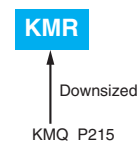


# KMR Series

- Downsized 5mm in height from current snap-ins KMQ series
- Max. 50% up ripple current than same case size of KMQ series
- Endurance with ripple current : 2,000 hours at 105°C
- Rated voltage range : 160 to 450V<sub>dc</sub>, Capacitance range : 100 to 3,300μF
- For inverter control, switching power supplies
- Non solvent resistant type
- RoHS Compliant

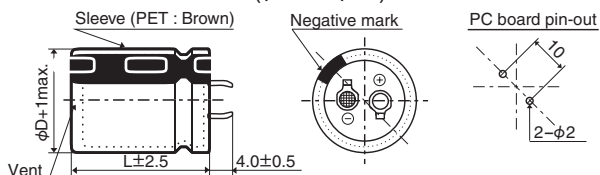


## SPECIFICATIONS

| Items                                                  | Characteristics                                                                                                                                                                                                                                                                         |                                       |             |            |                  |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------|------------|------------------|
| Category                                               | Temperature Range                                                                                                                                                                                                                                                                       |                                       |             |            |                  |
| Temperature Range                                      | -25 to +105°C                                                                                                                                                                                                                                                                           |                                       |             |            |                  |
| Rated Voltage Range                                    | 160 to 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 (tanδ)                              | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                        | 160 to 250V                           | 315 to 400V | 420 & 450V | (at 20°C, 120Hz) |
|                                                        | tanδ (Max.)                                                                                                                                                                                                                                                                             | 0.15                                  | 0.15        | 0.20       |                  |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                        | 160 to 250V                           | 315 to 400V | 420 & 450V | (at 120Hz)       |
|                                                        | Z(-25°C)/Z(+20°C)                                                                                                                                                                                                                                                                       | 4                                     | 8           | 8          |                  |
| 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. (tanδ)                                                                                                                                                                                                                                                                             | ≤ 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. (tanδ)                                                                                                                                                                                                                                                                             | ≤ 150% of the initial specified value |             |            |                  |
|                                                        | Leakage current                                                                                                                                                                                                                                                                         | ≤ The initial specified value         |             |            |                  |

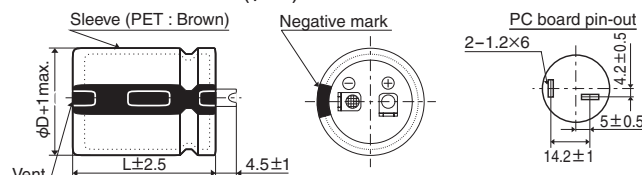
## DIMENSIONS [mm]

### Terminal Code : VS (φ22 to φ35) : Standard

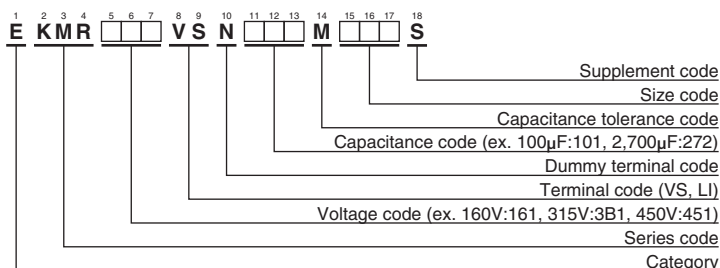


The standard design has no plastic disc.

### Terminal Code : LI (φ35)



## PART NUMBERING SYSTEM



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

## ◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | Rated ripple current (Arms/105°C, 120Hz) | Part No.           | WV (Vdc) | Cap (μF) | Case size φD×L(mm) | Rated ripple current (Arms/105°C, 120Hz) | Part No.           |
|----------|----------|--------------------|------------------------------------------|--------------------|----------|----------|--------------------|------------------------------------------|--------------------|
| 160      | 560      | 22×25              | 1.58                                     | EKMR161VSN561MP25S | 250      | 330      | 22×25              | 1.21                                     | EKMR251VSN331MP25S |
|          | 680      | 22×30              | 1.83                                     | EKMR161VSN681MP30S |          | 390      | 22×30              | 1.38                                     | EKMR251VSN391MP30S |
|          | 820      | 22×35              | 2.06                                     | EKMR161VSN821MP35S |          | 470      | 22×35              | 1.56                                     | EKMR251VSN471MP35S |
|          | 820      | 25.4×25            | 1.89                                     | EKMR161VSN821MQ25S |          | 560      | 22×40              | 1.74                                     | EKMR251VSN561MP40S |
|          | 1,000    | 22×40              | 2.33                                     | EKMR161VSN102MP40S |          | 560      | 25.4×30            | 1.61                                     | EKMR251VSN561MQ30S |
|          | 1,000    | 25.4×30            | 2.15                                     | EKMR161VSN102MQ30S |          | 560      | 30×25              | 1.42                                     | EKMR251VSN561MR25S |
|          | 1,000    | 30×25              | 1.90                                     | EKMR161VSN102MR25S |          | 680      | 22×45              | 1.97                                     | EKMR251VSN681MP45S |
|          | 1,200    | 22×45              | 2.61                                     | EKMR161VSN122MP45S |          | 680      | 25.4×35            | 1.85                                     | EKMR251VSN681MQ35S |
|          | 1,200    | 22×50              | 2.69                                     | EKMR161VSN122MP50S |          | 820      | 25.4×40            | 2.08                                     | EKMR251VSN821MQ40S |
|          | 1,200    | 25.4×35            | 2.45                                     | EKMR161VSN122MQ35S |          | 820      | 25.4×45            | 2.13                                     | EKMR251VSN821MQ45S |
|          | 1,500    | 25.4×40            | 2.82                                     | EKMR161VSN152MQ40S |          | 820      | 30×30              | 1.77                                     | EKMR251VSN821MR30S |
|          | 1,500    | 25.4×45            | 2.88                                     | EKMR161VSN152MQ45S |          | 820      | 35×25              | 1.60                                     | EKMR251VSN821MA25S |
|          | 1,500    | 30×30              | 2.39                                     | EKMR161VSN152MR30S |          | 1,000    | 25.4×50            | 2.40                                     | EKMR251VSN102MQ50S |
|          | 1,500    | 35×25              | 2.17                                     | EKMR161VSN152MA25S |          | 1,000    | 30×35              | 2.03                                     | EKMR251VSN102MR35S |
|          | 1,800    | 25.4×50            | 3.22                                     | EKMR161VSN182MQ50S |          | 1,200    | 30×40              | 2.31                                     | EKMR251VSN122MR40S |
|          | 1,800    | 30×35              | 2.73                                     | EKMR161VSN182MR35S |          | 1,200    | 30×45              | 2.38                                     | EKMR251VSN122MR45S |
|          | 1,800    | 30×40              | 2.82                                     | EKMR161VSN182MR40S |          | 1,200    | 35×35              | 2.06                                     | EKMR251VSN122MA35S |
|          | 1,800    | 35×30              | 2.47                                     | EKMR161VSN182MA30S |          | 1,500    | 30×50              | 2.73                                     | EKMR251VSN152MR50S |
|          | 2,200    | 30×45              | 3.23                                     | EKMR161VSN222MR45S |          | 1,500    | 35×40              | 2.41                                     | EKMR251VSN152MA40S |
|          | 2,200    | 35×35              | 2.79                                     | EKMR161VSN222MA35S |          | 1,800    | 35×45              | 2.72                                     | EKMR251VSN182MA45S |
| 180      | 2,700    | 30×50              | 3.66                                     | EKMR161VSN272MR50S | 315      | 2,200    | 35×50              | 3.10                                     | EKMR251VSN222MA50S |
|          | 2,700    | 35×40              | 3.23                                     | EKMR161VSN272MA40S |          | 180      | 22×25              | 0.91                                     | EKMR3B1VSN181MP25S |
|          | 3,300    | 35×45              | 3.68                                     | EKMR161VSN332MA45S |          | 220      | 22×30              | 1.06                                     | EKMR3B1VSN221MP30S |
|          | 470      | 22×25              | 1.45                                     | EKMR181VSN471MP25S |          | 270      | 22×35              | 1.20                                     | EKMR3B1VSN271MP35S |
|          | 560      | 22×30              | 1.66                                     | EKMR181VSN561MP30S |          | 270      | 25.4×25            | 1.15                                     | EKMR3B1VSN271MQ25S |
|          | 680      | 22×35              | 1.87                                     | EKMR181VSN681MP35S |          | 330      | 22×40              | 1.37                                     | EKMR3B1VSN331MP40S |
|          | 680      | 25.4×25            | 1.72                                     | EKMR181VSN681MQ25S |          | 330      | 25.4×30            | 1.30                                     | EKMR3B1VSN331MQ30S |
|          | 820      | 22×40              | 2.11                                     | EKMR181VSN821MP40S |          | 390      | 22×45              | 1.52                                     | EKMR3B1VSN391MP45S |
|          | 820      | 25.4×30            | 1.94                                     | EKMR181VSN821MQ30S |          | 390      | 25.4×35            | 1.48                                     | EKMR3B1VSN391MQ35S |
|          | 1,000    | 22×45              | 2.38                                     | EKMR181VSN102MP45S |          | 390      | 30×25              | 1.39                                     | EKMR3B1VSN391MR25S |
|          | 1,000    | 25.4×35            | 2.24                                     | EKMR181VSN102MQ35S |          | 470      | 22×50              | 1.72                                     | EKMR3B1VSN471MP50S |
|          | 1,000    | 30×25              | 1.90                                     | EKMR181VSN102MR25S |          | 470      | 25.4×40            | 1.67                                     | EKMR3B1VSN471MQ40S |
|          | 1,200    | 22×50              | 2.69                                     | EKMR181VSN122MP50S |          | 470      | 30×30              | 1.57                                     | EKMR3B1VSN471MR30S |
|          | 1,200    | 25.4×40            | 2.52                                     | EKMR181VSN122MQ40S |          | 470      | 35×25              | 1.52                                     | EKMR3B1VSN471MA25S |
|          | 1,200    | 30×30              | 2.14                                     | EKMR181VSN122MR30S |          | 560      | 25.4×45            | 1.86                                     | EKMR3B1VSN561MQ45S |
|          | 1,200    | 35×25              | 1.94                                     | EKMR181VSN122MA25S |          | 560      | 30×35              | 1.78                                     | EKMR3B1VSN561MR35S |
|          | 1,500    | 25.4×45            | 2.88                                     | EKMR181VSN152MQ45S |          | 680      | 25.4×50            | 2.10                                     | EKMR3B1VSN681MQ50S |
|          | 1,500    | 25.4×50            | 2.94                                     | EKMR181VSN152MQ50S |          | 680      | 30×40              | 2.03                                     | EKMR3B1VSN681MR40S |
|          | 1,500    | 30×35              | 2.49                                     | EKMR181VSN152MR35S |          | 680      | 35×30              | 1.90                                     | EKMR3B1VSN681MA30S |
|          | 1,800    | 30×40              | 2.82                                     | EKMR181VSN182MR40S |          | 820      | 30×45              | 2.31                                     | EKMR3B1VSN821MR45S |
| 200      | 1,800    | 35×30              | 2.47                                     | EKMR181VSN182MA30S |          | 820      | 35×35              | 2.13                                     | EKMR3B1VSN821MA35S |
|          | 2,200    | 30×45              | 3.23                                     | EKMR181VSN222MR45S | 350      | 1,000    | 30×50              | 2.61                                     | EKMR3B1VSN102MR50S |
|          | 2,200    | 30×50              | 3.31                                     | EKMR181VSN222MR50S |          | 1,000    | 35×40              | 2.46                                     | EKMR3B1VSN102MA40S |
|          | 2,200    | 35×35              | 2.79                                     | EKMR181VSN222MA35S |          | 1,200    | 35×45              | 2.78                                     | EKMR3B1VSN122MA45S |
|          | 2,200    | 35×40              | 2.92                                     | EKMR181VSN222MA40S |          | 1,200    | 35×50              | 2.86                                     | EKMR3B1VSN122MA50S |
|          | 2,700    | 35×45              | 3.33                                     | EKMR181VSN272MA45S |          | 150      | 22×25              | 0.84                                     | EKMR351VSN151MP25S |
|          | 560      | 22×30              | 1.66                                     | EKMR201VSN561MP30S |          | 220      | 22×30              | 1.06                                     | EKMR351VSN221MP30S |
|          | 560      | 25.4×25            | 1.56                                     | EKMR201VSN561MQ25S |          | 220      | 25.4×25            | 1.04                                     | EKMR351VSN221MQ25S |
|          | 680      | 22×35              | 1.87                                     | EKMR201VSN681MP35S |          | 270      | 22×35              | 1.20                                     | EKMR351VSN271MP35S |
|          | 680      | 25.4×30            | 1.77                                     | EKMR201VSN681MQ30S |          | 270      | 25.4×30            | 1.18                                     | EKMR351VSN271MQ30S |
|          | 820      | 22×40              | 2.11                                     | EKMR201VSN821MP40S |          | 330      | 22×40              | 1.37                                     | EKMR351VSN331MP40S |
|          | 820      | 25.4×35            | 2.03                                     | EKMR201VSN821MQ35S |          | 330      | 22×45              | 1.40                                     | EKMR351VSN331MP45S |
|          | 820      | 30×25              | 1.72                                     | EKMR201VSN821MR25S |          | 330      | 25.4×35            | 1.36                                     | EKMR351VSN331MQ35S |
|          | 1,000    | 22×50              | 2.45                                     | EKMR201VSN102MP50S |          | 330      | 30×25              | 1.28                                     | EKMR351VSN331MR25S |
|          | 1,000    | 25.4×40            | 2.30                                     | EKMR201VSN102MQ40S |          | 390      | 22×50              | 1.56                                     | EKMR351VSN391MP50S |
|          | 1,000    | 30×30              | 1.95                                     | EKMR201VSN102MR30S |          | 390      | 25.4×40            | 1.52                                     | EKMR351VSN391MQ40S |
|          | 1,200    | 25.4×45            | 2.58                                     | EKMR201VSN122MQ45S |          | 390      | 30×30              | 1.43                                     | EKMR351VSN391MR30S |
|          | 1,200    | 30×35              | 2.23                                     | EKMR201VSN122MR35S |          | 390      | 35×25              | 1.38                                     | EKMR351VSN391MA25S |
|          | 1,200    | 35×25              | 1.94                                     | EKMR201VSN122MA25S |          | 470      | 25.4×45            | 1.71                                     | EKMR351VSN471MQ45S |
|          | 1,500    | 25.4×50            | 2.94                                     | EKMR201VSN152MQ50S |          | 560      | 25.4×50            | 1.90                                     | EKMR351VSN561MQ50S |
|          | 1,500    | 30×40              | 2.58                                     | EKMR201VSN152MR40S |          | 560      | 30×35              | 1.78                                     | EKMR351VSN561MR35S |
|          | 1,500    | 35×30              | 2.25                                     | EKMR201VSN152MA30S |          | 560      | 30×40              | 1.84                                     | EKMR351VSN561MR40S |
| 200      | 1,800    | 30×45              | 2.92                                     | EKMR201VSN182MR45S |          | 560      | 35×30              | 1.72                                     | EKMR351VSN561MA30S |
|          | 1,800    | 35×35              | 2.53                                     | EKMR201VSN182MA35S |          | 680      | 30×45              | 2.10                                     | EKMR351VSN681MR45S |
|          | 2,200    | 30×50              | 3.31                                     | EKMR201VSN222MR50S |          | 680      | 35×35              | 1.94                                     | EKMR351VSN681MA35S |
|          | 2,200    | 35×40              | 2.92                                     | EKMR201VSN222MA40S |          | 820      | 30×50              | 2.36                                     | EKMR351VSN821MR50S |
|          | 2,700    | 35×45              | 3.33                                     | EKMR201VSN272MA45S |          |          |                    |                                          |                    |
|          |          |                    |                                          |                    |          |          |                    |                                          |                    |
|          |          |                    |                                          |                    |          |          |                    |                                          |                    |

**KMR**Series

◆STANDARD RATINGS

| WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Rated ripple<br>current<br>(A <sub>rms</sub> /105°C, 120Hz) | Part No.           | WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φD×L(mm) | Rated ripple<br>current<br>(A <sub>rms</sub> /105°C, 120Hz) | Part No.           |
|--------------------------|-------------|-----------------------|-------------------------------------------------------------|--------------------|--------------------------|-------------|-----------------------|-------------------------------------------------------------|--------------------|
| 350                      | 820         | 35×40                 | 2.23                                                        | EKMR351VSN821MA40S | 420                      | 270         | 25.4×40               | 1.32                                                        | EKMR421VSN271MQ40S |
|                          | 1,000       | 35×45                 | 2.54                                                        | EKMR351VSN102MA45S |                          | 270         | 30×30                 | 1.26                                                        | EKMR421VSN271MR30S |
|                          | 1,200       | 35×50                 | 2.86                                                        | EKMR351VSN122MA50S |                          | 270         | 35×25                 | 1.26                                                        | EKMR421VSN271MA25S |
| 400                      | 120         | 22×25                 | 0.75                                                        | EKMR401VSN121MP25S |                          | 330         | 25.4×45               | 1.49                                                        | EKMR421VSN331MQ45S |
|                          | 180         | 22×30                 | 0.96                                                        | EKMR401VSN181MP30S |                          | 330         | 30×35                 | 1.45                                                        | EKMR421VSN331MR35S |
|                          | 180         | 25.4×25               | 0.94                                                        | EKMR401VSN181MQ25S |                          | 390         | 25.4×50               | 1.66                                                        | EKMR421VSN391MQ50S |
|                          | 220         | 22×35                 | 1.09                                                        | EKMR401VSN221MP35S |                          | 390         | 30×40                 | 1.63                                                        | EKMR421VSN391MR40S |
|                          | 220         | 25.4×30               | 1.07                                                        | EKMR401VSN221MQ30S |                          | 390         | 35×30                 | 1.58                                                        | EKMR421VSN391MA30S |
|                          | 270         | 22×40                 | 1.24                                                        | EKMR401VSN271MP40S |                          | 470         | 30×45                 | 1.85                                                        | EKMR421VSN471MR45S |
|                          | 270         | 22×45                 | 1.26                                                        | EKMR401VSN271MP45S |                          | 470         | 35×35                 | 1.77                                                        | EKMR421VSN471MA35S |
|                          | 270         | 25.4×35               | 1.23                                                        | EKMR401VSN271MQ35S |                          | 560         | 30×50                 | 2.07                                                        | EKMR421VSN561MR50S |
|                          | 270         | 30×25                 | 1.16                                                        | EKMR401VSN271MR25S |                          | 560         | 35×40                 | 2.02                                                        | EKMR421VSN561MA40S |
|                          | 330         | 22×50                 | 1.44                                                        | EKMR401VSN331MP50S |                          | 680         | 35×45                 | 2.29                                                        | EKMR421VSN681MA45S |
|                          | 330         | 25.4×40               | 1.40                                                        | EKMR401VSN331MQ40S |                          | 820         | 35×50                 | 2.59                                                        | EKMR421VSN821MA50S |
|                          | 330         | 30×30                 | 1.31                                                        | EKMR401VSN331MR30S | 450                      | 100         | 22×25                 | 0.71                                                        | EKMR451VSN101MP25S |
|                          | 330         | 35×25                 | 1.27                                                        | EKMR401VSN331MA25S |                          | 120         | 22×30                 | 0.82                                                        | EKMR451VSN121MP30S |
|                          | 390         | 25.4×45               | 1.55                                                        | EKMR401VSN391MQ45S |                          | 150         | 22×35                 | 0.94                                                        | EKMR451VSN151MP35S |
|                          | 390         | 30×35                 | 1.49                                                        | EKMR401VSN391MR35S |                          | 150         | 25.4×25               | 0.89                                                        | EKMR451VSN151MQ25S |
|                          | 470         | 25.4×50               | 1.74                                                        | EKMR401VSN471MQ50S |                          | 180         | 22×40                 | 1.05                                                        | EKMR451VSN181MP40S |
|                          | 470         | 30×40                 | 1.69                                                        | EKMR401VSN471MR40S |                          | 180         | 25.4×30               | 1.00                                                        | EKMR451VSN181MQ30S |
|                          | 470         | 35×30                 | 1.58                                                        | EKMR401VSN471MA30S |                          | 220         | 22×45                 | 1.19                                                        | EKMR451VSN221MP45S |
|                          | 560         | 30×45                 | 1.91                                                        | EKMR401VSN561MR45S |                          | 220         | 25.4×35               | 1.16                                                        | EKMR451VSN221MQ35S |
|                          | 560         | 35×35                 | 1.76                                                        | EKMR401VSN561MA35S |                          | 220         | 30×25                 | 1.11                                                        | EKMR451VSN221MR25S |
|                          | 680         | 30×50                 | 2.15                                                        | EKMR401VSN681MR50S |                          | 270         | 22×50                 | 1.36                                                        | EKMR451VSN271MP50S |
|                          | 680         | 35×40                 | 2.03                                                        | EKMR401VSN681MA40S |                          | 270         | 25.4×40               | 1.32                                                        | EKMR451VSN271MQ40S |
|                          | 820         | 35×45                 | 2.30                                                        | EKMR401VSN821MA45S |                          | 270         | 25.4×45               | 1.35                                                        | EKMR451VSN271MQ45S |
|                          | 820         | 35×50                 | 2.37                                                        | EKMR401VSN821MA50S |                          | 270         | 30×30                 | 1.26                                                        | EKMR451VSN271MR30S |
|                          | 1,000       | 35×50                 | 2.50                                                        | EKMR401VSN102MA50S |                          | 270         | 35×25                 | 1.26                                                        | EKMR451VSN271MA25S |
| 420                      | 120         | 35×50                 | 0.78                                                        | EKMR421VSN121MP25S |                          | 330         | 25.4×50               | 1.52                                                        | EKMR451VSN331MQ50S |
|                          | 150         | 22×30                 | 0.91                                                        | EKMR421VSN151MP30S |                          | 330         | 30×35                 | 1.45                                                        | EKMR451VSN331MR35S |
|                          | 150         | 25.4×25               | 0.89                                                        | EKMR421VSN151MQ25S |                          | 330         | 35×30                 | 1.45                                                        | EKMR451VSN331MA30S |
|                          | 180         | 22×35                 | 1.03                                                        | EKMR421VSN181MP35S |                          | 390         | 30×40                 | 1.63                                                        | EKMR451VSN391MR40S |
|                          | 180         | 25.4×30               | 1.00                                                        | EKMR421VSN181MQ30S |                          | 470         | 30×45                 | 1.85                                                        | EKMR451VSN471MR45S |
|                          | 220         | 22×40                 | 1.16                                                        | EKMR421VSN221MP40S |                          | 470         | 30×50                 | 1.90                                                        | EKMR451VSN471MR50S |
|                          | 220         | 22×45                 | 1.19                                                        | EKMR421VSN221MP45S |                          | 470         | 35×35                 | 1.77                                                        | EKMR451VSN471MA35S |
|                          | 220         | 25.4×35               | 1.16                                                        | EKMR421VSN221MQ35S |                          | 560         | 35×40                 | 2.02                                                        | EKMR451VSN561MA40S |
|                          | 220         | 30×25                 | 1.11                                                        | EKMR421VSN221MR25S |                          | 560         | 35×45                 | 2.08                                                        | EKMR451VSN561MA45S |
|                          | 270         | 22×50                 | 1.36                                                        | EKMR421VSN271MP50S |                          | 680         | 35×50                 | 2.36                                                        | EKMR451VSN681MA50S |

◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Frequency(Hz)             | 50   | 120  | 300  | 1k   | 10k  | 50k  |
|---------------------------|------|------|------|------|------|------|
| 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 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.