

Type AXLH -40 °C to +150 °C

High Temperature Axial Leaded Aluminum Electrolytic Capacitors

HIGH PERFORMANCE AXIAL LEADED ALUMINUM ELECTROLYIC CAPACITORS



Type AXLH capacitors are a new generation of high performance aluminum electrolytic capacitors rated up to 2000 hours at 150 °C. They are designed for applications that place high demands on a capacitor. The capacitor's outstanding features include low ESR, low leakage current, a long shelf life and a high ripple current capability.

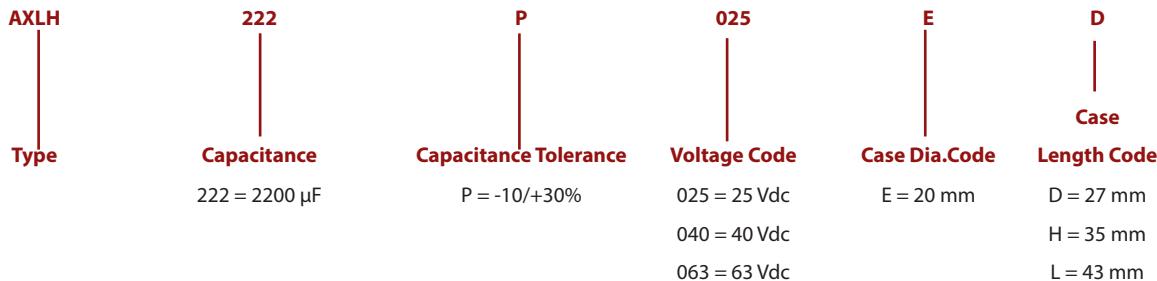
Highlights

- 150 °C Operating Temperature
- Up to 28 Amps RMS Continuous Ripple Current
- Capacitance Range: 470 µF to 4700 µF
- High Vibration Resistance
- Very Long Shelf Life
- Low Leakage Current

Specifications

Capacitance Range (100 Hz/+20 °C)	470 to 4700 µF												
Capacitance Tolerance (100 Hz/+20 °C)	-10/+30%												
Rated Voltage	25, 40, 63 Vdc												
Operating Temperature	-40 °C to +150 °C												
Leakage Current (at 20°C)	I = 0.003 CV + 4.0 µA; after 5 minutes at rated voltage I = leakage current in µAmps C = rated capacitance in µF V = rated DC Working voltage in Volts												
Ripple Current vs. Frequency Correction Factors	<table border="1"><thead><tr><th>Frequency (Hz)</th><th>100</th><th>300</th><th>1000</th><th>5000</th><th>100 kHz</th></tr></thead><tbody><tr><td>Ripple Current Correction Factor</td><td>0.35</td><td>0.57</td><td>0.8</td><td>1</td><td>1.04</td></tr></tbody></table>	Frequency (Hz)	100	300	1000	5000	100 kHz	Ripple Current Correction Factor	0.35	0.57	0.8	1	1.04
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Shelf Life	(+105 °C/0 Vdc): 5000 hours (+40 °C/0 Vdc): 10 years												
Standard	IEC 60384-4 long life grade 40/125/56												
RoHS Compliant													

Part Numbering System



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Load Life Test	<table border="1"><tr><td>Test</td><td>Mount the capacitor on a heat sink with a low thermal resistance path. Apply the maximum rated voltage for 2000 hrs at +150°C with the +150°C maximum ripple current applied to the capacitor. After the test, measure the capacitance, ESR, and DCL at +20°C.</td></tr><tr><td>ΔC</td><td>Capacitance will be within ±15% of the initial value</td></tr><tr><td>ESR</td><td>ESR will be less than 2 times the initial value</td></tr><tr><td>DCL</td><td>The leakage current will be within the specified value</td></tr><tr><td>Appearance</td><td>No electrolyte leakage or other visible damage. The markings will be legible.</td></tr></table>	Test	Mount the capacitor on a heat sink with a low thermal resistance path. Apply the maximum rated voltage for 2000 hrs at +150°C with the +150°C maximum ripple current applied to the capacitor. After the test, measure the capacitance, ESR, and DCL at +20°C.	ΔC	Capacitance will be within ±15% of the initial value	ESR	ESR will be less than 2 times the initial value	DCL	The leakage current will be within the specified value	Appearance	No electrolyte leakage or other visible damage. The markings will be legible.
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Vibration Test	<table border="1"><tr><td>Test</td><td>Clamp the case to the test fixture. Frequency range is 10 - 2000 Hz. Amplitude of 1.5mm or 20 g acceleration. Duration of test is 22 hours in each of three directions. After the test, measure the capacitance at +20°C.</td></tr><tr><td>ΔC</td><td>Capacitance change from the initial measurement must not exceed 5%.</td></tr><tr><td>Appearance</td><td>No electrolyte leakage or other visible damage.</td></tr></table>	Test	Clamp the case to the test fixture. Frequency range is 10 - 2000 Hz. Amplitude of 1.5mm or 20 g acceleration. Duration of test is 22 hours in each of three directions. After the test, measure the capacitance at +20°C.	ΔC	Capacitance change from the initial measurement must not exceed 5%.	Appearance	No electrolyte leakage or other visible damage.				
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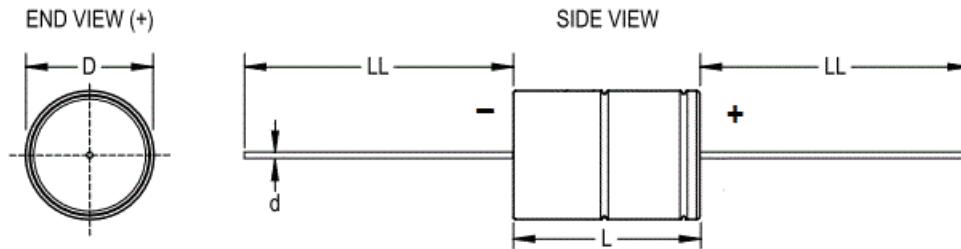
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Ratings

Rated Capacitance 100Hz/+20°C (μ F)	Capacitance Tolerance (%)	VDC	Cornell Dubilier Part Number	Case Size D x L (mm)	Max. ESR 100 Hz/+20°C (mΩ)	Max. ESR 100 kHz/+20°C (mΩ)	Rated Ripple Current \geq 5kHz/+125°C (A)	Maximum Ripple Current \geq 5kHz/+125°C (A)
2200	-10/+30	25	AXLH222P025ED	20 x 27	50	25	7.1	9.1
3300	-10/+30	25	AXLH332P025EH	20 x 35	34	17	8.9	11.3
4700	-10/+30	25	AXLH472P025EL	20 x 43	25	13	10.3	13.1
1500	-10/+30	40	AXLH152P040ED	20 x 27	57	22	7.3	9.3
2200	-10/+30	40	AXLH222P040EH	20 x 35	41	17	8.9	11.2
2700	-10/+30	40	AXLH272P040EL	20 x 43	32	13	10.1	12.8
470	-10/+30	63	AXLH471P063ED	20 x 27	125	32	5.5	7.0
680	-10/+30	63	AXLH681P063EH	20 x 35	87	23	6.9	8.7
900	-10/+30	63	AXLH901P063EL	20 x 43	67	18	8.1	10.2

Outline Drawings & Dimensions Table



Size Code	Dimensions in mm				Approximate Weight (grams)
	D	L	d	LL	
	± 0.5	± 1	± 0.03	± 2	
ED	20	26.5	1	40	13
EH	20	34.5	1	40	20
EL	20	42.5	1	40	24

Note: Bend leads at least 3.5 mm from the case.

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Heat-Sunked Ratings

Cornell Dubilier Part Number	Max. ESR 5-100 kHz 125-150°C (mΩ)	Maximum Ripple Current *		
		≥ 5 kHz/+125°C (A)	≥ 5 kHz/+140°C (A)	≥ 5 kHz/+150°C (A)
AXLH222P025ED	10.6	22.2	14	6.3
AXLH332P025EH	7.8	25.8	16.3	7.3
AXLH472P025EL	6.4	28.5	18	8.1
AXLH152P040ED	10	22.8	14.4	6.5
AXLH222P040EH	7.9	25.7	16.2	7.3
AXLH272P040EL	6.7	27.9	17.6	7.9
AXLH471P063ED	17.5	17.3	10.9	4.9
AXLH681P063EH	13	20	12.7	5.7
AXLH901P063EL	10.6	22.2	14	6.3

* When the capacitor is mounted to a heat-sink using low thermal resistance path.

Capacitor Markings

<u>Marking</u>	<u>Description</u>
-- CDM ++	Logo, Polarity Marks
AXLH222P025ED	CDE Part Number
2200 uF 25VDC	Capacitance, Rated Voltage (VDC)
160603	Date Code (Year, Week), Batch Number

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