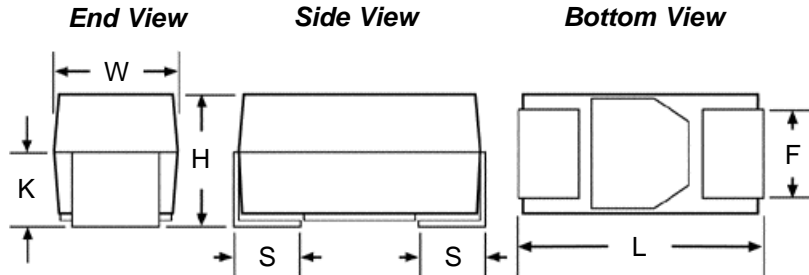


AO-CAP Data Sheet

KEMET's AO-CAP, designated the A700 Series, has been targeted for power management applications. The structure of the AO-CAP uses aluminum as the anode material, aluminum oxide as the dielectric, and a conductive organic polymer for its counter-electrode material. The AO-CAP offers many advantages:

- Extremely low ESR
- High capacitance retention for superior performance at high operating frequencies
- No voltage derating up to 125°C
- Robust to the surface-mount process
- No dry-out-related failure mechanism
- Pb free

Outline Drawing



Dimensions - Millimeters

| Case Size | | L | W | H | K Min. | F ±0.1 | S ±0.2 |
|-----------|---------|-----------|-----------|-----------|--------|--------|--------|
| KEMET | EIA | | | | | | |
| V | 7343-20 | 7.3 ± 0.3 | 4.3 ± 0.3 | 1.9 ± 0.1 | 1.1 | 2.4 | 1.3 |
| D | 7343-31 | 7.3 ± 0.3 | 4.3 ± 0.3 | 2.8 ± 0.3 | 1.3 | 2.4 | 1.3 |
| X | 7343-43 | 7.3 ± 0.3 | 4.3 ± 0.3 | 4.0 ± 0.3 | 2.1 | 2.4 | 1.3 |

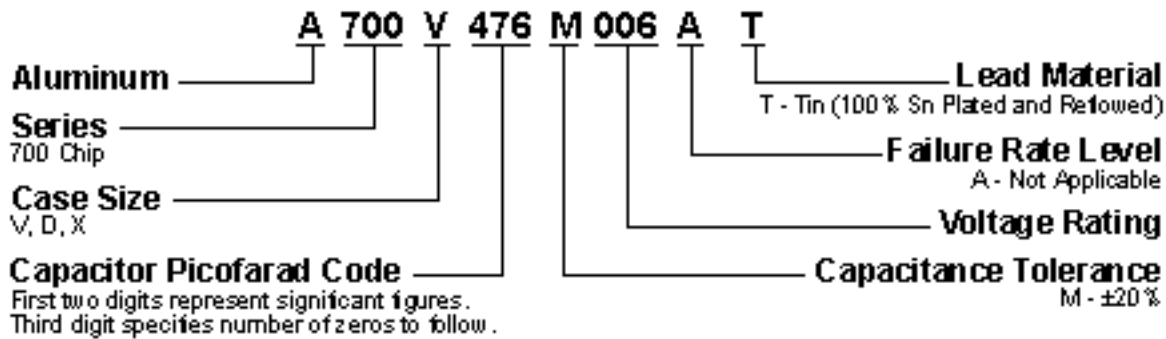
Note that glue pad shape may differ at KEMET's discretion.

A700 Ratings & Part Number Reference

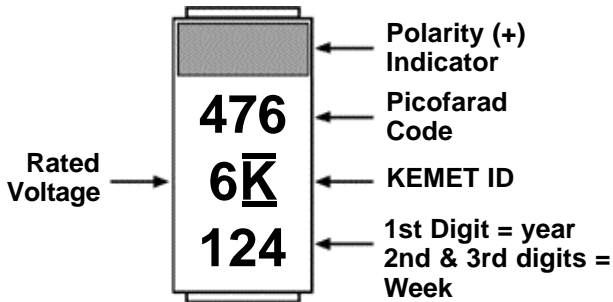
| Cap µF (±20%) | Voltage | Case Size | KEMET Part Number | DC Leakage µA +25°C Max | DF % 120 Hz + 25°C Max | ESR mW 100kHz 25°C Max | Ripple Current A rms 100kHz, @ Max ESR 25°C to 105°C |
|---------------------|---------|--------------|----------------------|-------------------------------|---------------------------|------------------------------|--|
| 100.0 | 2 | V/7343-20 | A700V107M002AT | 12.0 | 6% | 28 | 2.1 |
| 150.0 | 2 | V/7343-20 | A700V157M002AT | 18.0 | 6% | 28 | 2.1 |
| 180.0 | 2 | D/7343/31 | A700D187M002AT | 21.6 | 6% | 18 | 2.9 |
| 220.0 | 2 | D/7343-31 | A700D227M002AT | 26.4 | 6% | 18 | 2.9 |
| 220.0 | 2 | D/7343-31 | A700D227M002AT6050 | 26.4 | 6% | 15 | 3.2 |
| 220.0 | 2 | D/7343-31 | A700D227M002AT6051 | 26.4 | 6% | 12 | 3.5 |
| 270.0 | 2 | X/7343-43 | A700X277M002AT | 26.4 | 6% | 15 | 3.2 |
| 390.0 | 2 | X/7343-43 | A700X397M002AT | 46.8 | 6% | 15 | 3.3 |
| 390.0 | 2 | X/7343-43 | A700X397M002AT6050 | 46.8 | 6% | 10 | 4.1 |
| 82.0 | 2.5 | V/7343-20 | A700V826M004AT6003 | 12.3 | 6% | 28 | 2.1 |
| 150.0 | 2.5 | D/7343/31 | A700D157M004AT6003 | 22.5 | 6% | 18 | 2.9 |
| 220.0 | 2.5 | X/7343-43 | A700X227M004AT6003 | 33.0 | 6% | 15 | 3.3 |
| 82.0 | 4 | V/7343-20 | A700V826M004AT | 19.7 | 6% | 28 | 2.1 |
| 120.0 | 4 | D/7343-31 | A700D127M004AT | 28.8 | 6% | 18 | 2.9 |
| 150.0 | 4 | D/7343-31 | A700D157M004AT | 36.0 | 6% | 18 | 2.9 |
| 180.0 | 4 | X/7343-43 | A700X187M004AT | 43.2 | 6% | 15 | 3.3 |
| 220.0 | 4 | X/7343-43 | A700X227M004AT | 52.8 | 6% | 15 | 3.3 |
| 47.0 | 6.3 | V/7343-20 | A700V476M006AT | 11.8 | 6% | 28 | 2.1 |
| 56.0 | 6.3 | V/7343-20 | A700V566M006AT | 14.1 | 6% | 28 | 2.1 |
| 68.0 | 6.3 | V/7343-20 | A700V686M006AT | 17.1 | 6% | 28 | 2.1 |
| 100.0 | 6.3 | D/7343-31 | A700D107M006AT | 25.2 | 6% | 18 | 2.9 |
| 150.0 | 6.3 | X/7343-43 | A700X157M006AT | 37.8 | 6% | 15 | 3.3 |

Note that DC leakage limits are after a minimum of 2 minutes charge time at rated voltage.

A700 Ordering Information



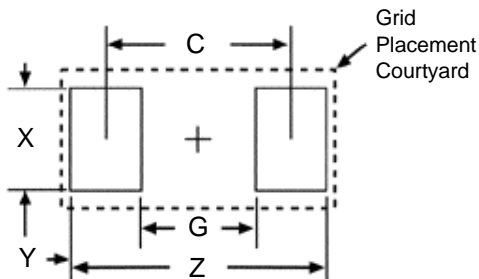
Component Marking



Tape & Reel Packaging

| Case Codes | | Tape & Reel Dimensions | | | | |
|------------|---------|------------------------|--------------------|----------|----------------|-----------------|
| KEMET | EIA | Tape Width mm | Pitch mm ± 0.1 | | Reel Quantity | |
| | | | Part | Sprocket | 180mm (7" dia) | 330mm (13" dia) |
| V | 7343-20 | 12 \pm 0.3 | 8 | 4 | 1000 | 3000 |
| D | 7343-31 | 12 \pm 0.3 | 8 | 4 | 500 | 2500 |
| X | 7343-43 | 12 \pm 0.3 | 8 | 4 | 500 | 2000 |

Recommended Mounting Pad Geometries - Millimeters

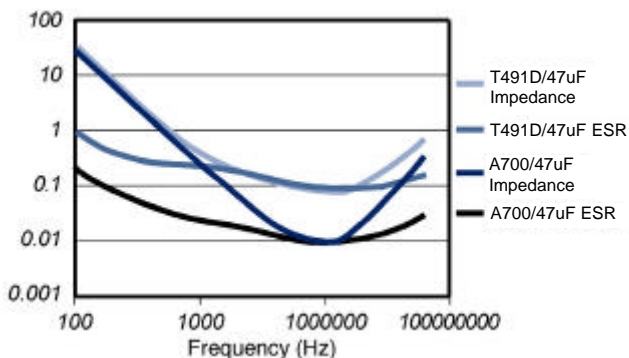


Land Pattern Dimensions for Reflow Solder

| KEMET/EIA Size Code | Pad Dimensions | | | | |
|-----------------------------------|----------------|------|------|---------|---------|
| | Z | G | X | Y (ref) | C (ref) |
| V/7343-20, D/7343-31 X/7343-43 | 8.90 | 3.80 | 2.70 | 2.55 | 6.35 |

Typical ESR and Impedance

T491D/47 μ F (Tantalum Cap) vs. A700/47 μ F (AO-CAP)



Capacitance vs. Frequency

T491 (MnO₂) vs. A700 (Polymer)

