

Dry AC Film Capacitors for High Intensity Discharge (HID) Lighting Applications

Aerovox makes a complete line of dry AC capacitors for use in HID and other High Voltage Ballast applications. Constructed with specially formulated metallized polypropylene film, these capacitors are designed to operate in the high temperature environments found in typical HID lighting fixtures.

Manufactured in the USA, Aerovox offers a complete line of HID capacitors available in industry standard round plastic housings for operating voltages to 400 VAC. Operating temperature ratings 100°C (max operating 105°C) are produced for 60,000 hour operation. Both terminal and leaded versions are available.



Dry HID, Plastic Case

KEY FEATURES

- Manufactured to EIA-456-A
- Capacitors manufactured in USA
- Plastic case construction
- Leaded and terminal versions
- RoHS Compliant
- Capacitance from 5 μ F to 48 μ F
- Voltage ranges from 240 VAC to 400 VAC
- Operating temperature to 105°C

CONSTRUCTION

Aerovox dry AC Lighting capacitors are constructed using controlled manufacturing processes and high quality materials. The capacitor section is made with metallized polypropylene film, wound on a resistor core with precision winding machines to a capacitance tolerance of $\pm 3\%$. Capacitors containing an internal resistor core will contain the marking “INT RES” and the resistor value in Mohms. The resistor core is designed to reduce the voltage stored in the capacitor to <50 V within 60 seconds of voltage removal.

To provide similar performance to our metal, oil-filled HID capacitors, these units use a thicker dielectric for thermal stability. The capacitor section is endsprayed

with zinc, providing a connection to the film and a solid surface to connect the electrodes.

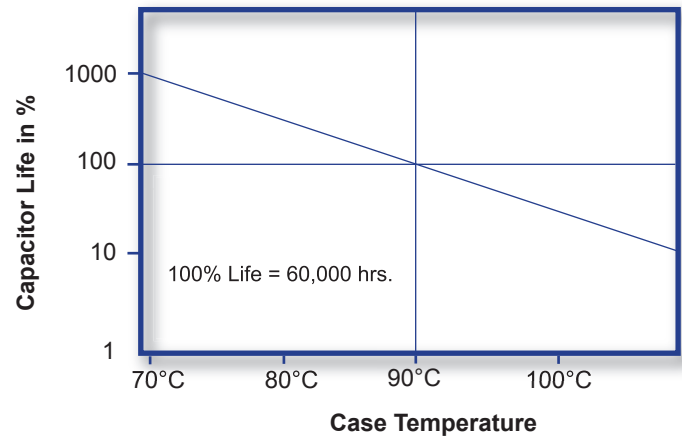
The capacitor section is then connected to a plastic cover assembly consisting of the cover, 1/4” quick disconnect terminals or 8 inch, 18 AWG stranded wire leads with UL listed insulation rated for 150°C. After insertion into the plastic housing, the unit is filled with epoxy. Unlike our metal, oil filled HID capacitors, these style of capacitor is unprotected, and has a short-circuit failure mode. 100% of our capacitors undergo a rigorous 8 point final inspection to assure compliance with specifications.

Aerovox Corp

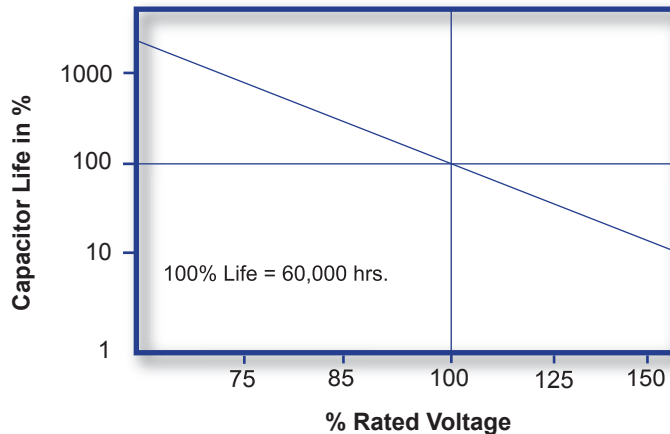
PERFORMANCE

Capacitors in this brochure are designed to meet performance testing outlined in Electrical Industry Association (EIA) standard #RS-456A. Test programs are run continuously at Aerovox to monitor production and for design improvements. Ongoing tests include: Accelerated Life Testing (ALT, for 2000 hours at 125% voltage rating and temperature rating +10°C), fault current, and mechanical testing. Aerovox testing programs accumulate over 500 million component hours each year.

Typical Life vs. Case Temperature



Typical Life vs. Operating Voltage

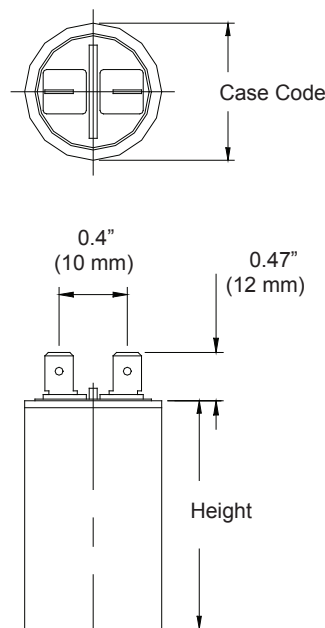
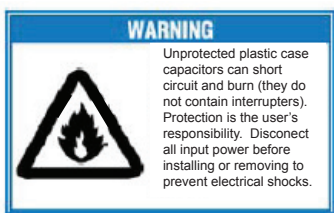


Capacitor life is impacted by operating temperature and voltage as illustrated in the associated charts. A standard guide to the effect of temperature on capacitor life is that for every 6.5°C rise in temperature, there will be a 50% reduction in operating life. Due to the high operating temperature associated with HID lighting, Aerovox manufactures capacitors rated for 90°C and 100°C.

U.L. File E145088

Dry Plastic Case Sizes

| Case Code | Diameter inches (mm) |
|-----------|-------------------------|
| AA | 1.18 (30) |
| BB | 1.58 (40) |
| CC | 1.77 (45) |
| DD | 1.97 (50) |



Tolerance on all case dimensions is $\pm 0.06''$

Terminals:

1. 1/4" QUICK CONNECT (Part # Suffix PQ & PSH)
2. Wire leads on suffix P capacitors (8" long 18 awg stranded copper wire with UL listed insulation rated for 150 °C)

Aerovox Corp

HID LIGHTING DRY, UNPROTECTED, ROUND PLASTIC CASE CAPACITORS

| Cap (μF) | Aerovox Part Number | Case Style | Height Inches (mm) |
|----------|---------------------|------------|--------------------|
|----------|---------------------|------------|--------------------|

240 VAC, 90°C Operating Case Temperature

| | | | |
|------|--------|----|-------------|
| 14 | 4415-P | AA | 2.68 (68.1) |
| 15 | 4417-P | BB | 2.68 (68.1) |
| 17.5 | 4422-P | BB | 2.68 (68.1) |
| 20 | 4428-P | BB | 2.68 (68.1) |
| 22.5 | 4435-P | BB | 2.68 (68.1) |
| 28 | 4445-P | BB | 2.68 (68.1) |
| 30 | 4448-P | BB | 2.68 (68.1) |
| 34 | 4452-P | BB | 3.62 (92.0) |
| 35 | 4453-P | BB | 3.62 (92.0) |
| 36 | 4455-P | BB | 3.62 (92.0) |
| 40 | 4456-P | BB | 3.62 (92.0) |
| 45 | 4458-P | BB | 3.62 (92.0) |
| 48 | 4461-P | CC | 3.62 (92.0) |
| 52 | 4464-P | CC | 3.62 (92.0) |
| 55 | 4465-P | CC | 3.62 (92.0) |
| 56 | 4467-P | CC | 3.62 (92.0) |
| 62 | 4469-P | CC | 3.62 (92.0) |

280 VAC, 90°C Operating Case Temperature

| | | | |
|------|--------|----|-------------|
| 5 | 4400-P | AA | 2.17 (55.1) |
| 6 | 4402-P | AA | 2.17 (55.1) |
| 7 | 4403-P | AA | 2.17 (55.1) |
| 8 | 4405-P | AA | 2.68 (68.1) |
| 10 | 4407-P | AA | 2.68 (68.1) |
| 12 | 4410-P | BB | 2.68 (68.1) |
| 13 | 4413-P | BB | 2.68 (68.1) |
| 14 | 4416-P | BB | 2.68 (68.1) |
| 16 | 4420-P | BB | 2.68 (68.1) |
| 17.5 | 4423-P | BB | 2.68 (68.1) |
| 18.5 | 4426-P | BB | 2.68 (68.1) |
| 20 | 4429-P | BB | 2.68 (68.1) |
| 21 | 4433-P | BB | 2.68 (68.1) |
| 22 | 4434-P | BB | 2.68 (68.1) |
| 22.5 | 4436-P | BB | 2.68 (68.1) |
| 24 | 4437-P | BB | 3.62 (92.0) |
| 24.5 | 4440-P | BB | 3.62 (92.0) |
| 25 | 4442-P | BB | 3.62 (92.0) |

For additional ratings, contact the factory

| Cap (μF) | Aerovox Part Number | Case Style | Height Inches (mm) |
|----------|---------------------|------------|--------------------|
|----------|---------------------|------------|--------------------|

280 VAC, 90°C Operating Case Temperature

| | | | |
|----|--------|----|--------------|
| 26 | 4443-P | BB | 3.62 (92.0) |
| 28 | 4446-P | BB | 3.62 (92.0) |
| 30 | 4449-P | BB | 3.62 (92.0) |
| 32 | 4451-P | BB | 3.62 (92.0) |
| 35 | 4454-P | BB | 3.62 (92.0) |
| 40 | 4457-P | CC | 3.62 (92.0) |
| 48 | 4462-P | CC | 3.62 (92.0) |
| 55 | 4466-P | CC | 4.61 (117.1) |
| 56 | 4468-P | CC | 4.61 (117.1) |

330 VAC, 90°C Operating Case Temperature

| | | | |
|------|--------|----|--------------|
| 5 | 4401-P | AA | 2.17 (55.1) |
| 7 | 4404-P | AA | 2.68 (68.1) |
| 8 | 4406-P | BB | 2.68 (68.1) |
| 10 | 4408-P | BB | 2.68 (68.1) |
| 12 | 4411-P | BB | 2.68 (68.1) |
| 13 | 4414-P | BB | 2.68 (68.1) |
| 15 | 4418-P | BB | 2.68 (68.1) |
| 16 | 4421-P | BB | 2.68 (68.1) |
| 17.5 | 4424-P | BB | 3.62 (92.0) |
| 18.5 | 4427-P | BB | 3.62 (92.0) |
| 20 | 4430-P | BB | 3.62 (92.0) |
| 24.5 | 4441-P | BB | 3.62 (92.0) |
| 26 | 4444-P | CC | 3.62 (92.0) |
| 28 | 4447-P | CC | 3.62 (92.0) |
| 45 | 4460-P | CC | 4.61 (117.1) |
| 48 | 4463-P | DD | 4.69 (119.1) |

400 VAC, 90°C Operating Case Temperature

| | | | |
|------|--------|----|--------------|
| 10 | 4616-P | BB | 3.62 (92.0) |
| 12 | 4711-P | BB | 3.62 (92.0) |
| 15 | 4617-P | BB | 3.62 (92.0) |
| 18 | 4664-P | CC | 3.62 (92.0) |
| 20 | 4663-P | CC | 3.62 (92.0) |
| 20.5 | 4662-P | DD | 3.70 (94.0) |
| 24 | 4618-P | CC | 4.61 (117.1) |
| 30 | 4665-P | DD | 4.69 (119.1) |

For terminal version, substitute “-PQ” for “-P” and add 0.1” (2mm) to the capacitor height.

Warranty

Aerovox Corp. (hereafter called Company), warrants to the Purchaser that capacitors manufactured by the Company are free from defects in materials, workmanship, and title for one-year from date of shipment; and this warranty is conditional based on proper installation, use and maintenance.

NO OTHER WARRANTIES ARE MADE, EITHER EXPRESSED OR IMPLIED (INCLUDING, WITHOUT LIMITATION WARRANTIES AS TO MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE).

PURCHASER RETAINS RESPONSIBILITY FOR THE APPLICATION AND FUNCTIONAL ADEQUACY OF THE CAPACITOR.

LIMITS OF LIABILITY. Under no circumstances will the Company be liable for consequential, incidental, or exemplary damages; and the Company liability for any claim shall not exceed Purchaser's cost from the Company of specific capacitor(s) that generates such claim.