|                       | 1,000    | 30 × 25            | 0.15  | 2.20                                     | EKMQ161VSN102MR25S |                       | 470      | 25.4 × 30          | 0.15      | 1.40                                     | EKMQ251VSN471MQ30S |                    |
|                       | 1,200    | 25.4 × 40          | 0.15  | 2.30                                     | EKMQ161VSN122MQ40S |                       | 470      | 30 × 25            | 0.15      | 1.40                                     | EKMQ251VSN471MR25S |                    |
|                       | 1,200    | 30 × 30            | 0.15  | 2.30                                     | EKMQ161VSN122MR30S |                       | 560      | 22 × 45            | 0.15      | 1.50                                     | EKMQ251VSN561MP45S |                    |
|                       | 1,200    | 35 × 25            | 0.15  | 2.30                                     | EKMQ161VSN122MA25S |                       | 560      | 25.4 × 35          | 0.15      | 1.50                                     | EKMQ251VSN561MQ35S |                    |
|                       | 1,500    | 25.4 × 45          | 0.15  | 2.50                                     | EKMQ161VSN152MQ45S |                       | 560      | 30 × 25            | 0.15      | 1.50                                     | EKMQ251VSN561MR25S |                    |
|                       | 1,500    | 30 × 35            | 0.15  | 2.50                                     | EKMQ161VSN152MR35S |                       | 680      | 22 × 50            | 0.15      | 1.70                                     | EKMQ251VSN681MP50S |                    |
|                       | 1,500    | 35 × 30            | 0.15  | 2.50                                     | EKMQ161VSN152MA30S |                       | 680      | 25.4 × 40          | 0.15      | 1.70                                     | EKMQ251VSN681MQ40S |                    |
|                       | 1,800    | 25.4 × 50          | 0.15  | 2.70                                     | EKMQ161VSN182MQ50S |                       | 680      | 30 × 30            | 0.15      | 1.70                                     | EKMQ251VSN681MR30S |                    |

◆ 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.           | WV (V <sub>dc</sub> ) | Cap (μF)  | Case size φD×L(mm) | tan δ              | Rated ripple current (Arms/105°C, 120Hz) | Part No.           |
|-----------------------|----------|--------------------|-------|--|--------------------|-----------------------|-----------|--------------------|--------------------|--|--------------------|
| 250                   | 680      | 35 × 25            | 0.15  | 1.70                                     | EKMQ251VSN681MA25S | 400                   | 270       | 25.4 × 40          | 0.15               | 1.22                                     | EKMQ401VSN271MQ40S |
|                       | 820      | 25.4 × 45          | 0.15  | 2.00                                     | EKMQ251VSN821MQ45S |                       | 270       | 30 × 30            | 0.15               | 1.22                                     | EKMQ401VSN271MR30S |
|                       | 820      | 30 × 35            | 0.15  | 2.00                                     | EKMQ251VSN821MR35S |                       | 270       | 35 × 25            | 0.15               | 1.22                                     | EKMQ401VSN271MA25S |
|                       | 820      | 35 × 30            | 0.15  | 2.00                                     | EKMQ251VSN821MA30S |                       | 330       | 25.4 × 45          | 0.15               | 1.44                                     | EKMQ401VSN331MQ45S |
|                       | 1,000    | 30 × 40            | 0.15  | 2.20                                     | EKMQ251VSN102MR40S |                       | 330       | 30 × 35            | 0.15               | 1.44                                     | EKMQ401VSN331MR35S |
|                       | 1,000    | 35 × 30            | 0.15  | 2.20                                     | EKMQ251VSN102MA30S |                       | 330       | 35 × 30            | 0.15               | 1.44                                     | EKMQ401VSN331MA30S |
|                       | 1,200    | 30 × 45            | 0.15  | 2.30                                     | EKMQ251VSN122MR45S |                       | 390       | 25.4 × 50          | 0.15               | 1.55                                     | EKMQ401VSN391MQ50S |
|                       | 1,200    | 35 × 35            | 0.15  | 2.30                                     | EKMQ251VSN122MA35S |                       | 390       | 30 × 40            | 0.15               | 1.55                                     | EKMQ401VSN391MR40S |
|                       | 1,500    | 35 × 45            | 0.15  | 2.50                                     | EKMQ251VSN152MA45S |                       | 390       | 35 × 30            | 0.15               | 1.55                                     | EKMQ401VSN391MA30S |
|                       | 1,800    | 35 × 50            | 0.15  | 2.70                                     | EKMQ251VSN182MA50S |                       | 470       | 30 × 45            | 0.15               | 1.68                                     | EKMQ401VSN471MR45S |
| 315                   | 150      | 22 × 25            | 0.15  | 0.82                                     | EKMQ3B1VSN151MP25S | 470                   | 35 × 35   | 0.15               | 1.68               | EKMQ401VSN471MA35S                       |                    |
|                       | 180      | 22 × 30            | 0.15  | 0.90                                     | EKMQ3B1VSN181MP30S | 560                   | 30 × 50   | 0.15               | 1.90               | EKMQ401VSN561MR50S                       |                    |
|                       | 220      | 22 × 30            | 0.15  | 1.00                                     | EKMQ3B1VSN221MP30S | 560                   | 35 × 40   | 0.15               | 1.90               | EKMQ401VSN561MA40S                       |                    |
|                       | 220      | 25.4 × 25          | 0.15  | 1.00                                     | EKMQ3B1VSN221MQ25S | 680                   | 35 × 45   | 0.15               | 2.12               | EKMQ401VSN681MA45S                       |                    |
|                       | 270      | 22 × 35            | 0.15  | 1.10                                     | EKMQ3B1VSN271MP35S | 82                    | 22 × 25   | 0.20               | 0.64               | EKMQ421VSN820MP25S                       |                    |
|                       | 270      | 25.4 × 30          | 0.15  | 1.10                                     | EKMQ3B1VSN271MQ30S | 100                   | 22 × 25   | 0.20               | 0.66               | EKMQ421VSN101MP25S                       |                    |
|                       | 330      | 22 × 45            | 0.15  | 1.20                                     | EKMQ3B1VSN331MP45S | 100                   | 25.4 × 25 | 0.20               | 0.66               | EKMQ421VSN101MQ25S                       |                    |
|                       | 330      | 25.4 × 35          | 0.15  | 1.20                                     | EKMQ3B1VSN331MQ35S | 120                   | 22 × 30   | 0.20               | 0.81               | EKMQ421VSN121MP30S                       |                    |
|                       | 330      | 30 × 25            | 0.15  | 1.20                                     | EKMQ3B1VSN331MR25S | 120                   | 25.4 × 25 | 0.20               | 0.81               | EKMQ421VSN121MQ25S                       |                    |
|                       | 390      | 22 × 45            | 0.15  | 1.30                                     | EKMQ3B1VSN391MP45S | 150                   | 22 × 35   | 0.20               | 0.84               | EKMQ421VSN151MP35S                       |                    |
|                       | 390      | 25.4 × 40          | 0.15  | 1.30                                     | EKMQ3B1VSN391MQ40S | 150                   | 25.4 × 30 | 0.20               | 0.84               | EKMQ421VSN151MQ30S                       |                    |
|                       | 390      | 30 × 30            | 0.15  | 1.30                                     | EKMQ3B1VSN391MR30S | 150                   | 30 × 25   | 0.20               | 0.84               | EKMQ421VSN151MR25S                       |                    |
|                       | 390      | 35 × 25            | 0.15  | 1.30                                     | EKMQ3B1VSN391MA25S | 180                   | 22 × 40   | 0.20               | 0.91               | EKMQ421VSN181MP40S                       |                    |
|                       | 470      | 25.4 × 45          | 0.15  | 1.40                                     | EKMQ3B1VSN471MQ45S | 180                   | 25.4 × 30 | 0.20               | 0.91               | EKMQ421VSN181MQ30S                       |                    |
|                       | 470      | 30 × 35            | 0.15  | 1.40                                     | EKMQ3B1VSN471MR35S | 180                   | 30 × 25   | 0.20               | 0.91               | EKMQ421VSN181MR25S                       |                    |
|                       | 470      | 35 × 25            | 0.15  | 1.40                                     | EKMQ3B1VSN471MA25S | 220                   | 22 × 45   | 0.20               | 1.05               | EKMQ421VSN221MP45S                       |                    |
|                       | 560      | 25.4 × 50          | 0.15  | 1.50                                     | EKMQ3B1VSN561MQ50S | 220                   | 25.4 × 35 | 0.20               | 1.05               | EKMQ421VSN221MQ35S                       |                    |
|                       | 560      | 30 × 40            | 0.15  | 1.50                                     | EKMQ3B1VSN561MR40S | 220                   | 30 × 30   | 0.20               | 1.05               | EKMQ421VSN221MR30S                       |                    |
|                       | 560      | 35 × 30            | 0.15  | 1.50                                     | EKMQ3B1VSN561MA30S | 220                   | 35 × 25   | 0.20               | 1.05               | EKMQ421VSN221MA25S                       |                    |
|                       | 680      | 30 × 45            | 0.15  | 1.70                                     | EKMQ3B1VSN681MR45S | 270                   | 25.4 × 40 | 0.20               | 1.25               | EKMQ421VSN271MQ40S                       |                    |
| 680                   | 35 × 35  | 0.15               | 1.70  | EKMQ3B1VSN681MA35S                       | 270                | 30 × 30               | 0.20      | 1.25               | EKMQ421VSN271MR30S |  |                    |
| 820                   | 30 × 50  | 0.15               | 2.00  | EKMQ3B1VSN821MR50S                       | 270                | 35 × 25               | 0.20      | 1.25               | EKMQ421VSN271MA25S |  |                    |
| 820                   | 35 × 40  | 0.15               | 2.00  | EKMQ3B1VSN821MA40S                       | 330                | 25.4 × 50             | 0.20      | 1.42               | EKMQ421VSN331MQ50S |  |                    |
| 1,000                 | 35 × 45  | 0.15               | 2.30  | EKMQ3B1VSN102MA45S                       | 330                | 30 × 35               | 0.20      | 1.42               | EKMQ421VSN331MR35S |  |                    |
| 350                   | 120      | 22 × 25            | 0.15  | 0.75                                     | EKMQ351VSN121MP25S | 330                   | 35 × 30   | 0.20               | 1.42               | EKMQ421VSN331MA30S                       |                    |
|                       | 150      | 22 × 30            | 0.15  | 0.82                                     | EKMQ351VSN151MP30S | 390                   | 30 × 40   | 0.20               | 1.61               | EKMQ421VSN391MR40S                       |                    |
|                       | 180      | 22 × 30            | 0.15  | 0.90                                     | EKMQ351VSN181MP30S | 390                   | 35 × 35   | 0.20               | 1.61               | EKMQ421VSN391MA35S                       |                    |
|                       | 180      | 25.4 × 25          | 0.15  | 0.90                                     | EKMQ351VSN181MQ25S | 470                   | 30 × 45   | 0.20               | 1.86               | EKMQ421VSN471MR45S                       |                    |
|                       | 220      | 22 × 35            | 0.15  | 1.00                                     | EKMQ351VSN221MP35S | 470                   | 35 × 40   | 0.20               | 1.86               | EKMQ421VSN471MA40S                       |                    |
|                       | 220      | 25.4 × 30          | 0.15  | 1.00                                     | EKMQ351VSN221MQ30S | 560                   | 35 × 45   | 0.20               | 2.10               | EKMQ421VSN561MA45S                       |                    |
|                       | 270      | 22 × 40            | 0.15  | 1.10                                     | EKMQ351VSN271MP40S | 680                   | 35 × 50   | 0.20               | 2.20               | EKMQ421VSN681MA50S                       |                    |
|                       | 270      | 25.4 × 30          | 0.15  | 1.10                                     | EKMQ351VSN271MQ30S | 68                    | 22 × 25   | 0.20               | 0.50               | EKMQ451VSN680MP25S                       |                    |
|                       | 270      | 30 × 25            | 0.15  | 1.10                                     | EKMQ351VSN271MR25S | 82                    | 22 × 30   | 0.20               | 0.56               | EKMQ451VSN820MP30S                       |                    |
|                       | 330      | 22 × 45            | 0.15  | 1.20                                     | EKMQ351VSN331MP45S | 100                   | 22 × 30   | 0.20               | 0.64               | EKMQ451VSN101MP30S                       |                    |
|                       | 330      | 25.4 × 40          | 0.15  | 1.20                                     | EKMQ351VSN331MQ40S | 100                   | 25.4 × 25 | 0.20               | 0.64               | EKMQ451VSN101MQ25S                       |                    |
|                       | 330      | 30 × 30            | 0.15  | 1.20                                     | EKMQ351VSN331MR30S | 120                   | 22 × 35   | 0.20               | 0.72               | EKMQ451VSN121MP35S                       |                    |
|                       | 390      | 25.4 × 45          | 0.15  | 1.30                                     | EKMQ351VSN391MQ45S | 120                   | 25.4 × 30 | 0.20               | 0.72               | EKMQ451VSN121MQ30S                       |                    |
|                       | 390      | 30 × 35            | 0.15  | 1.30                                     | EKMQ351VSN391MR35S | 150                   | 22 × 40   | 0.20               | 0.79               | EKMQ451VSN151MP40S                       |                    |
|                       | 470      | 25.4 × 50          | 0.15  | 1.40                                     | EKMQ351VSN471MQ50S | 150                   | 25.4 × 30 | 0.20               | 0.79               | EKMQ451VSN151MQ30S                       |                    |
|                       | 470      | 30 × 35            | 0.15  | 1.40                                     | EKMQ351VSN471MR35S | 150                   | 30 × 25   | 0.20               | 0.79               | EKMQ451VSN151MR25S                       |                    |
|                       | 470      | 35 × 30            | 0.15  | 1.40                                     | EKMQ351VSN471MA30S | 180                   | 22 × 45   | 0.20               | 0.87               | EKMQ451VSN181MP45S                       |                    |
|                       | 560      | 30 × 45            | 0.15  | 1.50                                     | EKMQ351VSN561MR45S | 180                   | 25.4 × 40 | 0.20               | 0.87               | EKMQ451VSN181MQ40S                       |                    |
|                       | 560      | 35 × 35            | 0.15  | 1.50                                     | EKMQ351VSN561MA35S | 180                   | 30 × 30   | 0.20               | 0.87               | EKMQ451VSN181MR30S                       |                    |
|                       | 680      | 30 × 50            | 0.15  | 1.70                                     | EKMQ351VSN681MR50S | 220                   | 25.4 × 45 | 0.20               | 1.00               | EKMQ451VSN221MQ45S                       |                    |
| 680                   | 35 × 40  | 0.15               | 1.70  | EKMQ351VSN681MA40S                       | 220                | 30 × 30               | 0.20      | 1.00               | EKMQ451VSN221MR30S |  |                    |
| 820                   | 35 × 45  | 0.15               | 1.90  | EKMQ351VSN821MA45S                       | 220                | 35 × 25               | 0.20      | 1.00               | EKMQ451VSN221MA25S |  |                    |
| 400                   | 100      | 22 × 25            | 0.15  | 0.70                                     | EKMQ401VSN101MP25S | 270                   | 25.4 × 50 | 0.20               | 1.19               | EKMQ451VSN271MQ50S                       |                    |
|                       | 120      | 22 × 30            | 0.15  | 0.75                                     | EKMQ401VSN121MP30S | 270                   | 30 × 40   | 0.20               | 1.19               | EKMQ451VSN271MR40S                       |                    |
|                       | 150      | 22 × 30            | 0.15  | 0.88                                     | EKMQ401VSN151MP30S | 270                   | 35 × 30   | 0.20               | 1.19               | EKMQ451VSN271MA30S                       |                    |
|                       | 150      | 25.4 × 25          | 0.15  | 0.88                                     | EKMQ401VSN151MQ25S | 330                   | 30 × 45   | 0.20               | 1.38               | EKMQ451VSN331MQ45S                       |                    |
|                       | 180      | 22 × 35            | 0.15  | 0.95                                     | EKMQ401VSN181MP35S | 330                   | 35 × 35   | 0.20               | 1.38               | EKMQ451VSN331MA35S                       |                    |
|                       | 180      | 25.4 × 30          | 0.15  | 0.95                                     | EKMQ401VSN181MQ30S | 390                   | 30 × 50   | 0.20               | 1.55               | EKMQ451VSN391MR50S                       |                    |
|                       | 220      | 22 × 45            | 0.15  | 1.10                                     | EKMQ401VSN221MP45S | 390                   | 35 × 40   | 0.20               | 1.55               | EKMQ451VSN391MA40S                       |                    |
|                       | 220      | 25.4 × 35          | 0.15  | 1.10                                     | EKMQ401VSN221MQ35S | 470                   | 35 × 45   | 0.20               | 1.74               | EKMQ451VSN471MA45S                       |                    |
|                       | 220      | 30 × 25            | 0.15  | 1.10                                     | EKMQ401VSN221MR25S | 560                   | 35 × 50   | 0.20               | 1.90               | EKMQ451VSN561MA50S                       |                    |
|                       | 270      | 22 × 50            | 0.15  | 1.22                                     | EKMQ401VSN271MP50S |                       |           |                    |                    |  |                    |



## KMQ Series

### ◆ RATED RIPPLE CURRENT MULTIPLIERS

#### ● Frequency Multipliers

| Frequency(Hz)             | 50   | 120  | 300  | 1k   | 10k  | 50k  |
|---------------------------|------|------|------|------|------|------|
| 35, 50V <sub>dc</sub>     | 0.95 | 1.00 | 1.03 | 1.05 | 1.08 | 1.08 |
| 160 to 250V <sub>dc</sub> | 0.81 | 1.00 | 1.17 | 1.32 | 1.45 | 1.50 |
| 315 to 450V <sub>dc</sub> | 0.77 | 1.00 | 1.16 | 1.30 | 1.41 | 1.43 |

The deterioration of aluminum electrolytic capacitors accelerates their life due to the internal heating produced by ripple current. For details, refer to Section "5-3 Ripple Current Effect on Lifetime" in the catalog, Technical Note.



- Always read "Notes on Use" before using the product in order to enable you to use the product correctly and prevent any faults and accidents from occurring.
- Request the Product Specification on the product of NIPPON CHEMI-CON CORPORATION to refer to it as well as this brochure prior to the order of the products. Some specific notes on use of the ordered product may be described in the specifications.
- The products listed in this catalog are designed and manufactured for general electronics equipment use and are not intended for use in applications that can adversely affect human life; where the malfunction of equipment may cause damage to life or property. In addition, our products are not intended to be used in specific applications that may cause a major social impact. Please consult with us in advance of usage of our products in the following listed applications. ① Aerospace equipment ② Power generation equipment such as thermal power, nuclear power etc. ③ Medical equipment ④ Transport equipment (automobiles, trains, ships, etc.) ⑤ Transportation control equipment ⑥ Disaster prevention / crime prevention equipment ⑦ Highly publicized information processing equipment ⑧ Submarine equipment ⑨ Other applications that are not considered general-purpose applications.
- The circuits described as examples in this catalog and the "delivery specifications" are featured in order to show the operations and usage of our products, however, this fact does not guarantee that the circuits are available to function in your equipment systems. We are not in any case responsible for any failures or damage caused by the use of information contained herein. You should examine our products, of which the characteristics are described in the "delivery specifications" and other documents, and determine whether or not our products suit your requirements according to the specifications of your equipment systems. Therefore, you bear final responsibility regarding the use of our products.  
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In addition, we have an established system with enhanced traceability, therefore we will limit the applicable lot items for any potential compensation.

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[Part Numbering System \(Appendix\)](#)

[Standardization](#)

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