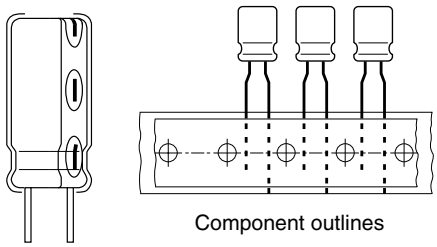
# Aluminum Capacitors
# Radial Style



Component outlines

## FEATURES

- Polarized aluminum electrolytic capacitors, non-solid electrolyte
- Radial leads, cylindrical aluminum case
- Miniaturized, high CV-product per unit volume
- RoHS compliant

Pb-free
RoHS COMPLIANT

## APPLICATIONS

- General purpose, industrial and audio-video
- Coupling, decoupling, timing, smoothing, filtering, buffering in SMPS
- Portable and mobile equipment (small size, low mass)

## QUICK REFERENCE DATA

| DESCRIPTION | UNIT | VALUE | |
|---|---|---|---|
| Nominal case size (Ø D × L) | mm | 5 x 11 to 25 x 41 | |
| Rated capacitance range $C_R$ | µF | 1 to 39 000 | |
| Capacitance tolerance | % | ± 20 | |
| Rated voltage range | V | 6.3 to 350 | 400 to 500 |
| Category temperature range | °C | - 40 to + 85 | - 25 to + 85 |
| Load life | h | 2000 | |
| Based on sectional specification | | IEC 60384-4/EN 130300 | |
| Climatic category IEC 60068 | | 40/085/56 | 25/085/56 |

## SELECTION CHART FOR $C_R$, $U_R$ AND RELEVANT NOMINAL CASE SIZES (Ø D x L in mm)

| $C_R$ (µF) | RATED VOLTAGE (V) (> 100 V see next page) | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 6.3 | 10 | 16 | 25 | 35 | 50 | 63 | 100 |
| 1.0 | → | → | → | → | → | → | 5 x 11 | 5 x 11 |
| 1.5 | → | → | → | → | → | → | 5 x 11 | 5 x 11 |
| 2.2 | → | → | → | → | → | → | 5 x 11 | 5 x 11 |
| 3.3 | → | → | → | → | → | → | 5 x 11 | 5 x 11 |
| 4.7 | → | → | → | → | → | → | 5 x 11 | 5 x 11 |
| 6.8 | → | → | → | → | → | → | 5 x 11 | 5 x 11 |
| 10 | → | → | → | → | → | → | 5 x 11 | 5 x 11 |
| 15 | → | → | → | → | → | → | 5 x 11 | 6.3 x 11 |
| 22 | → | → | → | → | → | → | 5 x 11 | 6.3 x 11 |
| 33 | → | → | → | → | → | 5 x 11 | 6.3 x 11 | 8 x 11.5 |
| 47 | → | → | → | → | 5 x 11 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 |
| 68 | → | → | → | 5 x 11 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 |
| 100 | → | → | 5 x 11 | 5 x 11 | 6.3 x 11 | 8 x 11.5 | 8 x 11.5 | 10 x 16 |
| 150 | → | → | 5 x 11 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 | 10 x 12.5 | 10 x 20 |
| 220 | 5 x 11 | 5 x 11 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 | 10 x 16 | 12.5 x 20 |
| 330 | 6.3 x 11 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 | 10 x 16 | 10 x 20 | 12.5 x 25 |
| 470 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 | 10 x 16 | 10 x 20 | 12.5 x 20 | 16 x 25 |
| 680 | 8 x 11.5 | 8 x 11.5 | 8 x 11.5 | 10 x 16 | 10 x 20 | 12.5 x 20 | 12.5 x 25 | 16 x 31.5 |
| 1000 | 8 x 11.5 | 10 x 12.5 | 10 x 12.5 | 10 x 16 | 12.5 x 20 | 12.5 x 25 | 16 x 25 | 18 x 31.5 |
| 2200 | 10 x 16 | 10 x 16 | 10 x 20 | 12.5 x 20 | 16 x 25 | 16 x 31.5 | 18 x 31.5 | - |
| 3300 | 10 x 20 | 12.5 x 20 | 12.5 x 20 | 16 x 25 | 16 x 31.5 | 18 x 31.5 | 18 x 40 | - |
| 4700 | 12.5 x 20 | 12.5 x 25 | 12.5 x 25 | 16 x 25 | 16 x 35.5 | 18 x 40 | 25 x 41 | - |
| 6800 | 12.5 x 25 | 16 x 25 | 16 x 25 | 18 x 31.5 | 18 x 40 | 25 x 41 | - | - |
| 10 000 | 16 x 25 | 16 x 31.5 | 16 x 31.5 | 18 x 40 | 25 x 41 | - | - | - |
| 15 000 | 16 x 35.5 | 16 x 35.5 | 18 x 35.5 | 25 x 41 | - | - | - | - |
| 22 000 | 18 x 40 | 18 x 40 | 22 x 41 | - | - | - | - | - |
| 33 000 | 22 x 41 | 25 x 41 | - | - | - | - | - | - |
| 39 000 | 25 x 41 | - | - | - | - | - | - | - |

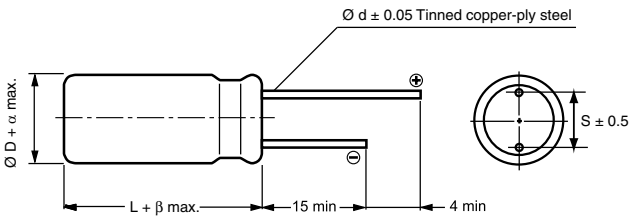
10 % capacitance tolerance on request

## SELECTION CHART FOR $C_R$, $U_R$ AND RELEVANT NOMINAL CASE SIZES (Ø D x L in mm)

| $C_R$ (µF) | RATED VOLTAGE (V) | | | | | | |
|---|---|---|---|---|---|---|---|
| | 160 | 200 | 250 | 350 | 400 | 450 | 500 |
| 1.0 | → | → | → | → | → | 8 x 11.5 | - |
| 1.5 | → | → | → | → | → | 8 x 11.5 | - |
| 2.2 | → | → | → | → | → | 8 x 11.5 | - |
| 3.3 | 6.3 x 11 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 | 8 x 11.5 | 8 x 11.5 | - |
| 4.7 | 6.3 x 11 | 6.3 x 11 | 6.3 x 11 | 8 x 11.5 | 10 x 12.5 | 10 x 12.5 | 10 x 16 |
| 6.8 | 8 x 11.5 | 8 x 11.5 | 8 x 11.5 | 10 x 12.5 | 10 x 12.5 | 10 x 16 | 10 x 16 |
| 10 | 8 x 11.5 | 8 x 11.5 | 10 x 12.5 | 10 x 12.5 | 10 x 16 | 10 x 20 | 12.5 x 25 |
| 15 | 10 x 12.5 | 10 x 16 | 10 x 16 | 10 x 20 | 12.5 x 20 | 12.5 x 20 | - |
| 22 | 10 x 12.5 | 10 x 16 | 10 x 16 | 12.5 x 20 | 12.5 x 20 | 12.5 x 25 | 16 x 25 |
| 33 | 10 x 16 | 10 x 20 | 10 x 20 | 16 x 20 | 12.5 x 25 | 16 x 25 | 16 x 31.5 |
| 47 | 10 x 20 | 10 x 20 | 12.5 x 20 | 16 x 20 | 16 x 25 | 16 x 31.5 | 16 x 31.5 |
| 68 | 12.5 x 20 | 12.5 x 25 | 16 x 20 | 16 x 25 | 16 x 31.5 | 16 x 35.5 | 18 x 35.5 |
| 100 | 12.5 x 25 | 16 x 25 | 16 x 25 | 18 x 31.5 | 18 x 35.5 | 18 x 40 | - |
| 150 | 16 x 20 | 16 x 25 | 16 x 31.5 | 18 x 40 | 18 x 40 | 22 x 45 | - |
| 220 | 16 x 25 | 18 x 31.5 | 18 x 35.5 | 22 x 41 | 22 x 45 | - | - |
| 330 | 16 x 35.5 | 18 x 35.5 | 22 x 41 | - | - | - | - |
| 470 | 18 x 40 | 22 x 41 | 25 x 41 | - | - | - | - |
| 680 | 22 x 41 | - | - | - | - | - | - |

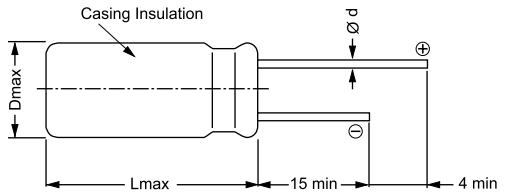
10 % capacitance tolerance on request

## RADIAL STYLE: DIMENSIONS in millimeters

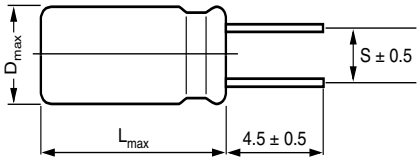



| Ø D | 5 | 6.3 | 8 | 10 | 12.5 | 16 | 18 | 22 | 25 |
|---|---|---|---|---|---|---|---|---|---|
| S | 2.0 | 2.5 | 3.5 | 5.0 | 5.0 | 7.5 | 7.5 | 10.0 | 12.5 |
| Ø d | 0.5 | 0.5 | 0.6 | 0.6 | 0.6 | 0.8 | 0.8 | 1.0 | 1.0 |
| ß | 1.5 | | | 2.0 | | | | | |
| α | 0.5 | | | | | | | 1.0 | |

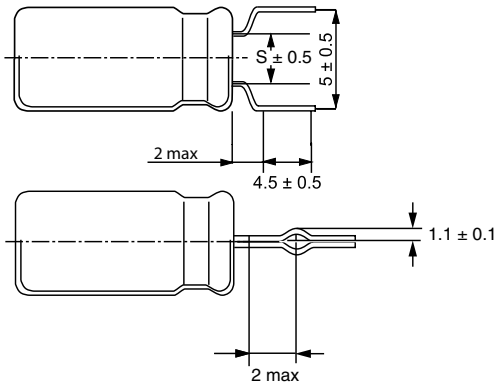
## DIMENSIONS in millimeters AND AVAILABLE FORMS



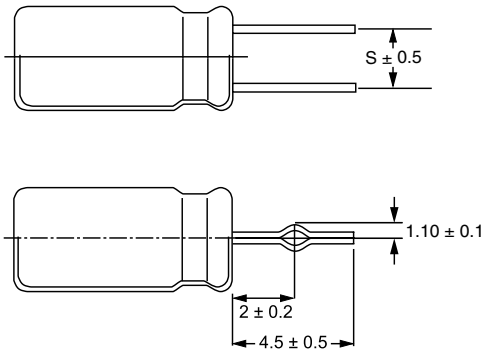

Ø D ≤ 18 Long Leads EKA 00...




Ø D ≤ 25 Shortened leads EKA 05 ...
(S = 2/2.5/3.5/5/7.5/10 mm)




Ø D ≤ 8 Leads shortened and formed EKA 09...
(S = 2.0/2.5/3.5 mm)




10 ≤ Ø D ≤ 18 Leads shortened and formed EKA 06...
(S = 5/7.5 mm)

## GENERAL NOTE

- For Standard Packaging Quantity (SPQ) and Minimum Order Quantity (MOQ) please refer to our price list or contact customer service
- For other packaging forms please refer to Vishay Roederstein General Information

| ELECTRICAL DATA | |
|---|---|
| **SYMBOL** | **DESCRIPTION** |
| $U_R$ | rated voltage |
| $C_R$ | rated capacitance at 120 Hz |
| **tan** $\delta$ | max. dissipation factor at 120 Hz |
| $R_{ESR}$ | calculated equivalent series resistance at 120 Hz |
| $I_R$ | rated ripple current (rms) at 120 Hz and upper category temperature |

**Note**

1.Unless otherwise specified, all electrical values apply at $T_a$ = 20 °C, P = 80 to 120 kPa, RH = 45 to 75 %.

## ORDERING EXAMPLE

EKA 3300 µF/10 V, ± 20 %, size: 12.5 x 20 mm
Leads: Long
Ordering code: EKA 00FE433C00K

Leads: Short
Ordering code: EKA 05...

**For 5 ≤ Ø D ≤ 8 mm**
Leads: Bent open, shortened and formed
Ordering code: EKA 09...

**For 10 ≤ Ø D ≤ 18 mm**
Leads: Shortened and formed
Ordering code: EKA 06 ...

## ELECTRICAL DATA AND ORDERING INFORMATION

| $U_R$ (V) | $C_R$ 120 Hz (µF) | NOMINAL CASE SIZE ∅ D x L (mm) | Tan δ 120 Hz | $R_{ESR}$ 120 Hz (Ω) | $I_R$ 120 Hz/85 °C (mA) | WEIGHT (g) | CATALOG NUMBER (LONG LEADS) |
|---|---|---|---|---|---|---|---|
| 6.3 | 220 | 5 x 11 | 0.28 | 1.69 | 201 | 0.45 | EKA00AA322B00K |
| 6.3 | 330 | 6.3 x 11 | 0.28 | 1.13 | 283 | 0.50 | EKA00BA333B00K |
| 6.3 | 470 | 6.3 x 11 | 0.28 | 0.790 | 338 | 0.50 | EKA00BA347B00K |
| 6.3 | 680 | 8 x 11.5 | 0.28 | 0.546 | 480 | 1.2 | EKA00PB368B00K |
| 6.3 | 1000 | 8 x 11.5 | 0.28 | 0.371 | 581 | 1.2 | EKA00PB410B00K |
| 6.3 | 2200 | 10 x 16 | 0.30 | 0.181 | 983 | 2.3 | EKA00DD422B00K |
| 6.3 | 3300 | 10 x 20 | 0.32 | 0.129 | 1286 | 2.8 | EKA00DE433B00K |
| 6.3 | 4700 | 12.5 x 20 | 0.36 | 0.102 | 1736 | 4.1 | EKA00FE447B00K |
| 6.3 | 6800 | 12.5 x 25 | 0.40 | 0.078 | 2129 | 5.6 | EKA00FG468B00K |
| 6.3 | 10 000 | 16 x 25 | 0.46 | 0.058 | 2629 | 7.6 | EKA00JG510B00K |
| 6.3 | 15 000 | 16 x 35.5 | 0.56 | 0.048 | 2959 | 11 | EKA00JL515B00K |
| 6.3 | 22 000 | 18 x 40 | 0.70 | 0.041 | 3733 | 16 | EKA00KK522B00K |
| 6.3 | 33 000 | 22 x 41 | 0.92 | 0.036 | 5992 | 23 | EKA00LK533B00K |
| 6.3 | 39 000 | 25 x 41 | 1.04 | 0.035 | 7487 | 29 | EKA00PK539B00K |
| 10 | 220 | 5 x 11 | 0.24 | 1.45 | 218 | 0.45 | EKA00AA322C00K |
| 10 | 330 | 6.3 x 11 | 0.24 | 0.965 | 307 | 0.50 | EKA00BA333C00K |
| 10 | 470 | 6.3 x 11 | 0.24 | 0.677 | 366 | 0.50 | EKA00BA347C00K |
| 10 | 680 | 8 x 11.5 | 0.24 | 0.468 | 520 | 1.2 | EKA00PB368C00K |
| 10 | 1000 | 10 x 12.5 | 0.24 | 0.292 | 659 | 1.9 | EKA00DC410C00K |
| 10 | 2200 | 10 x 16 | 0.26 | 0.145 | 1051 | 2.3 | EKA00DD422C00K |
| 10 | 3300 | 12.5 x 20 | 0.28 | 0.104 | 1545 | 4.1 | EKA00FE433C00K |
| 10 | 4700 | 12.5 x 25 | 0.32 | 0.085 | 1903 | 5.6 | EKA00FG447C00K |
| 10 | 6800 | 16 x 25 | 0.36 | 0.066 | 2332 | 7.6 | EKA00JG468C00K |
| 10 | 10 000 | 16 x 31.5 | 0.42 | 0.053 | 2830 | 9.5 | EKA00JS510C00K |
| 10 | 15 000 | 16 x 35.5 | 0.52 | 0.044 | 3284 | 11 | EKA00JL515C00K |
| 10 | 22 000 | 18 x 40 | 0.66 | 0.039 | 3843 | 16 | EKA00KK522C00K |
| 10 | 33 000 | 25 x 41 | 0.88 | 0.035 | 6187 | 29 | EKA00PK533C00K |
| 16 | 100 | 5 x 11 | 0.20 | 2.65 | 162 | 0.45 | EKA00AA310D00K |
| 16 | 150 | 5 x 11 | 0.20 | 1.77 | 198 | 0.45 | EKA00AA315D00K |
| 16 | 220 | 6.3 x 11 | 0.20 | 1.21 | 276 | 0.50 | EKA00BA322D00K |
| 16 | 330 | 6.3 x 11 | 0.20 | 0.804 | 359 | 0.50 | EKA00BA333D00K |
| 16 | 470 | 8 x 11.5 | 0.20 | 0.564 | 476 | 1.2 | EKA00PB347D00K |
| 16 | 680 | 8 x 11.5 | 0.20 | 0.390 | 600 | 1.2 | EKA00PB368D00K |
| 16 | 1000 | 10 x 12.5 | 0.20 | 0.239 | 796 | 1.9 | EKA00DC410D00K |
| 16 | 2200 | 10 x 20 | 0.22 | 0.121 | 1331 | 2.8 | EKA00DE422D00K |
| 16 | 3300 | 12.5 x 20 | 0.24 | 0.088 | 1686 | 4.1 | EKA00FE433D00K |
| 16 | 4700 | 12.5 x 25 | 0.28 | 0.073 | 2129 | 5.6 | EKA00FG447D00K |
| 16 | 6800 | 16 x 25 | 0.32 | 0.059 | 2577 | 7.6 | EKA00JG468D00K |
| 16 | 10 000 | 16 x 31.5 | 0.38 | 0.048 | 3176 | 9.5 | EKA00JS510D00K |
| 16 | 15 000 | 18 x 35.5 | 0.48 | 0.041 | 3656 | 13 | EKA00KL515D00K |
| 16 | 22 000 | 22 x 41 | 0.62 | 0.036 | 4012 | 23 | EKA00LK522D00K |
| 25 | 68 | 5 x 11 | 0.16 | 3.12 | 144 | 0.45 | EKA00AA268E00K |
| 25 | 100 | 5 x 11 | 0.16 | 2.12 | 181 | 0.45 | EKA00AA310E00K |
| 25 | 150 | 6.3 x 11 | 0.16 | 1.41 | 246 | 0.50 | EKA00BA315E00K |
| 25 | 220 | 6.3 x 11 | 0.16 | 0.965 | 327 | 0.50 | EKA00BA322E00K |
| 25 | 330 | 8 x 11.5 | 0.16 | 0.643 | 431 | 1.2 | EKA00PB333E00K |
| 25 | 470 | 10 x 12.5 | 0.16 | 0.452 | 550 | 1.9 | EKA00DC347E00K |
| 25 | 680 | 10 x 16 | 0.16 | 0.312 | 754 | 2.3 | EKA00DD368E00K |
| 25 | 1000 | 10 x 16 | 0.16 | 0.186 | 942 | 2.3 | EKA00DD410E00K |
| 25 | 2200 | 12.5 x 20 | 0.18 | 0.096 | 1542 | 4.1 | EKA00FE422E00K |
| 25 | 3300 | 16 x 25 | 0.20 | 0.072 | 2194 | 7.6 | EKA00JG433E00K |
| 25 | 4700 | 16 x 25 | 0.24 | 0.062 | 2448 | 7.6 | EKA00JG447E00K |
| 25 | 6800 | 18 x 31.5 | 0.28 | 0.051 | 3114 | 12 | EKA00KS468E00K |
| 25 | 10 000 | 18 x 40 | 0.34 | 0.042 | 3544 | 16 | EKA00KK510E00K |
| 25 | 15 000 | 25 x 41 | 0.44 | 0.037 | 4399 | 29 | EKA00PK515E00K |

## ELECTRICAL DATA AND ORDERING INFORMATION

| $U_R$ (V) | $C_R$ 120 Hz (µF) | NOMINAL CASE SIZE ∅ D x L (mm) | Tan δ 120 Hz | $R_{ESR}$ 120 Hz (Ω) | $I_R$ 120 Hz/85 °C (mA) | WEIGHT (g) | CATALOG NUMBER (LONG LEADS) |
|---|---|---|---|---|---|---|---|
| 35 | 47 | 5 x 11 | 0.14 | 3.95 | 131 | 0.45 | EKA00AA247F00K |
| 35 | 68 | 6.3 x 11 | 0.14 | 2.73 | 182 | 0.50 | EKA00BA268F00K |
| 35 | 100 | 6.3 x 11 | 0.14 | 1.86 | 220 | 0.50 | EKA00BA310F00K |
| 35 | 150 | 8 x 11.5 | 0.14 | 1.24 | 318 | 1.2 | EKA00PB315F00K |
| 35 | 220 | 8 x 11.5 | 0.14 | 0.844 | 386 | 1.2 | EKA00PB322F00K |
| 35 | 330 | 10 x 12.5 | 0.14 | 0.563 | 549 | 1.9 | EKA00DC333F00K |
| 35 | 470 | 10 x 16 | 0.14 | 0.395 | 740 | 2.3 | EKA00DD347F00K |
| 35 | 680 | 10 x 20 | 0.14 | 0.273 | 947 | 2.8 | EKA00DE368F00K |
| 35 | 1000 | 12.5 x 20 | 0.14 | 0.159 | 1306 | 4.1 | EKA00FE410F00K |
| 35 | 2200 | 16 x 25 | 0.16 | 0.084 | 2032 | 7.6 | EKA00JG422F00K |
| 35 | 3300 | 16 x 31.5 | 0.18 | 0.064 | 2502 | 9.5 | EKA00JS433F00K |
| 35 | 4700 | 16 x 35.5 | 0.22 | 0.056 | 2905 | 11 | EKA00JL447F00K |
| 35 | 6800 | 18 x 40 | 0.26 | 0.047 | 3408 | 16 | EKA00KK468F00K |
| 35 | 10 000 | 25 x 41 | 0.32 | 0.040 | 3899 | 29 | EKA00PK510F00K |
| 50 | 33 | 5 x 11 | 0.12 | 4.82 | 123 | 0.45 | EKA00AA233H00K |
| 50 | 47 | 6.3 x 11 | 0.12 | 3.39 | 169 | 0.50 | EKA00BA247H00K |
| 50 | 68 | 6.3 x 11 | 0.12 | 2.34 | 203 | 0.50 | EKA00BA268H00K |
| 50 | 100 | 8 x 11.5 | 0.12 | 1.59 | 291 | 1.2 | EKA00PB310H00K |
| 50 | 150 | 10 x 12.5 | 0.12 | 1.06 | 414 | 1.9 | EKA00DC315H00K |
| 50 | 220 | 10 x 12.5 | 0.12 | 0.723 | 501 | 1.9 | EKA00DC322H00K |
| 50 | 330 | 10 x 16 | 0.12 | 0.482 | 672 | 2.3 | EKA00DD333H00K |
| 50 | 470 | 10 x 20 | 0.12 | 0.339 | 875 | 2.8 | EKA00DE347H00K |
| 50 | 680 | 12.5 x 20 | 0.12 | 0.234 | 1235 | 4.1 | EKA00FE368H00K |
| 50 | 1000 | 12.5 x 25 | 0.12 | 0.133 | 1633 | 5.6 | EKA00FG410H00K |
| 50 | 2200 | 16 x 31.5 | 0.14 | 0.072 | 2220 | 9.5 | EKA00JS422H00K |
| 50 | 3300 | 18 x 31.5 | 0.16 | 0.056 | 2765 | 12 | EKA00KS433H00K |
| 50 | 4700 | 18 x 40 | 0.20 | 0.051 | 3272 | 16 | EKA00KK447H00K |
| 50 | 6800 | 25 x 41 | 0.24 | 0.043 | 4251 | 29 | EKA00PK468H00K |
| 63 | 1.0 | 5 x 11 | 0.10 | 133 | 23 | 0.45 | EKA00AA110J00K |
| 63 | 1.5 | 5 x 11 | 0.10 | 88.4 | 28 | 0.45 | EKA00AA115J00K |
| 63 | 2.2 | 5 x 11 | 0.10 | 60.3 | 34 | 0.45 | EKA00AA122J00K |
| 63 | 3.3 | 5 x 11 | 0.10 | 40.2 | 42 | 0.45 | EKA00AA133J00K |
| 63 | 4.7 | 5 x 11 | 0.10 | 28.2 | 50 | 0.45 | EKA00AA147J00K |
| 63 | 6.8 | 5 x 11 | 0.10 | 19.5 | 60 | 0.45 | EKA00AA168J00K |
| 63 | 10 | 5 x 11 | 0.10 | 13.3 | 72 | 0.45 | EKA00AA210J00K |
| 63 | 15 | 5 x 11 | 0.10 | 8.84 | 89 | 0.45 | EKA00AA215J00K |
| 63 | 22 | 5 x 11 | 0.10 | 6.03 | 108 | 0.45 | EKA00AA222J00K |
| 63 | 33 | 6.3 x 11 | 0.10 | 4.02 | 151 | 0.50 | EKA00BA233J00K |
| 63 | 47 | 6.3 x 11 | 0.10 | 2.82 | 181 | 0.50 | EKA00BA247J00K |
| 63 | 68 | 8 x 11.5 | 0.10 | 1.95 | 256 | 1.2 | EKA00PB268J00K |
| 63 | 100 | 8 x 11.5 | 0.10 | 1.33 | 311 | 1.2 | EKA00PB310J00K |
| 63 | 150 | 10 x 12.5 | 0.10 | 0.884 | 422 | 1.9 | EKA00DC315J00K |
| 63 | 220 | 10 x 16 | 0.10 | 0.603 | 586 | 2.3 | EKA00DD322J00K |
| 63 | 330 | 10 x 20 | 0.10 | 0.402 | 784 | 2.8 | EKA00DE333J00K |
| 63 | 470 | 12.5 x 20 | 0.10 | 0.282 | 1098 | 4.1 | EKA00FE347J00K |
| 63 | 680 | 12.5 x 25 | 0.10 | 0.195 | 1440 | 5.6 | EKA00FG368J00K |
| 63 | 1000 | 16 x 25 | 0.10 | 0.106 | 1937 | 7.6 | EKA00JG410J00K |
| 63 | 2200 | 18 x 31.5 | 0.12 | 0.060 | 2445 | 12 | EKA00KS422J00K |
| 63 | 3300 | 18 x 40 | 0.14 | 0.048 | 2987 | 16 | EKA00KK433J00K |
| 63 | 4700 | 25 x 41 | 0.18 | 0.045 | 3412 | 29 | EKA00PK447J00K |
| 100 | 1.0 | 5 x 11 | 0.08 | 106 | 23 | 0.45 | EKA00AA110L00K |
| 100 | 1.5 | 5 x 11 | 0.08 | 70.7 | 28 | 0.45 | EKA00AA115L00K |
| 100 | 2.2 | 5 x 11 | 0.08 | 48.2 | 34 | 0.45 | EKA00AA122L00K |
| 100 | 3.3 | 5 x 11 | 0.08 | 32.2 | 42 | 0.45 | EKA00AA133L00K |
| 100 | 4.7 | 5 x 11 | 0.08 | 22.6 | 50 | 0.45 | EKA00AA147L00K |
| 100 | 6.8 | 5 x 11 | 0.08 | 15.6 | 60 | 0.45 | EKA00AA168L00K |

## ELECTRICAL DATA AND ORDERING INFORMATION

| $U_R$ (V) | $C_R$ 120 Hz (µF) | NOMINAL CASE SIZE ∅ D x L (mm) | Tan δ 120 Hz | $R_{ESR}$ 120 Hz (Ω) | $I_R$ 120 Hz/85 °C (mA) | WEIGHT (g) | CATALOG NUMBER (LONG LEADS) |
|---|---|---|---|---|---|---|---|
| 100 | 10 | 5 x 11 | 0.08 | 10.6 | 76 | 0.45 | EKA00AA210L00K |
| 100 | 15 | 6.3 x 11 | 0.08 | 7.07 | 89 | 0.50 | EKA00BA215L00K |
| 100 | 22 | 6.3 x 11 | 0.08 | 4.82 | 124 | 0.50 | EKA00BA222L00K |
| 100 | 33 | 8 x 11.5 | 0.08 | 3.22 | 178 | 1.2 | EKA00PB233L00K |
| 100 | 47 | 8 x 11.5 | 0.08 | 2.26 | 222 | 1.2 | EKA00PB247L00K |
| 100 | 68 | 10 x 12.5 | 0.08 | 1.56 | 293 | 1.9 | EKA00DC268L00K |
| 100 | 100 | 10 x 16 | 0.08 | 1.06 | 388 | 2.3 | EKA00DD310L00K |
| 100 | 150 | 10 x 20 | 0.08 | 0.707 | 528 | 2.8 | EKA00DE315L00K |
| 100 | 220 | 12.5 x 20 | 0.08 | 0.482 | 737 | 4.1 | EKA00FE322L00K |
| 100 | 330 | 12.5 x 25 | 0.08 | 0.322 | 1002 | 5.6 | EKA00FG333L00K |
| 100 | 470 | 16 x 25 | 0.08 | 0.226 | 1328 | 7.6 | EKA00JG347L00K |
| 100 | 680 | 16 x 31.5 | 0.08 | 0.156 | 1643 | 9.5 | EKA00JS368L00K |
| 100 | 1000 | 18 x 31.5 | 0.08 | 0.106 | 1965 | 12 | EKA00KS410L00K |
| 160 | 3.3 | 6.3 x 11 | 0.15 | 60.3 | 45 | 0.50 | EKA00BA133M00K |
| 160 | 4.7 | 6.3 x 11 | 0.15 | 42.3 | 53 | 0.50 | EKA00BA147M00K |
| 160 | 6.8 | 8 x 11.5 | 0.15 | 29.3 | 76 | 1.2 | EKA00PB168M00K |
| 160 | 10 | 8 x 11.5 | 0.15 | 19.9 | 96 | 1.2 | EKA00PB210M00K |
| 160 | 15 | 10 x 12.5 | 0.15 | 13.3 | 131 | 1.9 | EKA00DC215M00K |
| 160 | 22 | 10 x 12.5 | 0.15 | 9.04 | 156 | 1.9 | EKA00DC222M00K |
| 160 | 33 | 10 x 16 | 0.15 | 6.03 | 209 | 2.3 | EKA00DD233M00K |
| 160 | 47 | 10 x 20 | 0.15 | 4.23 | 293 | 2.8 | EKA00DE247M00K |
| 160 | 68 | 12.5 x 20 | 0.15 | 2.93 | 391 | 4.1 | EKA00FE268M00K |
| 160 | 100 | 12.5 x 25 | 0.15 | 1.99 | 516 | 5.6 | EKA00FG310M00K |
| 160 | 150 | 16 x 20 | 0.15 | 1.33 | 632 | 5.7 | EKA00JE315M00K |
| 160 | 220 | 16 x 25 | 0.15 | 0.904 | 873 | 7.6 | EKA00JG322M00K |
| 160 | 330 | 16 x 35.5 | 0.15 | 0.603 | 1152 | 11 | EKA00JL333M00K |
| 160 | 470 | 18 x 40 | 0.15 | 0.423 | 1434 | 16 | EKA00KK347M00K |
| 160 | 680 | 22 x 41 | 0.15 | 0.293 | 1831 | 23 | EKA00LK368M00K |
| 200 | 3.3 | 6.3 x 11 | 0.15 | 60.3 | 45 | 0.50 | EKA00BA133S00K |
| 200 | 4.7 | 6.3 x 11 | 0.15 | 42.3 | 57 | 0.50 | EKA00BA147S00K |
| 200 | 6.8 | 8 x 11.5 | 0.15 | 29.3 | 76 | 1.2 | EKA00PB168S00K |
| 200 | 10 | 8 x 11.5 | 0.15 | 19.9 | 96 | 1.2 | EKA00PB210S00K |
| 200 | 15 | 10 x 16 | 0.15 | 13.3 | 143 | 2.3 | EKA00DD215S00K |
| 200 | 22 | 10 x 16 | 0.15 | 9.04 | 173 | 2.3 | EKA00DD222S00K |
| 200 | 33 | 10 x 20 | 0.15 | 6.03 | 232 | 2.8 | EKA00DE233S00K |
| 200 | 47 | 10 x 20 | 0.15 | 4.23 | 293 | 2.8 | EKA00DE247S00K |
| 200 | 68 | 12.5 x 25 | 0.15 | 2.93 | 426 | 5.6 | EKA00FG268S00K |
| 200 | 100 | 16 x 25 | 0.15 | 1.99 | 516 | 7.6 | EKA00JG310S00K |
| 200 | 150 | 16 x 25 | 0.15 | 1.33 | 691 | 7.6 | EKA00JG315S00K |
| 200 | 220 | 18 x 31.5 | 0.15 | 0.904 | 962 | 12 | EKA00KS322S00K |
| 200 | 330 | 18 x 35.5 | 0.15 | 0.603 | 1206 | 13 | EKA00KL333S00K |
| 200 | 470 | 22 x 41 | 0.15 | 0.423 | 1495 | 23 | EKA00LK347S00K |
| 250 | 3.3 | 6.3 x 11 | 0.15 | 60.3 | 48 | 0.50 | EKA00BA133N00K |
| 250 | 4.7 | 6.3 x 11 | 0.15 | 42.3 | 57 | 0.50 | EKA00BA147N00K |
| 250 | 6.8 | 8 x 11.5 | 0.15 | 29.3 | 76 | 1.2 | EKA00PB168N00K |
| 250 | 10 | 10 x 12.5 | 0.15 | 19.9 | 107 | 1.9 | EKA00DC210N00K |
| 250 | 15 | 10 x 16 | 0.15 | 13.3 | 143 | 2.3 | EKA00DD215N00K |
| 250 | 22 | 10 x 16 | 0.15 | 9.04 | 170 | 2.3 | EKA00DD222N00K |
| 250 | 33 | 10 x 20 | 0.15 | 6.03 | 247 | 2.8 | EKA00DE233N00K |
| 250 | 47 | 12.5 x 20 | 0.15 | 4.23 | 319 | 4.1 | EKA00FE247N00K |
| 250 | 68 | 16 x 20 | 0.15 | 2.93 | 425 | 5.7 | EKA00JE268N00K |
| 250 | 100 | 16 x 25 | 0.15 | 1.99 | 564 | 7.6 | EKA00JG310N00K |
| 250 | 150 | 16 x 31.5 | 0.15 | 1.33 | 726 | 9.5 | EKA00JS315N00K |
| 250 | 220 | 18 x 35.5 | 0.15 | 0.904 | 988 | 13 | EKA00KL322N00K |
| 250 | 330 | 22 x 41 | 0.15 | 0.603 | 1495 | 23 | EKA00LK333N00K |
| 250 | 470 | 25 x 41 | 0.15 | 0.423 | 1612 | 29 | EKA00PK347N00K |

## ELECTRICAL DATA AND ORDERING INFORMATION

| $U_R$ (V) | $C_R$ 120 Hz (µF) | NOMINAL CASE SIZE ∅ D x L (mm) | Tan δ 120 Hz | $R_{ESR}$ 120 Hz (Ω) | $I_R$ 120 Hz/85 °C (mA) | WEIGHT (g) | CATALOG NUMBER (LONG LEADS) |
|---|---|---|---|---|---|---|---|
| 350 | 3.3 | 8 x 11.5 | 0.20 | 80.4 | 53 | 1.2 | EKA00PB133O00K |
| 350 | 4.7 | 8 x 11.5 | 0.20 | 56.4 | 66 | 1.2 | EKA00PB147O00K |
| 350 | 6.8 | 10 x 12.5 | 0.20 | 39.0 | 88 | 1.9 | EKA00DC168O00K |
| 350 | 10 | 10 x 12.5 | 0.20 | 26.5 | 107 | 1.9 | EKA00DC210O00K |
| 350 | 15 | 10 x 20 | 0.20 | 17.7 | 156 | 2.8 | EKA00DE215O00K |
| 350 | 22 | 12.5 x 20 | 0.20 | 12.1 | 222 | 4.1 | EKA00FE222O00K |
| 350 | 33 | 16 x 20 | 0.20 | 8.04 | 297 | 5.7 | EKA00JE233O00K |
| 350 | 47 | 16 x 20 | 0.20 | 5.64 | 353 | 5.7 | EKA00JE247O00K |
| 350 | 68 | 16 x 25 | 0.20 | 3.90 | 465 | 7.6 | EKA00JG268O00K |
| 350 | 100 | 18 x 31.5 | 0.20 | 2.65 | 592 | 12 | EKA00KS310O00K |
| 350 | 150 | 18 x 40 | 0.20 | 1.77 | 845 | 16 | EKA00KK315O00K |
| 350 | 220 | 22 x 41 | 0.20 | 1.21 | 1112 | 23 | EKA00LK322O00K |
| 400 | 3.3 | 8 x 11.5 | 0.20 | 80.4 | 56 | 1.2 | EKA00PB133X00K |
| 400 | 4.7 | 10 x 12.5 | 0.20 | 56.4 | 61 | 1.9 | EKA00DC147X00K |
| 400 | 6.8 | 10 x 12.5 | 0.20 | 39.0 | 87 | 1.9 | EKA00DC168X00K |
| 400 | 10 | 10 x 16 | 0.20 | 26.5 | 115 | 2.3 | EKA00DD210X00K |
| 400 | 15 | 12.5 x 20 | 0.20 | 17.7 | 165 | 4.1 | EKA00FE215X00K |
| 400 | 22 | 12.5 x 20 | 0.20 | 12.1 | 218 | 4.1 | EKA00FE222X00K |
| 400 | 33 | 12.5 x 25 | 0.20 | 8.04 | 296 | 5.6 | EKA00FG233X00K |
| 400 | 47 | 16 x 25 | 0.20 | 5.64 | 387 | 7.6 | EKA00JG247X00K |
| 400 | 68 | 16 x 31.5 | 0.20 | 3.90 | 488 | 9.5 | EKA00JS268X00K |
| 400 | 100 | 18 x 35.5 | 0.20 | 2.65 | 667 | 13 | EKA00KL310X00K |
| 400 | 150 | 18 x 40 | 0.20 | 1.77 | 863 | 16 | EKA00KK315X00K |
| 400 | 220 | 22 x 45 | 0.20 | 1.21 | 1183 | 21 | EKA00LW322X00K |
| 450 | 1.0 | 8 x 11.5 | 0.20 | 265 | 26 | 1.2 | EKA00PB110P00K |
| 450 | 1.5 | 8 x 11.5 | 0.20 | 177 | 32 | 1.2 | EKA00PB115P00K |
| 450 | 2.2 | 8 x 11.5 | 0.20 | 121 | 33 | 1.2 | EKA00PB122P00K |
| 450 | 3.3 | 8 x 11.5 | 0.20 | 80.4 | 50 | 1.2 | EKA00PB133P00K |
| 450 | 4.7 | 10 x 12.5 | 0.20 | 56.4 | 72 | 1.9 | EKA00DC147P00K |
| 450 | 6.8 | 10 x 16 | 0.20 | 39.0 | 86 | 2.3 | EKA00DD168P00K |
| 450 | 10 | 10 x 20 | 0.20 | 26.5 | 115 | 2.8 | EKA00DE210P00K |
| 450 | 15 | 12.5 x 20 | 0.20 | 17.7 | 164 | 4.1 | EKA00FE215P00K |
| 450 | 22 | 12.5 x 25 | 0.20 | 12.1 | 217 | 5.6 | EKA00FG222P00K |
| 450 | 33 | 16 x 25 | 0.20 | 8.04 | 294 | 7.6 | EKA00JG233P00K |
| 450 | 47 | 16 x 31.5 | 0.20 | 5.64 | 384 | 9.5 | EKA00JS247P00K |
| 450 | 68 | 16 x 35.5 | 0.20 | 3.90 | 503 | 11 | EKA00JL268P00K |
| 450 | 100 | 18 x 40 | 0.20 | 2.65 | 546 | 16 | EKA00KK310P00K |
| 450 | 150 | 22 x 45 | 0.20 | 1.77 | 1283 | 21 | EKA00LW315P00K |
| 500 | 4.7 | 10 x 16 | 0.20 | 56.4 | 69 | 2.3 | EKA00DD147Y00K |
| 500 | 6.8 | 10 x 16 | 0.20 | 39.0 | 76 | 2.3 | EKA00DD168Y00K |
| 500 | 10 | 12.5 x 25 | 0.20 | 26.5 | 178 | 5.6 | EKA00FG210Y00K |
| 500 | 22 | 16 x 25 | 0.20 | 12.1 | 265 | 7.6 | EKA00JG222Y00K |
| 500 | 33 | 16 x 31.5 | 0.20 | 8.04 | 310 | 9.5 | EKA00JS233Y00K |
| 500 | 47 | 18 x 31.5 | 0.20 | 5.64 | 412 | 12 | EKA00KS247Y00K |
| 500 | 68 | 18 x 35.5 | 0.20 | 3.90 | 457 | 13 | EKA00KL268Y00K |

## LOW TEMPERATURE BEHAVIOR (at 120 Hz)

| IMPEDANCE RATIO Z(T2)/Z(T1) | RATED VOLTAGE (V) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| T2/T1 | 6.3 | 10 | 16 | 25 | 35 | 50 ~ 100 | 160 | 200 ~ 350 | 400 ~ 500 |
| - 25/+ 20 °C | 5 | 4 | 3 | 2 | 2 | 2 | 4 | 6 | 12 |
| - 40/+ 20 °C | 12 | 10 | 8 | 5 | 4 | 3 | 6 | 8 | - |

## ADDITIONAL ELECTRICAL DATA

| PARAMETER | CONDITIONS | VALUE | | |
|---|---|---|---|---|
| Current | | | | |
| Laekage current (Test conditions: $U_R$, 20 °C) | after 1 minute at $U_R$ | $I_{L1} \leq 0.03 \times C_R \times U_R$ | or 4 µA | for $U_R \leq 100$ V (whichever is greater) |
| | after 2 minutes at $U_R$ | $I_{L2} \leq 0.01 \times C_R \times U_R$ | or 3 µA | for $U_R \leq 100$ V (whichever is greater) |
| | after 5 minutes at $U_R$ | $I_{L5} \leq 0.02 \times C_R \times U_R$ | or 15 µA | for $U_R > 100$ V (whichever is greater) |
| Resistance | | | | |
| Equivalent series resistance (ESR) | calculated from tan $\delta_{max}$ and $C_R$ | ESR = tan $\delta/2\ \pi f\ C_R$ | | |

## MULTIPLIER OF RIPPLE CURRENT ($I_R$) AS A FUNCTION OF FREQUENCY

| FREQUENCY (Hz) | $I_R$ MULTIPLIER FOR $U_R \leq 100$ V | | |
|---|---|---|---|
| | $C_R \leq 47$ µF | $C_R = 68$ to 680 µF | $C_R > 1000$ µF |
| 50 | 0.75 | 0.80 | 0.85 |
| 120 | 1.00 | 1.00 | 1.00 |
| 300 | 1.35 | 1.25 | 1.10 |
| 1000 | 1.55 | 1.35 | 1.15 |
| ≥ 10 000 | 2.00 | 1.50 | 1.15 |

## MULTIPLIER OF RIPPLE CURRENT ($I_R$) AS A FUNCTION OF FREQUENCY

| FREQUENCY (Hz) | $I_R$ MULTIPLIER FOR $U_R$ 160 V to ≤ 500 V | |
|---|---|---|
| | $C_R = 47$ to 220 µF | $C_R \geq 330$ µF |
| 50 | 0.80 | 0.90 |
| 120 | 1.00 | 1.00 |
| 300 | 1.25 | 1.10 |
| 1000 | 1.40 | 1.13 |
| ≥ 10 000 | 1.60 | 1.15 |

## TEST PROCEDURES AND REQUIREMENTS

| TEST | PROCEDURE (QUICK REFERENCE) | REQUIREMENTS |
|---|---|---|
| **LOAD LIFE** | $T_{amb}$ = 85 °C;<br>$U_R$ and $I_R$ applied;<br>after 2000 hours | Δ C/C: ± 20 % of initial value<br>$I_L \leq$ spec. limit<br>tan $\delta \leq 2$ x spec. limit |
| **SHELF LIFE** | $T_{amb}$ = 85 °C;<br>no voltage applied;<br>after 1000 hours;<br>after test: $U_R$ to be applied for 30 minutes,<br>24 to 48 hours before measurement | Δ C/C: ± 20 % of initial value<br>$I_L \leq$ spec.limit<br>tan $\delta \leq 2$ x spec. limit |

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