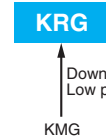


# KRG Series

- Low profile :  $\phi 10 \times 9\text{mm}$  to  $\phi 18 \times 25\text{mm}$
- Endurance : 1,000 hours at 105°C
- Solvent resistant type (see PRECAUTIONS AND GUIDELINES)
- RoHS2 Compliant

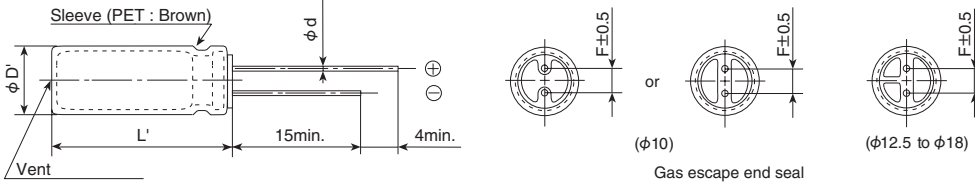


## SPECIFICATIONS

| Items  | Characteristics   |                                       |      |      |                                       |      |      |
|--|---|---------------------------------------|------|------|---------------------------------------|------|------|
| Category   | -55 to +105°C   |                                       |      |      |                                       |      |      |
| Temperature Range                                      | -55 to +105°C   |                                       |      |      |                                       |      |      |
| Rated Voltage Range                                    | 6.3 to 50V <sub>dc</sub>  |                                       |      |      |                                       |      |      |
| Capacitance Tolerance                                  | ±20% (M) (at 20°C, 120Hz)   |                                       |      |      |                                       |      |      |
| Leakage Current  | I=0.01CV or 3μA, whichever is greater.<br>Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C after 2 minutes)   |                                       |      |      |                                       |      |      |
| Dissipation Factor (tan δ)                             | Rated voltage (V <sub>dc</sub> )  | 6.3V                                  | 10V  | 16V  | 25V                                   | 35V  | 50V  |
|  | tan δ (Max.)  | 0.28                                  | 0.24 | 0.20 | 0.16                                  | 0.14 | 0.12 |
|  | When nominal capacitance exceeds 1,000μF, add 0.03 to the value above for each 1,000μF increase. (at 20°C, 120Hz)   |                                       |      |      |                                       |      |      |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )  | 6.3V                                  | 10V  | 16V  | 25V                                   | 35V  | 50V  |
|  | Z(-25°C)/Z(+20°C)   | 5                                     | 4    | 3    | 2                                     | 2    | 2    |
|  | Z(-40°C)/Z(+20°C)   | 10                                    | 8    | 6    | 4                                     | 3    | 3    |
| Endurance  | The following specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage is applied for 1,000 hours at 105°C.   |                                       |      |      |                                       |      |      |
|  | Rated voltage   | 6.3 to 16V <sub>dc</sub>              |      |      | 25 to 50V <sub>dc</sub>               |      |      |
|  | Capacitance change  | ≤ ±25% of the initial value           |      |      | ≤ ±20% of the initial value           |      |      |
|  | D.F. (tan δ)  | ≤ 200% of the initial specified value |      |      | ≤ 200% of the initial specified value |      |      |
|  | Leakage current   | ≤ The initial specified value         |      |      | ≤ The initial specified value         |      |      |
| Shelf Life   | The following specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 500 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. |                                       |      |      |                                       |      |      |
|  | Rated voltage   | 6.3 to 16V <sub>dc</sub>              |      |      | 25 to 50V <sub>dc</sub>               |      |      |
|  | Capacitance change  | ≤ ±25% of the initial value           |      |      | ≤ ±20% of the initial value           |      |      |
|  | D.F. (tan δ)  | ≤ 200% of the initial specified value |      |      | ≤ 200% of the initial specified value |      |      |
|  | Leakage current   | ≤ The initial specified value         |      |      | ≤ The initial specified value         |      |      |

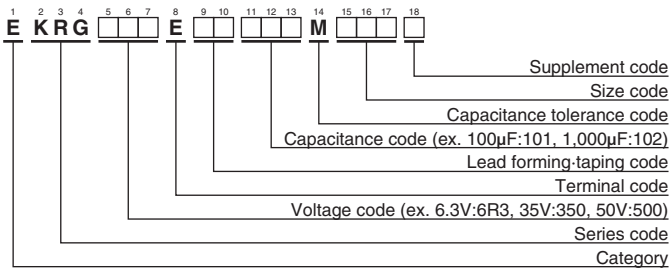
## DIMENSIONS [mm]

- Terminal Code : E



| φD  | 10 & 12.5  | 16 & 18 |
|-----|------------|---------|
| φd  | 0.6        | 0.8     |
| F   | 5.0        | 7.5     |
| φD' | φD+0.5max. |         |
| L'  | L+1.5max.  |         |

## PART NUMBERING SYSTEM



Please refer to "Product code guide (radial lead type)"

KRG Series

◆ STANDARD RATINGS

| WV (V <sub>dc</sub> ) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz) | Part No.           | WV (V <sub>dc</sub> ) | Cap (μF) | Case size φD×L(mm) | tan δ | Rated ripple current (mA <sub>rms</sub> /105°C, 120Hz) | Part No.           |
|-----------------------|----------|--------------------|-------|--|--------------------|-----------------------|----------|--------------------|-------|--|--------------------|
| 6.3                   | 1,000    | 10 × 9             | 0.28  | 365  | EKRG6R3E□□102MJ09S | 25                    | 330      | 10 × 9             | 0.16  | 270  | EKRG250E□□331MJ09S |
|                       | 4,700    | 16 × 15            | 0.37  | 1,010  | EKRG6R3E□□472ML15S |                       | 470      | 10 × 12.5          | 0.16  | 370  | EKRG250E□□471MJC5S |
|                       | 6,800    | 18 × 15            | 0.43  | 1,190  | EKRG6R3E□□682MM15S |                       | 1,000    | 12.5 × 15          | 0.16  | 590  | EKRG250E□□102MK15S |
|                       | 10,000   | 18 × 20            | 0.55  | 1,440  | EKRG6R3E□□103MM20S |                       | 2,200    | 18 × 15            | 0.19  | 970  | EKRG250E□□222MM15S |
| 10                    | 1,000    | 10 × 12.5          | 0.24  | 445  | EKRG100E□□102MJC5S |                       | 3,300    | 18 × 20            | 0.22  | 1,220  | EKRG250E□□332MM20S |
|                       | 2,200    | 12.5 × 15          | 0.27  | 690  | EKRG100E□□222MK15S |                       | 4,700    | 18 × 25            | 0.25  | 1,470  | EKRG250E□□472MM25S |
|                       | 3,300    | 16 × 15            | 0.30  | 940  | EKRG100E□□332ML15S | 35                    | 220      | 10 × 9             | 0.14  | 235  | EKRG350E□□221MJ09S |
|                       | 4,700    | 18 × 15            | 0.33  | 1,120  | EKRG100E□□472MM15S |                       | 330      | 10 × 12.5          | 0.14  | 340  | EKRG350E□□331MJC5S |
|                       | 6,800    | 18 × 20            | 0.39  | 1,330  | EKRG100E□□682MM20S |                       | 470      | 12.5 × 13          | 0.14  | 415  | EKRG350E□□471MK13S |
| 10,000                | 18 × 25  | 0.51               | 1,700 | EKRG100E□□103MM25S                                     | 1,000              |                       | 16 × 15  | 0.14               | 720   | EKRG350E□□102ML15S                                     |                    |
| 16                    | 470      | 10 × 9             | 0.20  | 290  | EKRG160E□□471MJ09S |                       | 2,200    | 18 × 20            | 0.17  | 1,110  | EKRG350E□□222MM20S |
|                       | 1,000    | 12.5 × 13          | 0.20  | 515  | EKRG160E□□102MK13S | 50                    | 100      | 10 × 9             | 0.12  | 170  | EKRG500E□□101MJ09S |
|                       | 2,200    | 16 × 15            | 0.23  | 830  | EKRG160E□□222ML15S |                       | 220      | 10 × 12.5          | 0.12  | 290  | EKRG500E□□221MJC5S |
|                       | 3,300    | 18 × 15            | 0.26  | 1,050  | EKRG160E□□332MM15S |                       | 330      | 12.5 × 13          | 0.12  | 370  | EKRG500E□□331MK13S |
|                       | 4,700    | 18 × 20            | 0.29  | 1,260  | EKRG160E□□472MM20S |                       | 470      | 16 × 15            | 0.12  | 535  | EKRG500E□□471ML15S |
|                       | 6,800    | 18 × 25            | 0.35  | 1,560  | EKRG160E□□682MM25S |                       | 1,000    | 18 × 20            | 0.12  | 830  | EKRG500E□□102MM20S |

□□ : Enter the appropriate lead forming or taping code.

◆ RATED RIPPLE CURRENT MULTIPLIERS

● Frequency Multipliers

| Capacitance(μF) \ Frequency(Hz) | 50   | 120  | 300  | 1k   | 10k  | 100k |
|---------------------------------|------|------|------|------|------|------|
| 100 to 1,000                    | 0.80 | 1.00 | 1.15 | 1.30 | 1.40 | 1.50 |
| 2,200 to                        | 0.85 | 1.00 | 1.03 | 1.05 | 1.08 | 1.08 |

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.