

Type ALH Polypropylene Board Mount AC Filtering Capacitors

PCB Mount Power Film Capacitors



Type ALH AC harmonic filter capacitors use the most advanced construction technology to meet the challenges of harsh environments. The series offers 50% greater life than competitive 85/85 THB-rated power film capacitors with designs that pass the rigors of automotive-grade electrical and mechanical testing.

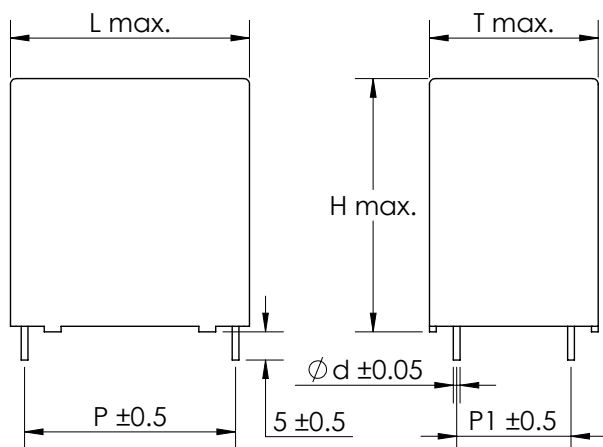
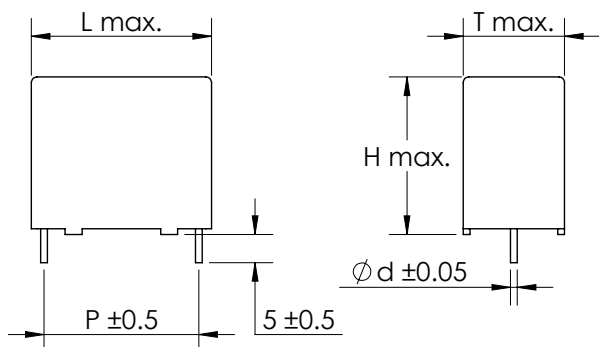
Highlights

- Optimized AC voltage performance
- THB 85 °C / 85% RH 1500 h at rated voltage
- Self-healing and low loss
- Suitable for high frequency applications

Specifications

Capacitance Range	0.22 to 50 µF
Capacitance Tolerance	±10% standard , ±5% optional
Rated Voltage	160 to 450 Vac
Operating Temperature Range	-40 °C to 105 °C (>85 °C derate voltage 1.35% per °C)
Maximum rms Current	see data tables
Test Voltage between Terminals @ 25 °C	150% equivalent DC voltage (1.414 x Vac) for 10s
Test Voltage between Terminals and Case @ 25°C	3 kVac @ 50/60 Hz for 10 s
Insulation Resistance	≥30,000 MΩxµF @ 100 Vdc 25 °C after 1 minute
Life Expectancy	100,000 h @ 70°C hot spot, rated voltage
THB Rating	85 °C / 85% RH - rated voltage - 1500 h
Reference Standards	IEC 61071, AEC-Q200 qualified (as noted)
RoHS Compliant	

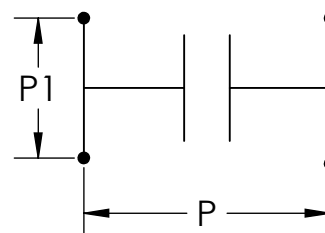
Dimensions



Construction Details	
Case Material	Plastic UL94V-0
Resin Material	Dry Resin UL94V-0
Terminal Material	Tin Plated Copper



UL Recognized E128034
construction only - unprotected



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Part Numbering System

ALH	406	K	251	C08	4
Series	Capacitance	Tolerance	Voltage	Case	Leads
ALH	EIA Cap Code 684 = 0.68 μ F 105 = 1 μ F 406 = 40 μ F	K = $\pm$ 10% Standard J = $\pm$ 5% Optional	161 = 160 Vac 251 = 250 Vac 271 = 275 Vac 351 = 350 Vac 401 = 400 Vac 451 = 450 Vac	See ratings table	2 = 2 Leads 4 = 4 Leads

Ratings

Part Number	Cap C (μ F)	Typ ESR 10 kHz (m Ω)	Thermal Res ($^{\circ}$ C/W)	Irms 10 kHz 70 $^{\circ}$ C (A)	Typ ESL (nH)	dv/dt (V/ μ s)	Peak Current (A)	L (mm)	H (mm)	T (mm)	P (mm)	P1 (mm)	d (mm)	AEC Q200
160 Vac														
ALH105K161A022	1.0	30.3	19.8	5	24	32	32.0	32.0	20	11.0	27.5	\	0.8	Yes
ALH225K161A022	2.2	15.3	20.0	7	24	32	70.4	32.0	20	11.0	27.5	\	0.8	Yes
ALH335K161A032	3.3	11.3	27.1	7	24	32	105.6	32.0	22	13.0	27.5	\	0.8	Yes
ALH505K161A052	5.0	8.8	34.8	7	26	32	160.0	32.0	28	14.0	27.5	\	0.8	Yes
ALH106K161A072	10.0	6.8	45.0	7	26	32	320.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH106K161B064	10.0	7.2	14.5	12	30	22	220.0	42.5	37	28.0	37.5	10.2	1.2	Yes
ALH206K161B064	20.0	6.9	15.1	12	30	22	440.0	42.5	37	28.0	37.5	10.2	1.2	Yes
ALH306K161B104	30.0	7.4	14.1	12	30	22	660.0	42.5	45	30.0	37.5	20.3	1.2	Yes
ALH406K161C064	40.0	7.6	13.7	12	35	16	640.0	57.5	45	30.0	52.5	20.3	1.2	Yes
ALH506K161C084	50.0	7.5	13.9	12	35	16	800.0	57.5	50	35.0	52.5	20.3	1.2	Yes
250 Vac														
ALH105K251A022	1.0	14.0	16.7	8	24	40	40.0	32.0	20	11.0	27.5	\	0.8	Yes
ALH155K251A022	1.5	10.0	23.4	8	24	40	60.0	32.0	20	11.0	27.5	\	0.8	Yes
ALH205K251A032	2.0	8.2	22.6	9	24	40	80.0	32.0	22	13.0	27.5	\	0.8	Yes
ALH335K251A052	3.3	6.2	29.9	9	26	40	132.0	32.0	28	14.0	27.5	\	0.8	Yes
ALH405K251A072	4.0	5.9	31.4	9	26	40	160.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH505K251A072	5.0	5.2	35.6	9	26	40	200.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH685K251A082	6.8	4.9	15.6	9	28	40	272.0	32.0	37	22.0	27.5	\	0.8	*
ALH106K251B084	10.0	5.6	13.7	14	30	30	300.0	42.5	40	20.0	37.5	10.2	1.2	Yes
ALH156K251B064	15.0	5.2	14.7	14	30	30	450.0	42.5	37	28.0	37.5	10.2	1.2	Yes
ALH206K251B104	20.0	4.8	15.9	14	30	30	600.0	42.5	45	30.0	37.5	20.3	1.2	Yes
ALH256K251C064	25.0	5.7	13.4	14	35	25	625.0	57.5	45	30.0	52.5	20.3	1.2	Yes
ALH306K251C064	30.0	5.3	14.4	14	35	25	750.0	57.5	45	30.0	52.5	20.3	1.2	Yes
ALH356K251C084	35.0	5.5	13.9	14	35	25	875.0	57.5	50	35.0	52.5	20.3	1.2	Yes
ALH406K251C084	40.0	5.2	14.7	14	35	25	1000.0	57.5	50	35.0	52.5	20.3	1.2	Yes

*AEC Q200 may be available

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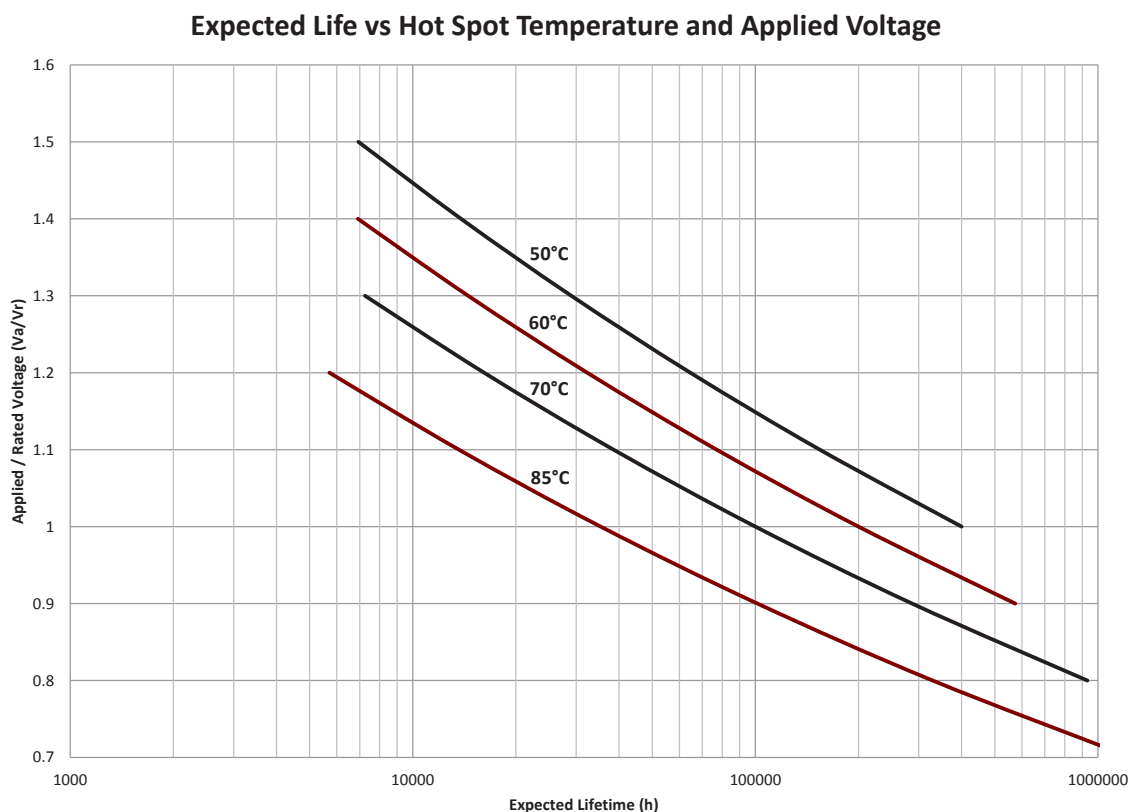
Part Number	Cap C (μF)	Typ ESR 10 kHz (mΩ)	Thermal Res (°C/W)	Irms 10 kHz 70 °C (A)	Typ ESL (nH)	dv/dt (V/μs)	Peak Current (A)	L (mm)	H (mm)	T (mm)	P (mm)	P1 (mm)	d (mm)	AEC Q200
275 Vac														
ALH105K271A022	1.0	13.0	18.0	8	24	40	40.0	32.0	20	11.0	27.5	\	0.8	Yes
ALH335K271A072	3.3	6.2	29.9	9	26	40	132.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH685K271A082	6.8	4.7	39.4	9	28	40	272.0	32.0	37	22.0	27.5	\	0.8	*
ALH106K271B084	10.0	5.9	13.0	14	30	30	300.0	42.5	40	20.0	37.5	10.2	1.2	Yes
ALH156K271B104	15.0	5.1	15.0	14	30	30	450.0	42.5	45	30.0	37.5	20.3	1.2	Yes
ALH206K271C064	20.0	6.0	12.8	14	35	25	500.0	57.5	45	30.0	52.5	20.3	1.2	Yes
ALH306K271C084	30.0	5.3	14.4	14	35	25	750.0	57.5	50	35.0	52.5	20.3	1.2	Yes
350 Vac														
ALH684K351A022	0.68	15.0	15.6	8	24	45	30.6	32.0	20	11.0	27.5	\	0.8	Yes
ALH105K351A032	1.0	10.9	17.0	9	24	45	45.0	32.0	22	13.0	27.5	\	0.8	Yes
ALH205K351A072	2.0	7.3	25.4	9	26	45	90.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH225K351A072	2.2	6.9	26.8	9	26	45	99.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH335K351A082	3.3	5.7	32.5	9	28	45	148.5	32.0	37	22.0	27.5	\	0.8	*
ALH475K351B084	4.7	6.9	11.1	14	30	34	159.8	42.5	40	20.0	37.5	10.2	1.2	Yes
ALH505K351B084	5.0	6.8	11.3	14	30	34	170.0	42.5	40	20.0	37.5	10.2	1.2	Yes
ALH685K351B064	6.8	6.2	12.3	14	30	34	231.2	42.5	37	28.0	37.5	10.2	1.2	Yes
ALH106K351B104	10.0	5.3	14.4	14	30	34	340.0	42.5	45	30.0	37.5	20.3	1.2	Yes
ALH126K351C064	12.0	6.8	11.3	14	35	28	336.0	57.5	45	30.0	52.5	20.3	1.2	Yes
ALH206K351C084	20.0	5.9	13.0	14	35	28	560.0	57.5	50	35.0	52.5	20.3	1.2	Yes
400 Vac														
ALH474K401A022	0.47	18.6	16.5	7	24	50	23.5	32.0	20	11.0	27.5	\	0.8	Yes
ALH105K401A052	1.0	10.3	18.0	9	26	50	50.0	32.0	28	14.0	27.5	\	0.8	Yes
ALH155K401A072	1.5	8.1	22.9	9	26	50	75.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH225K401A072	2.2	6.4	28.9	9	26	50	110.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH305K401A082	3.0	5.7	32.5	9	28	50	150.0	32.0	37	22.0	27.5	\	0.8	*
ALH505K401B064	5.0	6.2	12.3	14	30	40	200.0	42.5	37	28.0	37.5	10.2	1.2	Yes
ALH106K401C064	10.0	6.9	11.1	14	35	35	350.0	57.5	45	30.0	52.5	20.3	1.2	Yes
ALH156K401C084	15.0	6.1	12.5	14	35	35	525.0	57.5	50	35.0	52.5	20.3	1.2	Yes
450 Vac														
ALH224K451A022	0.22	30.9	19.4	5	24	55	12.1	32.0	20	11.0	27.5	\	0.8	Yes
ALH474K451A032	0.47	15.7	14.9	8	24	55	25.9	32.0	22	13.0	27.5	\	0.8	Yes
ALH105K451A072	1.0	9.2	25.5	8	26	55	55.0	32.0	33	18.0	27.5	\	0.8	Yes
ALH155K451A082	1.5	7.3	32.1	8	28	55	82.5	32.0	37	22.0	27.5	\	0.8	*
ALH335K451B064	3.3	7.4	10.3	14	30	45	148.5	42.5	37	28.0	37.5	10.2	1.2	Yes
ALH475K451B104	4.7	6.2	12.3	14	30	45	211.5	42.5	45	30.0	37.5	20.3	1.2	Yes
ALH685K451C064	6.8	7.5	10.2	14	35	38	258.4	57.5	45	30.0	52.5	20.3	1.2	Yes
ALH106K451C084	10.0	6.6	11.6	14	35	38	380.0	57.5	50	35.0	52.5	20.3	1.2	Yes

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Typical Performance Curves



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