

UB SERIES ▪ LONG LIFE 85°C TYPE

KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ▪ Snap-In type
- Useful life: 85°C ▪ 5 000 hours
- Extremely stable dissipation factor and leakage current
- High voltage up to 500V
- Especially for applications with demanding operating environment



SPECIFICATIONS

Items		Performance Characteristics			
Operating Temperature Range		-40 ~ +85°C		-25 ~ +85°C	
Rated Voltage Range	V _R	200 ~ 450V DC		500V DC	
Surge Voltage	V _S	(V _R ≤ 315V) ▪ V _S = 1.15·V _R		(V _R > 315V) ▪ V _S = 1.10·V _R	
Capacitance Range	C _R	68 ~ 3300µF		100 ~ 1500µF	
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)			
Leakage Current (20°C ▪ V _R applied)	I _{LEAK}	≤ 3 · √C _R · V _R ▪ After 5 minutes [I _{LEAK} (µA) ; C _R (µF) ; V _R (V)]			
Dissipation Factor % (20°C ▪ 120Hz)	tanδ	V _R (V DC)	200 ~ 400	450 ~ 500	
		tanδ	15	20	
Self-Resistance (20°C ▪ 120Hz)	ESR	Not to exceed the values shown in standard ratings			
Low Temperature Characteristics at 120Hz	Z ratio max.	V _R (V DC)	200 ~ 250	315 ~ 450	500
		Z-25°C/Z+20°C	4	5	6
		Z-40°C/Z+20°C	7	10	-

Lifetime Test					
Useful Life 85°C (V _R & I _R applied)	Test	5 000 hours			
	ΔC/C _R	≤ ±20% of initial measured value			
	tanδ	≤ 200% of initial specified value			
	I _{Leak}	≤ the initial specified value			
	Deviation Rate @ Useful Life: 10 000 FIT = 1%/1000h with 60% confidence level ▪ parts show higher drift as test criteria				
Endurance 85°C (V _R & I _R applied)	Test	2 000 hours			
	ΔC/C _R	≤ ±15% of initial measured value			
	tanδ	≤ 175% of initial specified value			
	I _{Leak}	≤ the initial specified value			
Shelf Life 85°C (V _R = 0)	Test	1 000 hours			
	ΔC/C _R	≤ ±15% of initial measured value			
	tanδ	≤ 175% of initial specified value			
	I _{Leak}	≤ the initial specified value			
Before measurement: Restore capacitor to 20°C, apply V _R for 30 min according JIS-C-5101-4					
Vibration Resistance Test	Max. 10g force, f _{RANGE} 10Hz ... 55Hz, amplitude 0.75mm; X/Y/Z-axis each 2h; capacitor rigidly clamped by body to surface ▪ IEC 60068-2-6				

STANDARD RATINGS

V_R (V)	C_R (μ F)	$\varnothing D$ (mm)	L (mm)	Typ. ESR +20°C - 120Hz (m Ω)	Max. ESR +20°C - 120Hz (m Ω)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
200	120	22	25	980	1660	1100	UB121M200M250A
	220	22	25	530	900	1150	UB221M200M250A
	270	22	30	440	740	1300	UB271M200M300A
	330	22	30	350	600	1500	UB331M200M300A
	330	25	25	350	600	1500	UB331M200N250A
	390	22	35	300	510	1650	UB391M200M350A
	390	25	30	300	510	1700	UB391M200N300A
	470	22	40	250	420	1950	UB471M200M400A
	470	25	30	250	420	1800	UB471M200N300A
	470	30	25	250	420	1900	UB471M200O250A
	560	22	45	210	360	2150	UB561M200M450A
	560	25	35	210	360	2120	UB561M200N350A
	560	30	30	210	360	2200	UB561M200O300A
	560	35	20	210	360	2100	UB561M200P200A
	680	22	45	170	290	2350	UB681M200M450A
	680	25	40	170	290	2400	UB681M200N400A
	680	30	35	170	290	2500	UB681M200O350A
	680	35	20	170	290	2320	UB681M200P200A
	820	25	40	140	240	2650	UB821M200N400A
	820	30	35	140	240	2730	UB821M200O350A
	820	35	25	140	240	2820	UB821M200P250A
	1000	25	40	120	200	2720	UB102M200N400A
	1000	30	40	120	200	3150	UB102M200O400A
	1000	35	30	120	200	3000	UB102M200P300A
	1200	30	45	100	170	3500	UB122M200O450A
	1200	35	35	100	170	3500	UB122M200P350A
	1500	25	50	76	130	3740	UB152M200N500A
	1500	30	45	76	130	3930	UB152M200O450A
1500	35	40	76	130	3930	UB152M200P400A	
1800	35	40	65	110	4100	UB182M200P400A	
2200	35	50	53	90	4250	UB222M200P500A	
3300	35	60	35	60	4400	UB332M200P600A	
250	100	22	25	1170	1990	720	UB101M250M250A
	180	22	25	650	1110	1000	UB181M250M250A
	220	22	30	530	900	1150	UB221M250M300A
	220	25	25	530	900	1150	UB221M250N250A
	270	22	30	440	740	1280	UB271M250M300A
	330	22	30	350	600	1360	UB331M250M300A
	330	25	30	350	600	1420	UB331M250N300A
	330	30	25	350	600	1530	UB331M250O250A
	390	22	45	300	510	1720	UB391M250M450A
	390	25	35	300	510	1700	UB391M250N350A
	390	30	25	300	510	1690	UB391M250O250A
	470	22	50	250	420	2010	UB471M250M500A

see description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	$\varnothing D$ (mm)	L (mm)	Typ. ESR +20°C - 120Hz (m Ω)	Max. ESR +20°C - 120Hz (m Ω)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
250	470	25	40	250	420	1890	UB471M250N400A
	470	30	30	250	420	1870	UB471M250O300A
	470	35	20	250	420	1860	UB471M250P200A
	560	25	45	210	360	2250	UB561M250N450A
	560	30	35	210	360	2250	UB561M250O350A
	560	35	25	210	360	2220	UB561M250P250A
	680	25	50	170	290	2650	UB681M250N500A
	680	30	40	170	290	2650	UB681M250O400A
	680	35	30	170	290	2610	UB681M250P300A
	820	30	40	140	240	2950	UB821M250O400A
	820	35	35	140	240	2920	UB821M250P350A
	1000	30	40	120	200	3180	UB102M250O400A
	1000	35	35	120	200	3250	UB102M250P350A
	1200	30	45	100	170	3580	UB122M250O450A
	1200	35	40	100	170	3580	UB122M250P400A
	1500	30	50	76	130	3940	UB152M250O500A
	1500	35	45	76	130	4300	UB152M250P450A
	1800	35	45	65	110	4460	UB182M250P450A
2200	35	50	53	90	4670	UB222M250P500A	
315	100	22	25	1170	1990	720	UB101M315M250A
	150	22	30	780	1330	900	UB151M315M300A
	150	25	25	780	1330	900	UB151M315N250A
	180	22	35	650	1110	1000	UB181M315M350A
	180	25	30	650	1110	1020	UB181M315N300A
	220	22	40	530	900	1150	UB221M315M400A
	220	25	35	530	900	1180	UB221M315N350A
	220	30	25	530	900	1120	UB221M315O250A
	270	22	45	440	740	1230	UB271M315M450A
	270	25	40	440	740	1350	UB271M315N400A
	270	30	30	440	740	1330	UB271M315O300A
	270	35	25	440	740	1380	UB271M315P250A
	330	25	45	350	600	1600	UB331M315N450A
	330	30	35	350	600	1600	UB331M315O350A
	390	35	30	300	510	1700	UB391M315P300A
	470	30	45	250	420	2090	UB471M315O450A
	470	35	35	250	420	2030	UB471M315P350A
	560	30	50	210	360	2300	UB561M315O500A
560	35	40	210	360	2270	UB561M315P400A	
680	35	45	170	290	2360	UB681M315P450A	
350	82	22	25	1430	2430	700	UB820M350M250A
	100	22	25	1170	1990	790	UB101M350M250A
	120	22	30	980	1660	840	UB121M350M300A
	120	25	25	980	1660	840	UB121M350N250A
	150	22	35	780	1330	980	UB151M350M350A

see description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	$\varnothing D$ (mm)	L (mm)	Typ. ESR +20°C - 120Hz (m Ω)	Max. ESR +20°C - 120Hz (m Ω)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
350	150	25	30	780	1330	1010	UB151M350N300A
	180	22	40	650	1110	1180	UB181M350M400A
	180	25	35	650	1110	1150	UB181M350N350A
	180	30	30	650	1110	1150	UB181M350O300A
	220	22	45	530	900	1250	UB221M350M450A
	220	25	35	530	900	1230	UB221M350N350A
	220	30	30	530	900	1280	UB221M350O300A
	220	35	25	530	900	1330	UB221M350P250A
	270	25	45	440	740	1460	UB271M350N450A
	270	30	35	440	740	1460	UB271M350O350A
	330	25	50	350	600	1680	UB331M350N500A
	330	35	30	350	600	1650	UB331M350P300A
	390	30	40	300	510	1770	UB391M350O400A
	390	35	35	300	510	1830	UB391M350P350A
	470	30	45	250	420	2110	UB471M350O450A
	470	35	40	250	420	2160	UB471M350P400A
	560	35	45	210	360	2380	UB561M350P450A
	680	35	50	170	290	2660	UB681M350P500A
820	35	60	140	240	2870	UB821M350P600A	
400	68	22	20	1720	2930	580	UB680M400M200A
	82	22	25	1430	2430	720	UB820M400M250A
	100	22	30	1170	1990	860	UB101M400M300A
	100	25	25	1170	1990	860	UB101M400N250A
	120	22	30	980	1660	870	UB121M400M300A
	120	25	25	980	1660	870	UB121M400N250A
	150	22	30	780	1330	1030	UB151M400M300A
	150	25	30	780	1330	1070	UB151M400N300A
	150	30	25	780	1330	1070	UB151M400O250A
	180	22	45	650	1110	1200	UB181M400M450A
	180	25	35	650	1110	1190	UB181M400N350A
	180	30	30	650	1110	1210	UB181M400O300A
	180	35	25	650	1110	1260	UB181M400P250A
	220	22	50	530	900	1690	UB221M400M500A
	220	25	40	530	900	1690	UB221M400N400A
	220	30	30	530	900	1690	UB221M400O300A
	220	35	25	530	900	1620	UB221M400P250A
	270	25	40	440	740	1700	UB271M400N400A
	270	30	35	440	740	1800	UB271M400O350A
	270	35	30	440	740	1800	UB271M400P300A
330	22	50	350	600	1820	UB331M400M500A	
330	30	40	350	600	1900	UB331M400O400A	
330	35	35	350	600	2000	UB331M400P350A	
390	30	40	300	510	2050	UB391M400O400A	
390	35	35	300	510	2170	UB391M400P350A	

see description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μF)	$\varnothing D$ (mm)	L (mm)	Typ. ESR +20°C - 120Hz (m Ω)	Max. ESR +20°C - 120Hz (m Ω)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
400	470	30	50	250	420	3030	UB471M400O500A
	470	35	40	250	420	2950	UB471M400P400A
	470	35	45	250	420	3110	UB471M400P450A
	560	30	50	210	360	3330	UB561M400O500A
	560	35	40	210	360	3280	UB561M400P400A
	560	35	45	210	360	3390	UB561M400P450A
	560	40	40	210	360	3420	UB561M400Q400A
	680	30	60	170	290	3810	UB681M400O600A
	680	35	45	170	290	3710	UB681M400P450A
	680	35	50	170	290	3850	UB681M400P500A
	680	40	40	170	290	3780	UB681M400Q400A
	820	35	55	140	240	4190	UB821M400P550A
	820	40	50	140	240	4260	UB821M400Q500A
	820	45	40	140	240	4220	UB821M400V400A
	1000	35	55	120	200	4890	UB102M400P550A
	1000	40	55	120	200	4990	UB102M400Q550A
	1000	45	45	120	200	4950	UB102M400V450A
	1200	35	80	100	170	5670	UB122M400P800A
	1200	40	60	100	170	5630	UB122M400Q600A
	1200	40	70	100	170	5690	UB122M400Q700A
1200	45	50	100	170	5590	UB122M400V500A	
1500	35	95	76	130	6700	UB152M400P950A	
1500	40	75	76	130	6400	UB152M400Q750A	
1500	45	55	76	130	6010	UB152M400V550A	
1800	40	85	65	110	7300	UB182M400Q850A	
1800	45	65	65	110	7150	UB182M400V650A	
2200	45	80	53	90	8420	UB222M400V800A	
450	68	22	30	2290	3900	630	UB680M450M300A
	82	22	35	1900	3230	730	UB820M450M350A
	100	22	35	1560	2650	890	UB101M450M350A
	100	25	30	1560	2650	920	UB101M450N300A
	120	22	40	1300	2210	1200	UB121M450M400A
	120	25	35	1300	2210	1230	UB121M450N350A
	120	30	30	1300	2210	1150	UB121M450O300A
	150	22	40	1040	1770	1260	UB151M450M400A
	150	25	35	1040	1770	1320	UB151M450N350A
	150	30	30	1040	1770	1320	UB151M450O300A
	150	35	20	1040	1770	1260	UB151M450P200A
	180	25	45	860	1470	1550	UB181M450N450A
	180	30	35	860	1470	1550	UB181M450O350A
	180	35	25	860	1470	1410	UB181M450P250A
	220	25	45	710	1210	1690	UB221M450N450A
	220	30	40	710	1210	1820	UB221M450O400A
220	35	30	710	1210	1730	UB221M450P300A	

see description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μF)	$\varnothing D$ (mm)	L (mm)	Typ. ESR +20°C - 120Hz (m Ω)	Max. ESR +20°C - 120Hz (m Ω)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
450	270	30	40	580	980	1900	UB271M450O400A
	270	35	35	580	980	1900	UB271M450P350A
	330	30	40	470	800	2030	UB331M450O400A
	330	30	45	470	800	2090	UB331M450O450A
	330	35	35	470	800	2070	UB331M450P350A
	330	35	40	470	800	2150	UB331M450P400A
	390	25	55	400	680	2550	UB391M450N550A
	390	30	45	400	680	2590	UB391M450O450A
	390	35	35	400	680	2550	UB391M450P350A
	390	35	40	400	680	2630	UB391M450P400A
	390	35	45	400	680	2700	UB391M450P450A
	470	30	50	330	560	3250	UB471M450O500A
	470	35	40	330	560	3210	UB471M450P400A
	470	40	40	330	560	3310	UB471M450Q400A
	560	35	50	280	470	3630	UB561M450P500A
	560	35	55	280	470	3690	UB561M450P550A
	560	35	60	280	470	3730	UB561M450P600A
	560	40	45	280	470	3700	UB561M450Q450A
	680	35	50	230	390	3930	UB681M450P500A
	680	35	60	230	390	3990	UB681M450P600A
	680	40	50	230	390	3990	UB681M450Q500A
	680	40	60	230	390	4050	UB681M450Q600A
	680	45	40	230	390	3960	UB681M450V400A
	820	35	60	190	320	4440	UB821M450P600A
	820	40	55	190	320	4530	UB821M450Q550A
	820	40	60	190	320	4580	UB821M450Q600A
	820	45	45	190	320	4490	UB821M450V450A
	1000	35	80	160	270	5230	UB102M450P800A
	1000	40	65	160	270	5190	UB102M450Q650A
	1000	40	70	160	270	5260	UB102M450Q700A
	1000	45	50	160	270	5150	UB102M450V500A
	1500	40	90	110	180	6830	UB152M450Q900A
1500	45	70	110	180	6780	UB152M450V700A	
1800	45	80	88	150	7390	UB182M450V800A	
2200	45	95	71	120	8610	UB222M450V950A	
500	100	30	25	1560	2650	930	UB101M500O250A
	120	30	30	1300	2210	1050	UB121M500O300A
	120	35	25	1300	2210	1070	UB121M500P250A
	150	30	35	1040	1770	1230	UB151M500O350A
	180	30	40	860	1470	1460	UB181M500O400A
	180	35	30	860	1470	1380	UB181M500P300A
	220	30	45	710	1210	1660	UB221M500O450A
	220	35	35	710	1210	1570	UB221M500P350A
270	30	50	580	980	1850	UB271M500O500A	

see description at end of standard ratings

STANDARD RATINGS

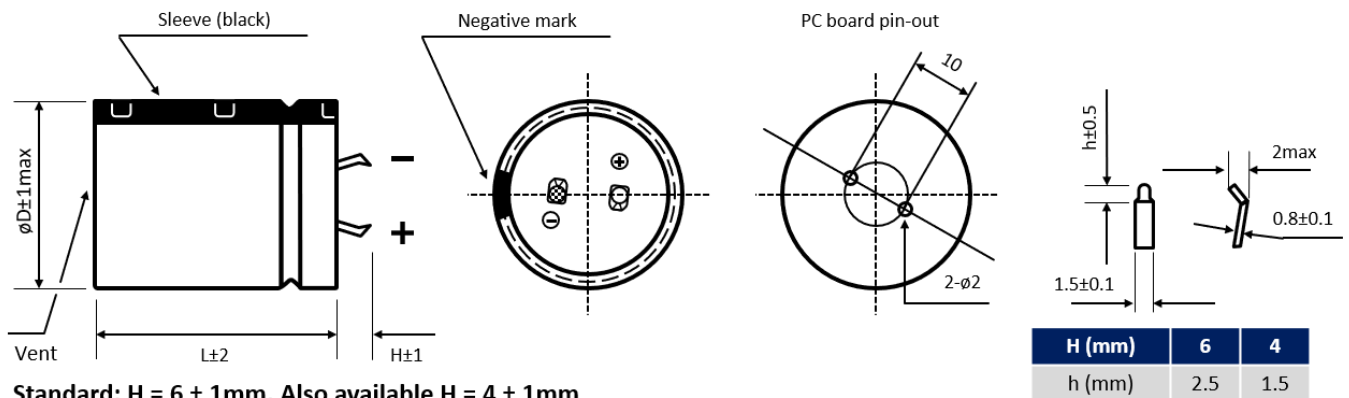
V_R (V)	C_R (μ F)	ϕD (mm)	L (mm)	Typ. ESR +20°C - 120Hz (m Ω)	Max. ESR +20°C - 120Hz (m Ω)	I_R - Max. Ripple Current +85°C - 120Hz (mA rms)	CapXon Part Number
500	270	35	40	580	980	1770	UB271M500P400A □□
	330	35	40	470	800	1790	UB331M500P400A □□
	330	35	45	470	800	1880	UB331M500P450A □□
	330	40	40	470	800	1880	UB331M500Q400A □□
	390	35	45	400	680	2120	UB391M500P450A □□
	390	35	50	400	680	2360	UB391M500P500A □□
	390	40	45	400	680	2410	UB391M500Q450A □□
	470	35	50	330	560	2420	UB471M500P500A □□
	470	35	55	330	560	2560	UB471M500P550A □□
	470	40	50	330	560	2600	UB471M500Q500A □□
	470	45	40	330	560	2580	UB471M500V400A □□
	560	35	55	280	470	2560	UB561M500P550A □□
	560	35	70	280	470	2820	UB561M500P700A □□
	560	40	55	280	470	2730	UB561M500Q550A □□
	560	45	45	280	470	2700	UB561M500V450A □□
	680	35	65	230	390	2700	UB681M500P650A □□
	680	35	70	230	390	2820	UB681M500P700A □□
	680	40	65	230	390	2890	UB681M500Q650A □□
	680	45	50	230	390	2820	UB681M500V500A □□
	820	35	95	190	320	3300	UB821M500P950A □□
	820	40	65	190	320	3000	UB821M500Q650A □□
	820	45	60	190	320	3200	UB821M500V600A □□
	1000	40	85	160	270	3700	UB102M500Q850A □□
	1000	45	70	160	270	3650	UB102M500V700A □□
1200	45	80	130	220	4150	UB122M500V800A □□	
1500	45	100	110	180	4950	UB152M500VA00A □□	

- : Enter **P6** for standard type ▪ 6mm pin length
- : Enter **Z6** for 3-pin type ▪ 6mm pin length
- : Enter **Y6** for multipin-type ▪ 6mm pin length

- : Enter **P4** for standard type ▪ 4mm pin length
- : Enter **Z4** for 3-pin type ▪ 4mm pin length
- : Enter **Y4** for multipin type ▪ 4mm pin length

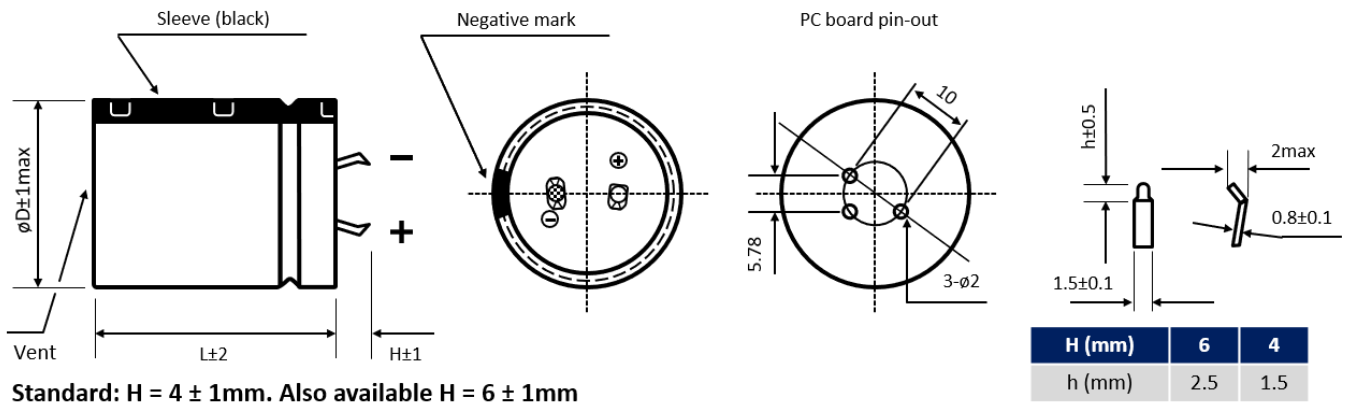
DIMENSIONS ▪ All dimensions in mm

2-pin version ▪ Standard type



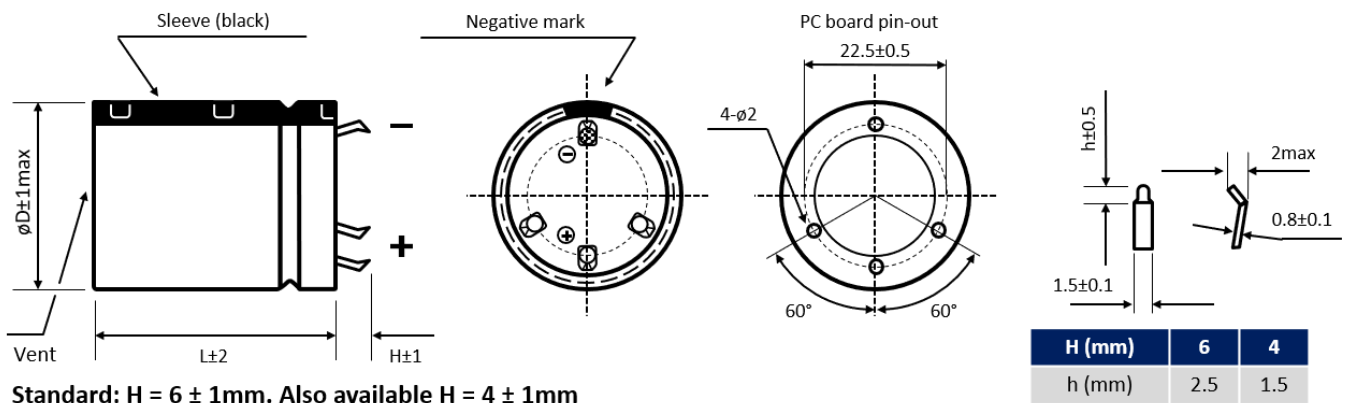
DIMENSIONS ▪ All dimensions in mm

3-pin version ▪ Polarity protection



Standard: H = 4 ± 1mm. Also available H = 6 ± 1mm

Multipin version ▪ Diameter $\phi D \geq 30$ mm



Standard: H = 6 ± 1mm. Also available H = 4 ± 1mm

Further possible terminal styles can be found in our packaging information liquid snap-in.

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

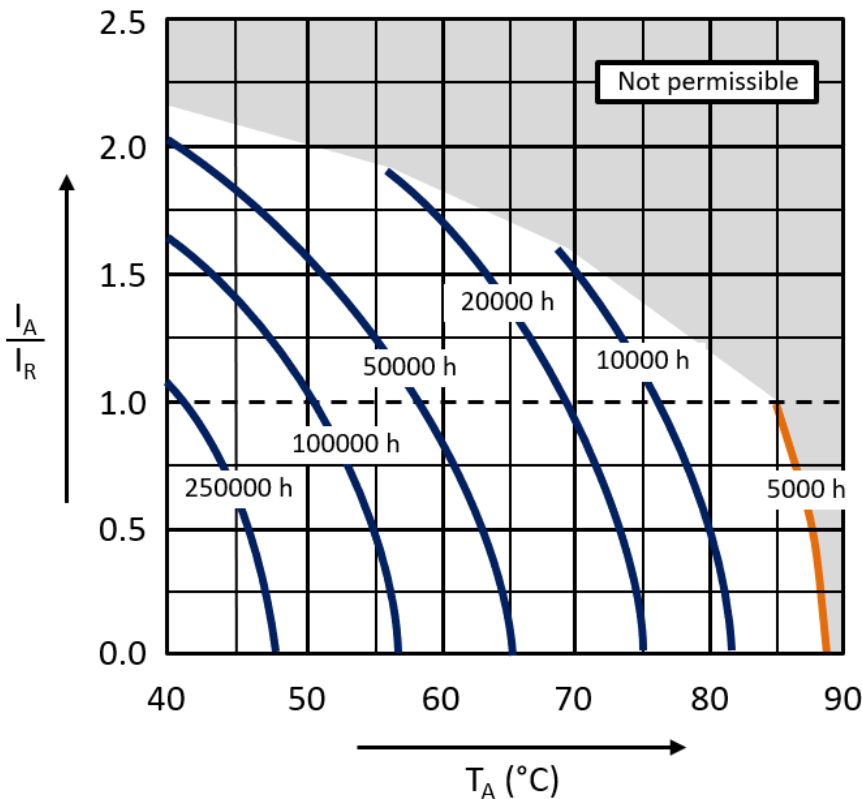
V_R (V) / Frequency (Hz)	50/60	100/120	300	1k	10k	50k - 100k
$200 \leq V_R \leq 250$	0.81	1	1.17	1.32	1.45	1.5
$315 \leq V_R \leq 500$	0.77	1	1.16	1.3	1.41	1.43

PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION

Unless otherwise agreed in individual specifications, all products are subject to our "General Precautions and Guidelines" as well as our "Packaging Information". Please refer to the following links in the table.

General Precautions & Guidelines	Packaging Information	Vibration Test Profiles	3D Models

USEFUL LIFE



With: I_A : Application current
 I_R : Rated ripple current (A RMS)
 T_A : Application temperature of the capacitor

DISCLAIMER

All product related data (e.g. specification, statements and general information) are subject to change without any notice. It is necessary that the customer observes all product related technical / application information and handling instructions.

CapXon products are designed and manufactured according to severe quality and safety standards. Under no circumstance, CapXon warrants that any CapXon product is suitable for the purposes intended for your application, even CapXon knows the application. It is customer's duty and obligation to check and make sure that CapXon products are suitable for the purposes intended and select the correct and proper CapXon product. Customers are requested to perform a sufficient validation and reliability evaluation to assure needed safety level and reliability performance by suitable designs and to apply proper safeguards (e.g. redundancies, protective circuits).

Particular operating conditions (ambient temperature, ripple current, voltage, thermal resistance, etc.) as well as storage, production or assembly may affect the performance and the lifetime of the capacitor. Please consult CapXon for lifetime estimation, failure mode considerations or worst-case scenarios according to the product technology, product tolerances / deviations or change of the characteristics of the capacitor due to shipment, storage, handling, production and usage.

For aerospace or military application, life-saving, life-sustaining, safety critical applications or any application where failure may cause severe personal injury or death, please consult us before design-in the capacitor in your application.

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