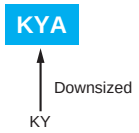
# KYA Series

- Downsized from KY series
- Newly innovative electrolyte is employed to minimize impedance
- Endurance with ripple current : 4,000 to 10,000 hours at 105℃
- Non solvent resistant type
- RoHS2 Compliant

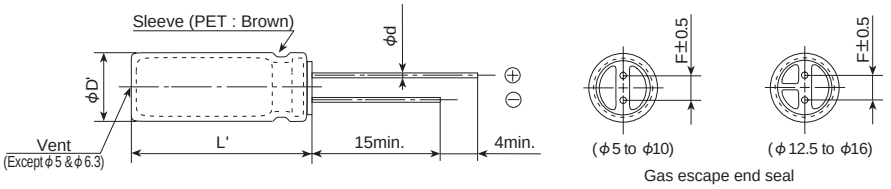



## ◆SPECIFICATIONS

| Items | Characteristics | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Category Temperature Range | -40 to +105℃ | | | | | | | | |
| Rated Voltage Range | 6.3 to 100Vdc | | | | | | | | |
| Capacitance Tolerance | ±20% (M) (at 20℃, 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℃ after 2 minutes) | | | | | | | | |
| Dissipation Factor (tan δ) | Rated voltage (Vdc) | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V |
| | tan δ (Max.) | 0.22 | 0.19 | 0.16 | 0.14 | 0.12 | 0.10 | 0.09 | 0.08 |
| | When nominal capacitance exceeds 1,000μF, add 0.02 to the value above for each 1,000μF increase. (at 20℃, 120Hz) | | | | | | | | |
| Low Temperature Characteristics (Max. Impedance Ratio) | Rated voltage (Vdc) | 6.3V | 10V | 16V | 25V | 35V | 50V | 63V | 100V |
| | Z(-25℃)/Z(+20℃) | 4 | 3 | 2 | 2 | 2 | 2 | 2 | 2 |
| | Z(-40℃)/Z(+20℃) | 8 | 6 | 4 | 3 | 3 | 3 | 3 | 3 |
| | (at 120Hz) | | | | | | | | |
| Endurance | The following specifications shall be satisfied when the capacitors are restored to 20℃ after subjected to DC voltage with the rated ripple current is applied (the peak voltage shall not exceed the rated voltage) for the specified period of time at 105℃. | | | | | | | | |
| | Time | 6.3 to 10Vdc | φ5 & 6.3 : 4,000hours φ8 & 10 : 6,000hours φ12.5 to 16 : 8,000hours | | | | | | |
| | | 16 to 100Vdc | φ5 & 6.3 : 5,000hours φ8 & 10 : 7,000hours φ12.5 to 16 : 10,000hours | | | | | | |
| | Capacitance change | ≦±25% 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℃ after exposing them for 500 hours at 105℃ 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 | ≦±25% of the initial value | | | | | | | |
| | D.F. (tan δ) | ≦200% of the initial specified value | | | | | | | |
| | Leakage current | ≦The initial specified value | | | | | | | |

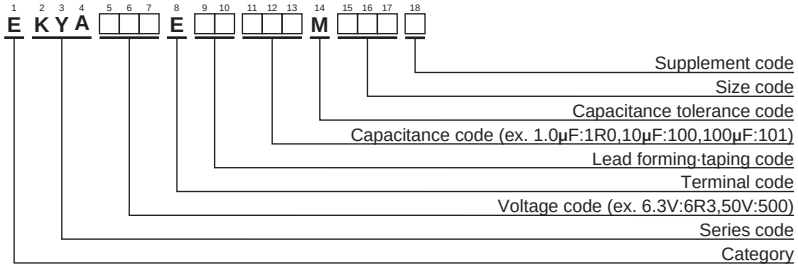
## ◆DIMENSIONS [mm]

●Terminal Code : E




| φD | 5 | 6.3 | 8 | 10 | 12.5 | 16 |
|---|---|---|---|---|---|---|
| φd | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 |
| F | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 |
| φD' | φD+0.5max. | | | | | |
| L' | L+1.5max. | | | | | |

## ◆PART NUMBERING SYSTEM




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

# KYA Series

## ◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | Impedance (Ω max./100kHz) 20℃ | Impedance (Ω max./100kHz) -10℃ | Rated ripple current (mArms/105℃, 100kHz) | Part No. |
|---|---|---|---|---|---|---|
| 6.3 | 100 | 5×11 | 0.90 | 3.6 | 150 | EKYA6R3E□□101ME11D |
| | 180 | 5×11 | 0.40 | 1.6 | 250 | EKYA6R3E□□181ME11D |
| | 220 | 5×11 | 0.40 | 1.6 | 250 | EKYA6R3E□□221ME11D |
| | 330 | 6.3×11 | 0.22 | 0.87 | 400 | EKYA6R3E□□331MF11D |
| | 470 | 6.3×11 | 0.22 | 0.87 | 400 | EKYA6R3E□□471MF11D |
| | 820 | 8×11.5 | 0.13 | 0.52 | 640 | EKYA6R3E□□821MHB5D |
| | 1,200 | 10×12.5 | 0.080 | 0.32 | 865 | EKYA6R3E□□122MJC5S |
| | 1,200 | 8×15 | 0.087 | 0.35 | 840 | EKYA6R3E□□122MH15D |
| | 1,500 | 8×20 | 0.069 | 0.27 | 1,050 | EKYA6R3E□□152MH20D |
| | 1,800 | 10×16 | 0.060 | 0.24 | 1,300 | EKYA6R3E□□182MJ16S |
| | 2,700 | 10×20 | 0.046 | 0.18 | 1,400 | EKYA6R3E□□272MJ20S |
| | 3,300 | 10×25 | 0.042 | 0.17 | 1,650 | EKYA6R3E□□332MJ25S |
| | 3,900 | 12.5×20 | 0.035 | 0.12 | 1,900 | EKYA6R3E□□392MK20S |
| | 4,700 | 12.5×25 | 0.027 | 0.089 | 2,230 | EKYA6R3E□□472MK25S |
| | 5,600 | 12.5×25 | 0.027 | 0.089 | 2,230 | EKYA6R3E□□562MK25S |
| | 10,000 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA6R3E□□103ML25S |
| | 12,000 | 16×31.5 | 0.017 | 0.050 | 3,450 | EKYA6R3E□□123MLN3S |
| | 15,000 | 16×35.5 | 0.015 | 0.044 | 3,610 | EKYA6R3E□□153MLP1S |
| 10 | 100 | 5×11 | 0.90 | 3.6 | 150 | EKYA100E□□101ME11D |
| | 120 | 5×11 | 0.40 | 1.6 | 250 | EKYA100E□□121ME11D |
| | 330 | 6.3×11 | 0.22 | 0.87 | 400 | EKYA100E□□331MF11D |
| | 560 | 8×11.5 | 0.13 | 0.52 | 640 | EKYA100E□□561MHB5D |
| | 820 | 8×15 | 0.087 | 0.35 | 840 | EKYA100E□□821MH15D |
| | 820 | 10×12.5 | 0.080 | 0.32 | 865 | EKYA100E□□821MJC5S |
| | 1,000 | 10×12.5 | 0.080 | 0.32 | 865 | EKYA100E□□102MJC5S |
| | 1,200 | 8×20 | 0.069 | 0.27 | 1,050 | EKYA100E□□122MH20D |
| | 1,200 | 10×16 | 0.060 | 0.24 | 1,300 | EKYA100E□□122MJ16S |
| | 1,800 | 10×20 | 0.046 | 0.18 | 1,400 | EKYA100E□□182MJ20S |
| | 2,200 | 10×25 | 0.042 | 0.17 | 1,650 | EKYA100E□□222MJ25S |
| | 3,300 | 12.5×20 | 0.035 | 0.12 | 1,900 | EKYA100E□□332MK20S |
| | 3,900 | 12.5×25 | 0.027 | 0.089 | 2,230 | EKYA100E□□392MK25S |
| | 6,800 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA100E□□682ML25S |
| | 10,000 | 16×31.5 | 0.017 | 0.050 | 3,450 | EKYA100E□□103MLN3S |
| | 12,000 | 16×35.5 | 0.015 | 0.044 | 3,610 | EKYA100E□□123MLP1S |
| 16 | 47 | 5×11 | 0.40 | 1.6 | 250 | EKYA160E□□470ME11D |
| | 100 | 5×11 | 0.40 | 1.6 | 250 | EKYA160E□□101ME11D |
| | 220 | 6.3×11 | 0.22 | 0.87 | 400 | EKYA160E□□221MF11D |
| | 270 | 6.3×11 | 0.22 | 0.87 | 400 | EKYA160E□□271MF11D |
| | 470 | 8×11.5 | 0.13 | 0.52 | 640 | EKYA160E□□471MHB5D |
| | 680 | 8×15 | 0.087 | 0.35 | 840 | EKYA160E□□681MH15D |
| | 680 | 10×12.5 | 0.080 | 0.32 | 865 | EKYA160E□□681MJC5S |
| | 820 | 8×20 | 0.069 | 0.27 | 1,050 | EKYA160E□□821MH20D |
| | 1,000 | 10×16 | 0.060 | 0.24 | 1,300 | EKYA160E□□102MJ16S |
| | 1,500 | 10×20 | 0.046 | 0.18 | 1,400 | EKYA160E□□152MJ20S |
| | 1,800 | 10×25 | 0.042 | 0.17 | 1,650 | EKYA160E□□182MJ25S |
| | 2,200 | 12.5×20 | 0.035 | 0.12 | 1,900 | EKYA160E□□222MK20S |
| | 3,300 | 12.5×25 | 0.027 | 0.089 | 2,230 | EKYA160E□□332MK25S |
| | 4,700 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA160E□□472ML25S |
| | 5,600 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA160E□□562ML25S |
| | 6,800 | 16×31.5 | 0.017 | 0.050 | 3,450 | EKYA160E□□682MLN3S |
| | 8,200 | 16×31.5 | 0.017 | 0.050 | 3,450 | EKYA160E□□822MLN3S |
| | 10,000 | 16×35.5 | 0.015 | 0.044 | 3,610 | EKYA160E□□103MLP1S |
| 25 | 33 | 5×11 | 0.40 | 1.6 | 250 | EKYA250E□□330ME11D |
| | 47 | 5×11 | 0.40 | 1.6 | 250 | EKYA250E□□470ME11D |
| | 68 | 5×11 | 0.40 | 1.6 | 250 | EKYA250E□□680ME11D |
| | 150 | 6.3×11 | 0.22 | 0.87 | 400 | EKYA250E□□151MF11D |
| | 330 | 8×11.5 | 0.13 | 0.52 | 640 | EKYA250E□□331MHB5D |
| | 390 | 8×15 | 0.087 | 0.35 | 840 | EKYA250E□□391MH15D |
| | 470 | 10×12.5 | 0.080 | 0.32 | 865 | EKYA250E□□471MJC5S |
| | 560 | 8×20 | 0.069 | 0.27 | 1,050 | EKYA250E□□561MH20D |
| | 680 | 10×16 | 0.060 | 0.24 | 1,300 | EKYA250E□□681MJ16S |
| | 1,000 | 10×20 | 0.046 | 0.18 | 1,400 | EKYA250E□□102MJ20S |
| | 1,200 | 10×25 | 0.042 | 0.17 | 1,650 | EKYA250E□□122MJ25S |
| | 1,500 | 12.5×20 | 0.035 | 0.12 | 1,900 | EKYA250E□□152MK20S |
| | 2,200 | 12.5×25 | 0.027 | 0.089 | 2,230 | EKYA250E□□222MK25S |
| 25 | 3,300 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA250E□□332ML25S |
| | 3,900 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA250E□□392ML25S |
| | 4,700 | 16×31.5 | 0.017 | 0.050 | 3,450 | EKYA250E□□472MLN3S |
| | 5,600 | 16×35.5 | 0.015 | 0.044 | 3,610 | EKYA250E□□562MLP1S |
| 35 | 33 | 5×11 | 0.40 | 1.6 | 250 | EKYA350E□□330ME11D |
| | 47 | 5×11 | 0.40 | 1.6 | 250 | EKYA350E□□470ME11D |
| | 100 | 6.3×11 | 0.22 | 0.87 | 400 | EKYA350E□□101MF11D |
| | 220 | 8×11.5 | 0.13 | 0.52 | 640 | EKYA350E□□221MHB5D |
| | 270 | 8×15 | 0.087 | 0.35 | 840 | EKYA350E□□271MH15D |
| | 330 | 10×12.5 | 0.080 | 0.32 | 865 | EKYA350E□□331MJC5S |
| | 390 | 8×20 | 0.069 | 0.27 | 1,050 | EKYA350E□□391MH20D |
| | 470 | 10×16 | 0.060 | 0.24 | 1,300 | EKYA350E□□471MJ16S |
| | 680 | 10×20 | 0.046 | 0.18 | 1,400 | EKYA350E□□681MJ20S |
| | 820 | 10×25 | 0.042 | 0.17 | 1,650 | EKYA350E□□821MJ25S |
| | 1,000 | 12.5×20 | 0.035 | 0.12 | 1,900 | EKYA350E□□102MK20S |
| | 1,500 | 12.5×25 | 0.027 | 0.089 | 2,230 | EKYA350E□□152MK25S |
| | 2,200 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA350E□□222ML25S |
| | 2,700 | 16×25 | 0.021 | 0.060 | 2,930 | EKYA350E□□272ML25S |
| | 3,300 | 16×31.5 | 0.017 | 0.050 | 3,450 | EKYA350E□□332MLN3S |
| | 3,900 | 16×35.5 | 0.015 | 0.044 | 3,610 | EKYA350E□□392MLP1S |
| 50 | 1.0 | 5×11 | 4.0 | 16 | 30 | EKYA500E□□1R0ME11D |
| | 2.2 | 5×11 | 2.5 | 10 | 43 | EKYA500E□□2R2ME11D |
| | 3.3 | 5×11 | 2.2 | 8.8 | 53 | EKYA500E□□3R3ME11D |
| | 4.7 | 5×11 | 1.9 | 7.6 | 88 | EKYA500E□□4R7ME11D |
| | 10 | 5×11 | 1.5 | 6.0 | 100 | EKYA500E□□100ME11D |
| | 22 | 5×11 | 0.70 | 2.8 | 180 | EKYA500E□□220ME11D |
| | 27 | 5×11 | 0.70 | 2.8 | 250 | EKYA500E□□270ME11D |
| | 47 | 6.3×11 | 0.30 | 1.2 | 295 | EKYA500E□□470MF11D |
| | 56 | 6.3×11 | 0.30 | 1.2 | 295 | EKYA500E□□560MF11D |
| | 100 | 8×11.5 | 0.17 | 0.68 | 555 | EKYA500E□□101MHB5D |
| | 150 | 8×15 | 0.12 | 0.48 | 730 | EKYA500E□□151MH15D |
| | 180 | 10×12.5 | 0.12 | 0.48 | 760 | EKYA500E□□181MJC5S |
| | 180 | 8×20 | 0.091 | 0.36 | 910 | EKYA500E□□181MH20D |
| | 220 | 10×16 | 0.084 | 0.34 | 1,050 | EKYA500E□□221MJ16S |
| | 330 | 10×20 | 0.060 | 0.24 | 1,220 | EKYA500E□□331MJ20S |
| | 470 | 10×25 | 0.055 | 0.22 | 1,440 | EKYA500E□□471MJ25S |
| | 470 | 12.5×20 | 0.045 | 0.15 | 1,660 | EKYA500E□□471MK20S |
| | 560 | 12.5×20 | 0.045 | 0.15 | 1,660 | EKYA500E□□561MK20S |
| | 820 | 12.5×25 | 0.034 | 0.11 | 1,950 | EKYA500E□□821MK25S |
| | 1,000 | 16×25 | 0.025 | 0.075 | 2,555 | EKYA500E□□102ML25S |
| | 1,200 | 16×25 | 0.025 | 0.075 | 2,555 | EKYA500E□□122ML25S |
| | 1,800 | 16×31.5 | 0.022 | 0.066 | 3,010 | EKYA500E□□182MLN3S |
| | 2,200 | 16×35.5 | 0.019 | 0.057 | 3,150 | EKYA500E□□222MLP1S |
| 63 | 10 | 5×11 | 0.88 | 3.5 | 173 | EKYA630E□□100ME11D |
| | 15 | 5×11 | 0.88 | 3.5 | 173 | EKYA630E□□150ME11D |
| | 33 | 6.3×11 | 0.35 | 1.4 | 278 | EKYA630E□□330MF11D |
| | 56 | 8×11.5 | 0.22 | 0.88 | 500 | EKYA630E□□560MHB5D |
| | 82 | 8×15 | 0.16 | 0.64 | 665 | EKYA630E□□820MH15D |
| | 100 | 10×12.5 | 0.11 | 0.44 | 725 | EKYA630E□□101MJC5S |
| | 120 | 8×20 | 0.12 | 0.48 | 820 | EKYA630E□□121MH20D |
| | 120 | 10×16 | 0.076 | 0.31 | 950 | EKYA630E□□121MJ16S |
| | 220 | 10×20 | 0.056 | 0.23 | 1,200 | EKYA630E□□221MJ20S |
| | 330 | 10×25 | 0.046 | 0.19 | 1,350 | EKYA630E□□331MJ25S |
| | 330 | 12.5×20 | 0.041 | 0.13 | 1,570 | EKYA630E□□331MK20S |
| | 390 | 12.5×20 | 0.041 | 0.13 | 1,570 | EKYA630E□□391MK20S |
| | 470 | 12.5×25 | 0.031 | 0.093 | 1,990 | EKYA630E□□471MK25S |
| | 560 | 12.5×25 | 0.031 | 0.093 | 1,990 | EKYA630E□□561MK25S |
| | 1,000 | 16×25 | 0.025 | 0.075 | 2,730 | EKYA630E□□102ML25S |
| | 1,200 | 16×31.5 | 0.021 | 0.063 | 2,850 | EKYA630E□□122MLN3S |
| | 1,500 | 16×35.5 | 0.019 | 0.057 | 2,900 | EKYA630E□□152MLP1S |
| 100 | 1.0 | 5×11 | 4.5 | 15 | 20 | EKYA101E□□1R0ME11D |
| | 2.2 | 5×11 | 3.0 | 13 | 30 | EKYA101E□□2R2ME11D |
| | 3.3 | 5×11 | 2.7 | 11 | 40 | EKYA101E□□3R3ME11D |
| | 4.7 | 5×11 | 2.5 | 10 | 65 | EKYA101E□□4R7ME11D |
| | 6.8 | 5×11 | 1.4 | 5.6 | 125 | EKYA101E□□6R8ME11D |

□□ : Enter the appropriate lead forming or taping code.
Production of the products shown in [ ] is scheduled to be discontinued.

# KYA Series

## ◆STANDARD RATINGS

| WV (Vdc) | Cap (μF) | Case size φD×L(mm) | Impedance (Ω max./100kHz) | | Rated ripple current (mArms/ 105℃, 100kHz) | Part No. |
|---|---|---|---|---|---|---|
| | | | 20℃ | -10℃ | | |
| 100 | 10 | 6.3×11 | 0.57 | 2.3 | 205 | EKYA101E□□100MF11D |
| | 15 | 6.3×11 | 0.57 | 2.3 | 205 | EKYA101E□□150MF11D |
| | 27 | 8×11.5 | 0.36 | 1.4 | 355 | EKYA101E□□270MHB5D |
| | 39 | 8×15 | 0.25 | 1.0 | 450 | EKYA101E□□390MH15D |
| | 47 | 10×12.5 | 0.17 | 0.66 | 480 | EKYA101E□□470MJC5S |
| | 56 | 8×20 | 0.19 | 0.76 | 565 | EKYA101E□□560MH20D |
| | 68 | 10×16 | 0.11 | 0.47 | 600 | EKYA101E□□680MJ16S |
| | 100 | 10×20 | 0.084 | 0.34 | 800 | EKYA101E□□101MJ20S |
| | 150 | 10×25 | 0.069 | 0.28 | 900 | EKYA101E□□151MJ25S |
| | 180 | 12.5×20 | 0.062 | 0.18 | 1,100 | EKYA101E□□181MK20S |
| | 220 | 12.5×25 | 0.047 | 0.14 | 1,250 | EKYA101E□□221MK25S |
| | 330 | 16×25 | 0.038 | 0.12 | 1,700 | EKYA101E□□331ML25S |
| | 470 | 16×31.5 | 0.032 | 0.095 | 1,850 | EKYA101E□□471MLN3S |
| | 560 | 16×35.5 | 0.029 | 0.086 | 2,000 | EKYA101E□□561MLP1S |

□□ : Enter the appropriate lead forming or taping code.
Production of the products shown in ▭ is scheduled to be discontinued.

## ◆RATED RIPPLE CURRENT MULTIPLIERS

●Frequency Multipliers

| Capacitance(μF) \ Frequency(Hz) | 120 | 1k | 10k | 100k |
|---|---|---|---|---|
| 1.0 to 180 | 0.40 | 0.75 | 0.90 | 1.00 |
| 220 to 560 | 0.50 | 0.85 | 0.94 | 1.00 |
| 680 to 1,800 | 0.60 | 0.87 | 0.95 | 1.00 |
| 2,200 to 3,900 | 0.75 | 0.90 | 0.95 | 1.00 |
| 4,700 to | 0.85 | 0.95 | 0.98 | 1.00 |

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.