# Koas

## VR Conductive Polymer Aluminum Solid Capacitors

+105℃, High Ripple Current, Low ESR , Series VR .

### Features:

- •105℃、 2000 hours assured
- •Low ESR with large ripple current， SMT type
- •RoHS Compliance

### Photo


Marking color: Blue

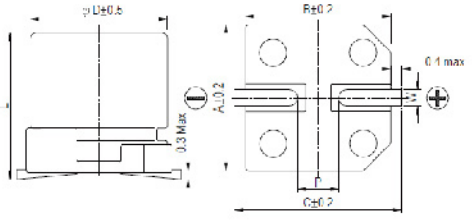
### Applications

Suitable for Switching Power Supply, DC/DC Converter, PDP /LCD TV and digital equipment.

### Specifications

| No. | Item | Performance | | |
|---|---|---|---|---|
| 1 | Temperature range (℃) | -55 to +105 | | |
| 2 | Leakage current (μA) | Less than 0.2CV or 300 whichever is larger (after two minutes) C: Rated Capacitance(μF); V: Rated voltage(V) 20℃ | | |
| 3 | Capacitance tolerance (%) | ±20 (20℃,120Hz) | | |
| 4 | Tangent of the loss angle (Tanδ) | 0.12 | | 20℃,120Hz |
| 5 | ESR | See Standard Ratings | | 20℃,100K-300KHz |
| 6 | Temperature Characteristics, ESR Ratio | At -55℃ 100KHz(Low Temperature) | $Z_{-55℃}/Z_{+20℃} \leqslant 1.25$ | |
| | | At +105℃ 100KHz(High Temperature) | $Z_{+105℃}/Z_{+20℃} \leqslant 1.25$ | |
| 7 | Endurance (+105℃ 2000hours Rated voltage Applied ) | Test time | 2000hours | |
| | | Leakage current | The initial specified value or less | |
| | | Percentage of capacitance change | Within ±20% of initial value | |
| | | ESR | 150% or less of the initial specified value | |
| | | Tangent of the loss angle | 150% or less of the initial specified value | |
| 8 | Humidity Test (+60℃ 90% to 95% RH 1000 hours No applied voltage) | Test time | 1000hours | |
| | | Leakage current | The initial specified value or less | |
| | | Percentage of capacitance change | Within ±20% of initial value | |
| | | ESR | 150% or less of the initial specified value | |
| | | Tangent of the loss angle | 150% or less of the initial specified value | |
| 9 | Surge Voltage Test (At normal temperature, charge at surge voltage for 30 second and discharge via a 1KΩ protective resistor for 330 second. Repeat for 1000cycles) | Test time | 1000 cycles | |
| | | Leakage current | The initial specified value or less | |
| | | Percentage of capacitance change | Within ±20% of initial value | |
| | | ESR | 150% or less of the initial specified value | |
| | | Tangent of the loss angle | 150% or less of the initial specified value | |
| 10 | Applicable standards | JIS-C-5101-4 | | |

### Diagram of Dimensions




**Lead Spacing and Diameter** **Unit: mm**

| ØD | L | A | B | C | W | P±0.2 |
|---|---|---|---|---|---|---|
| 5 | 5.7+0.3/-0.3 | 5.6 | 5.6 | 5.9 | 0.5～0.8 | 1.4 |
| 6.3 | 5.9+0.3/-0.3 | 6.6 | 6.6 | 7.2 | 0.5～0.8 | 2.0 |
| 8 | 7±0.5 | 8.4 | 8.4 | 9.0 | 0.7～1.1 | 3.1 |
| 8 | 12.0±0.5 | 8.4 | 8.4 | 9.0 | 0.7～1.1 | 3.1 |
| 10 | 10.5±0.5 | 10.4 | 10.4 | 11.0 | 0.7～1.3 | 4.7 |
| 10 | 12.6+0.2/-0.4 | 10.4 | 10.4 | 11.0 | 0.7～1.3 | 4.7 |

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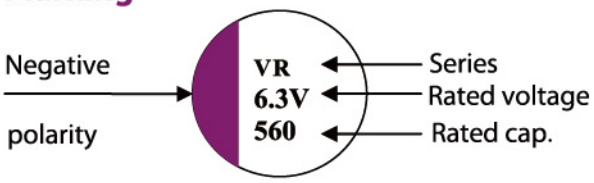
## Marking




## Frequency Coefficient for Ripple Current

| Frequency (Hz) | 120≤F<1K | 1K≤F<10K | 10K≤F<100K | 100K≤F<500K |
|---|---|---|---|---|
| Coefficient | 0.05 | 0.3 | 0.7 | 1 |

## Dimension & Permissible Ripple Current

Dimension:øDXL(mm)
Ripple Current: mA/rms at 100KHz,105℃

| V.DC / Contents / μF | 2.5V | | | 4V | | | 6.3V | | |
|---|---|---|---|---|---|---|---|---|---|
| | øD×L | ESR mΩ/100KHz 20℃ | Ripple Current (mA/rms,105℃) | øD×L | ESR mΩ/100KHz 20℃ | Ripple Current (mA/rms,105℃) | øD×L | ESR mΩ/100KHz 20℃ | Ripple Current (mA/rms,105℃) |
| 120 | | | | | | | 5x5.7 | 16 | 1600 |
| 150 | | | | 5X5.7 | 16 | 1600 | 5x5.7 | 16 | 1600 |
| 220 | 5x5.7 | 16 | 1600 | 6.3X5.9 | 16 | 2600 | 6.3x5.9 | 16 | 2600 |
| 270 | 6.3X5.9 | 16 | 2600 | 6.3X5.9 | 16 | 2600 | 6.3X5.9 | 16 | 2600 |
| 330 | 6.3X5.9 | 16 | 2600 | 6.3X5.9 | 16 | 2600 | 6.3X5.9 | 16 | 2600 |
| 390 | 6.3X5.9 | 16 | 2600 | 8X7 | 16 | 3840 | 8X7 | 14 | 3600 |
| 470 | 6.3X5.9 | 16 | 2600 | 8X7 | 16 | 3840 | 8X7 | 14 | 3600 |
| 560 | 8X7 | 14 | 4600 | 8X12 | 14 | 4600 | 8X7 | 14 | 3600 |
| 680 | 8X7 | 14 | 4600 | 8X12 | 14 | 5320 | 8X7 | 14 | 3600 |
| 820 | | | | 8X12 | 14 | 5320 | 8X12 | 14 | 4520 |
| | 8X12 | 14 | 5320 | 10X10.5 | 14 | 5320 | 10X10.5 | 14 | 4620 |
| 1000 | | | | 8X12 | 14 | 4600 | 8X12 | 14 | 4520 |
| | 8X12 | 14 | 5320 | 10X10.5 | 14 | 5320 | 10X10.5 | 14 | 4650 |
| 1200 | | | | 8X12 | 14 | 5320 | 8X12 | 14 | 4520 |
| | 8X12 | 14 | 5320 | 10X10.5 | 14 | 5320 | 10X10.5 | 14 | 4650 |
| 1500 | | | | | | | 10X12.6 | 14 | 5560 |
| | 10X12.6 | 14 | 5560 | 10X12.6 | 14 | 5320 | | | |
| 1800 | 10X12.6 | 14 | 5560 | 10X12.6 | 14 | 5560 | 10X12.6 | 14 | 5560 |
| 2200 | 10X12.6 | 14 | 5560 | 10X12.6 | 14 | 5560 | 10X12.6 | 14 | 5560 |



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### Dimension & Permissible Ripple Current

Dimension:øDXL(mm)
Ripple Current: mA/rms at 100KHz,105℃

| V.DC / Contents μF | 10V | | | 16V | | |
|---|---|---|---|---|---|---|
| | øD×L | ESR mΩ/100KHz 20℃ | Ripple Current (mA/rms,105℃) | øD×L | ESR mΩ/100KHz 20℃ | Ripple Current (mA/rms,105℃) |
| 22 | | | | 5X5.7 | 16 | 2600 |
| 47 | 5X5.7 | 16 | 2600 | 5X5.7 | 16 | 2600 |
| 100 | 6.3X5.9 | 16 | 3200 | 6.3X5.9 | 16 | 2860 |
| 150 | 6.3X5.9 | 16 | 3200 | 8X7 | 16 | 2860 |
| 220 | 6.3X5.9 | 16 | 3840 | 8X7 | 14 | 4200 |
| 330 | 6.3X5.9 | 16 | 4600 | 8X7 | 14 | 4500 |
| 470 | 8X7 | | | 8X12 | 14 | 4500 |
| | 8X7 | 16 | 5320 | 10X10.5 | 14 | 5320 |
| 560 | 8X12 | 14 | 5320 | 8X12 | 14 | 5320 |
| 820 | 10X10.5 | 14 | 5320 | 10X12.6 | 14 | 5320 |
| 1000 | 10X12.6 | 14 | 5320 | 10X12.6 | 14 | 5320 |
| 1500 | 10X12.6 | 14 | 5520 | 10X12.6 | 14 | 5520 |

| V.DC / Contents μF | 25V | | | 35V | | |
|---|---|---|---|---|---|---|
| | øD×L | ESR mΩ/100KHz 20℃ | Ripple Current (mA/rms,105℃) | øD×L | ESR mΩ/100KHz 20℃ | Ripple Current (mA/rms,105℃) |
| 22 | 6.3X5.9 | 50 | 1200 | 6.3X5.9 | 70 | 1800 |
| 33 | 6.3X5.9 | 50 | 1200 | 8X7 | 60 | 1800 |
| 47 | 6.3X5.9 | 50 | 1200 | 8X12 | 30 | 1800 |
| 82 | 8X7 | 40 | 1800 | 8X12/10X10.5 | 50 | 2160 |
| 100 | 8X7 | 40 | 1800 | 10X12.6 | 35 | 2160 |
| 220 | 8X12 | 30 | 2160 | 10X12.6 | 35 | 2160 |
| 330 | 10X12.6 | 28 | 2160 | 10X12.6 | 35 | 2160 |
| 470 | 10X12.6 | 28 | 2160 | | | |



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