

# KXG Series

- For electronic ballast circuits and other long life applications
- Endurance with ripple current : 8,000 to 10,000 hours at 105°C
- Non solvent resistant type
- RoHS Compliant

KXJ P166  
↓  
Downsized  
**KXG**

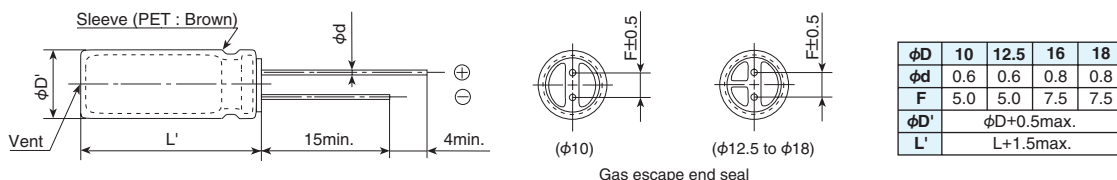


## SPECIFICATIONS

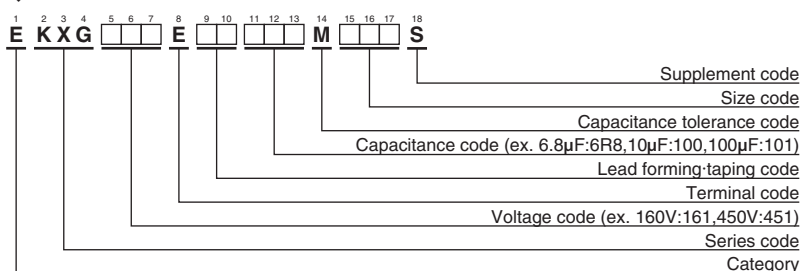
| Items                                                  | Characteristics                                                                                                                                                                                                                                                                         |                                      |                 |                  |  |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|-----------------|------------------|--|
| Category                                               | —40 to +105°C (160 to 400V <sub>dc</sub> ) —25 to+105°C (450V <sub>dc</sub> )                                                                                                                                                                                                           |                                      |                 |                  |  |
| Temperature Range                                      |                                                                                                                                                                                                                                                                                         |                                      |                 |                  |  |
| Rated Voltage Range                                    | 160 to 450V <sub>dc</sub>                                                                                                                                                                                                                                                               |                                      |                 |                  |  |
| Capacitance Tolerance                                  | ±20% (M) (at 20°C, 120Hz)                                                                                                                                                                                                                                                               |                                      |                 |                  |  |
| Leakage Current                                        |                                                                                                                                                                                                                                                                                         | After 1 minute                       | After 5 minutes |                  |  |
|                                                        | CV≤1,000                                                                                                                                                                                                                                                                                | I=0.1CV+40                           | I=0.03CV+15     |                  |  |
|                                                        | CV>1,000                                                                                                                                                                                                                                                                                | I=0.04CV+100                         | I=0.02CV+25     |                  |  |
|                                                        | Where, I : Max. leakage current (μA), C : Nominal capacitance (μF), V : Rated voltage (V) (at 20°C)                                                                                                                                                                                     |                                      |                 |                  |  |
|                                                        |                                                                                                                                                                                                                                                                                         |                                      |                 |                  |  |
| Dissipation Factor (tanδ)                              | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                        | 160 to 250V                          | 350 to 450V     |                  |  |
|                                                        | tanδ (Max.)                                                                                                                                                                                                                                                                             | 0.20                                 | 0.24            | (at 20°C, 120Hz) |  |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (V <sub>dc</sub> )                                                                                                                                                                                                                                                        | 160 to 250V                          | 350 & 400V      | 450V             |  |
|                                                        | Z(−25°C)/Z(+20°C)                                                                                                                                                                                                                                                                       | 3                                    | 5               | 6                |  |
|                                                        | Z(−40°C)/Z(+20°C)                                                                                                                                                                                                                                                                       | 6                                    | 6               | —                |  |
|                                                        | (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 10,000 hours (8,000 hours for φ10) 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                                                                                                                                                                                                                                                                      | ≤±20% of the initial value           |                 |                  |  |
|                                                        | D.F. (tanδ)                                                                                                                                                                                                                                                                             | ≤200% of the initial specified value |                 |                  |  |
|                                                        | Leakage current                                                                                                                                                                                                                                                                         | ≤500% of the initial specified value |                 |                  |  |

## DIMENSIONS [mm]

### Terminal Code : E



## PART NUMBERING SYSTEM



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

## RATED RIPPLE CURRENT MULTIPLIERS

### Frequency Multipliers

| Capacitance (µF) | Frequency (Hz) |      |      |      |
|------------------|----------------|------|------|------|
|                  | 120            | 1k   | 10k  | 100k |
| 6.8 to 82        | 1.00           | 1.75 | 2.25 | 2.50 |
| 100 to 330       | 1.00           | 1.67 | 2.05 | 2.25 |

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.

◆STANDARD RATINGS

| WV<br>(V <sub>dc</sub> ) | Cap<br>(μF) | Case size<br>φDXL(mm) | tanδ | Rated ripple current(mArms/105°C) |        | Part No.           |
|--------------------------|-------------|-----------------------|------|-----------------------------------|--------|--------------------|
|                          |             |                       |      | 120Hz                             | 100kHz |                    |
| 160                      | 10          | 10 × 16               | 0.20 | 125                               | 315    | EKXG161E□□100MJ16S |
|                          | 22          | 10 × 20               | 0.20 | 200                               | 500    | EKXG161E□□220MJ20S |
|                          | 33          | 10 × 20               | 0.20 | 250                               | 625    | EKXG161E□□330MJ20S |
|                          | 47          | 10 × 20               | 0.20 | 300                               | 750    | EKXG161E□□470MJ20S |
|                          | 68          | 12.5 × 20             | 0.20 | 470                               | 1,175  | EKXG161E□□680MK20S |
|                          | 82          | 12.5 × 20             | 0.20 | 510                               | 1,275  | EKXG161E□□820MK20S |
|                          | 100         | 12.5 × 25             | 0.20 | 620                               | 1,395  | EKXG161E□□101MK25S |
|                          | 100         | 16 × 20               | 0.20 | 630                               | 1,420  | EKXG161E□□101ML20S |
|                          | 150         | 16 × 20               | 0.20 | 770                               | 1,735  | EKXG161E□□151ML20S |
|                          | 220         | 16 × 25               | 0.20 | 1,020                             | 2,295  | EKXG161E□□221ML25S |
| 200                      | 330         | 18 × 31.5             | 0.20 | 1,390                             | 3,130  | EKXG161E□□331MMN3S |
|                          | 10          | 10 × 16               | 0.20 | 125                               | 315    | EKXG201E□□100MJ16S |
|                          | 22          | 10 × 20               | 0.20 | 200                               | 500    | EKXG201E□□220MJ20S |
|                          | 33          | 10 × 20               | 0.20 | 260                               | 650    | EKXG201E□□330MJ20S |
|                          | 47          | 12.5 × 20             | 0.20 | 390                               | 975    | EKXG201E□□470MK20S |
|                          | 68          | 12.5 × 20             | 0.20 | 470                               | 1,175  | EKXG201E□□680MK20S |
|                          | 82          | 16 × 20               | 0.20 | 550                               | 1,375  | EKXG201E□□820ML20S |
|                          | 100         | 16 × 20               | 0.20 | 630                               | 1,420  | EKXG201E□□101ML20S |
|                          | 150         | 16 × 25               | 0.20 | 840                               | 1,890  | EKXG201E□□151ML25S |
|                          | 220         | 18 × 25               | 0.20 | 1,050                             | 2,365  | EKXG201E□□221MM25S |
| 250                      | 330         | 18 × 35.5             | 0.20 | 1,430                             | 3,220  | EKXG201E□□331MMP1S |
|                          | 10          | 10 × 20               | 0.20 | 140                               | 350    | EKXG251E□□100MJ20S |
|                          | 22          | 10 × 20               | 0.20 | 200                               | 500    | EKXG251E□□220MJ20S |
|                          | 33          | 12.5 × 20             | 0.20 | 320                               | 800    | EKXG251E□□330MK20S |
|                          | 47          | 12.5 × 20             | 0.20 | 390                               | 975    | EKXG251E□□470MK20S |
|                          | 68          | 16 × 20               | 0.20 | 520                               | 1,300  | EKXG251E□□680ML20S |
|                          | 82          | 16 × 20               | 0.20 | 550                               | 1,375  | EKXG251E□□820ML20S |
|                          | 100         | 16 × 25               | 0.20 | 680                               | 1,530  | EKXG251E□□101ML25S |
|                          | 150         | 18 × 25               | 0.20 | 860                               | 1,935  | EKXG251E□□151MM25S |
|                          | 220         | 18 × 31.5             | 0.20 | 1,130                             | 2,545  | EKXG251E□□221MMN3S |
| 350                      | 6.8         | 10 × 16               | 0.24 | 110                               | 275    | EKXG351E□□6R8MJ16S |
|                          | 10          | 10 × 20               | 0.24 | 140                               | 350    | EKXG351E□□100MJ20S |
|                          | 22          | 12.5 × 20             | 0.24 | 260                               | 650    | EKXG351E□□220MK20S |
|                          | 33          | 16 × 20               | 0.24 | 360                               | 900    | EKXG351E□□330ML20S |
|                          | 47          | 16 × 20               | 0.24 | 430                               | 1,075  | EKXG351E□□470ML20S |
|                          | 68          | 16 × 25               | 0.24 | 560                               | 1,400  | EKXG351E□□680ML25S |
|                          | 68          | 18 × 20               | 0.24 | 550                               | 1,375  | EKXG351E□□680MM20S |
|                          | 82          | 18 × 25               | 0.24 | 610                               | 1,525  | EKXG351E□□820MM25S |
|                          | 100         | 18 × 25               | 0.24 | 700                               | 1,575  | EKXG351E□□101MM25S |
|                          | 120         | 18 × 31.5             | 0.24 | 830                               | 1,865  | EKXG351E□□121MMN3S |
| 400                      | 150         | 18 × 35.5             | 0.24 | 960                               | 2,160  | EKXG351E□□151MMP1S |
|                          | 6.8         | 10 × 16               | 0.24 | 110                               | 275    | EKXG401E□□6R8MJ16S |
|                          | 10          | 10 × 20               | 0.24 | 140                               | 350    | EKXG401E□□100MJ20S |
|                          | 15          | 12.5 × 20             | 0.24 | 220                               | 550    | EKXG401E□□150MK20S |
|                          | 22          | 12.5 × 20             | 0.24 | 260                               | 650    | EKXG401E□□220MK20S |
|                          | 33          | 16 × 20               | 0.24 | 360                               | 900    | EKXG401E□□330ML20S |
|                          | 47          | 16 × 25               | 0.24 | 470                               | 1,175  | EKXG401E□□470ML25S |
|                          | 47          | 18 × 20               | 0.24 | 450                               | 1,125  | EKXG401E□□470MM20S |
|                          | 68          | 18 × 25               | 0.24 | 585                               | 1,465  | EKXG401E□□680MM25S |
|                          | 82          | 18 × 25               | 0.24 | 610                               | 1,525  | EKXG401E□□820MM25S |
| 450                      | 100         | 18 × 31.5             | 0.24 | 765                               | 1,720  | EKXG401E□□101MMN3S |
|                          | 120         | 18 × 35.5             | 0.24 | 865                               | 1,945  | EKXG401E□□121MMP1S |
|                          | 150         | 18 × 40               | 0.24 | 985                               | 2,215  | EKXG401E□□151MM40S |
|                          | 6.8         | 10 × 20               | 0.24 | 110                               | 275    | EKXG451E□□6R8MJ20S |
|                          | 10          | 12.5 × 20             | 0.24 | 180                               | 450    | EKXG451E□□100MK20S |
|                          | 15          | 12.5 × 25             | 0.24 | 240                               | 600    | EKXG451E□□150MK25S |
|                          | 22          | 16 × 20               | 0.24 | 290                               | 725    | EKXG451E□□220ML20S |
|                          | 33          | 16 × 25               | 0.24 | 390                               | 975    | EKXG451E□□330ML25S |
|                          | 33          | 18 × 20               | 0.24 | 380                               | 950    | EKXG451E□□330MM20S |
|                          | 47          | 18 × 25               | 0.24 | 480                               | 1,200  | EKXG451E□□470MM25S |
| 450                      | 68          | 18 × 31.5             | 0.24 | 630                               | 1,575  | EKXG451E□□680MMN3S |
|                          | 82          | 18 × 35.5             | 0.24 | 715                               | 1,785  | EKXG451E□□820MMP1S |
|                          | 100         | 18 × 40               | 0.24 | 800                               | 1,800  | EKXG451E□□101MM40S |

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