

### UK SERIES ▪ STANDARD SIZE, AUTOMOTIVE 105°C TYPE

#### KEY FEATURES



STANDARD SIZE



HIGH VOLTAGE



AEC-Q 200

- **ALUMINUM ELECTROLYTIC CAPACITOR ▪ Snap-In type**
- Endurance: 105°C ▪ 3 000 hours, Useful life: 105°C ▪ 8 000 hours
- AEC-Q200 version available
- Especially for applications with demanding operating environment
- **Extremely stable dissipation factor and leakage current**



#### SPECIFICATIONS

Items		Performance Characteristics			
Operating Temperature Range		-40 ~ +105°C		-25 ~ +105°C	
Rated Voltage Range	V <sub>R</sub>	200 ~ 450V DC		500 ~ 550V DC	
Surge Voltage	V <sub>S</sub>	(V <sub>R</sub> ≤ 315V) ▫ V <sub>S</sub> = 1.15·V <sub>R</sub>		(V <sub>R</sub> > 315V) ▫ V <sub>S</sub> = 1.10·V <sub>R</sub>	
Capacitance Range	C <sub>R</sub>	68 ~ 2200μF		47 ~ 680μF	
Cap. Tolerance	ΔC	±20% (120Hz ▫ 20°C)			
Leakage Current (20°C ▫ V <sub>R</sub> applied)	I <sub>LEAK</sub>	≤ 3 · √C <sub>R</sub> · V <sub>R</sub> ▫ After 5 minutes [ I <sub>LEAK</sub> (μA) ; C <sub>R</sub> (μF) ; V <sub>R</sub> (V) ]			
Dissipation Factor % (20°C ▫ 120Hz)	tanδ	V <sub>R</sub> (V DC)	200 ~ 400		450 ~ 550
		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 <sub>R</sub> (V DC)	200 ~ 250	315 ~ 450	500 ~ 550
		Z-25°C/Z+20°C	4	5	6
		Z-40°C/Z+20°C	7	10	-

Lifetime Test		
Useful Life 105°C ( $V_R$ & $I_R$ applied)	Test	<b>8 000 hours</b>
	$\Delta C/C_R$	$\leq \pm 20\%$ of initial measured value
	$\tan \delta$	$\leq 200\%$ of initial specified value
	$I_{Leak}$	$\leq$ the initial specified value
	Deviation Rate at Useful Life: 100 FIT = 0.01%/1000h with 60% confidence level ▪ parts show higher drift as test criteria	
Endurance 105°C ( $V_R$ & $I_R$ applied)	Test	<b>3 000 hours</b>
	$\Delta C/C_R$	$\leq \pm 15\%$ of initial measured value
	$\tan \delta$	$\leq 175\%$ of initial specified value
	$I_{Leak}$	$\leq$ the initial specified value
Shelf Life 105°C ( $V_R = 0$ )	Test	<b>1 000 hours</b>
	$\Delta C/C_R$	$\leq \pm 15\%$ of initial measured value
	$\tan \delta$	$\leq 175\%$ of initial specified value
	$I_{Leak}$	$\leq$ 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 <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
200	330	22	25	320	600	1380	UK331M200M250A□□□
	390	22	25	280	510	1450	UK391M200M250A□□□
	470	22	30	230	420	1680	UK471M200M300A□□□
	470	25	25	230	420	1680	UK471M200N250A□□□
	560	22	35	190	360	1810	UK561M200M350A□□□
	560	25	30	190	360	1780	UK561M200N300A□□□
	560	30	25	190	360	1960	UK561M200O250A□□□
	680	22	40	160	290	2150	UK681M200M400A□□□
	680	25	35	160	290	2060	UK681M200N350A□□□
	680	30	25	160	290	2170	UK681M200O250A□□□
	820	22	45	130	240	2420	UK821M200M450A□□□
	820	25	35	130	240	2220	UK821M200N350A□□□
	820	30	25	130	240	2340	UK821M200O250A□□□
	1000	25	45	110	200	2720	UK102M200N450A□□□
	1000	30	30	110	200	2910	UK102M200O300A□□□
	1000	35	25	110	200	3140	UK102M200P250A□□□
	1200	25	50	92	170	2870	UK122M200N500A□□□
	1200	30	35	92	170	3420	UK122M200O350A□□□
	1200	35	30	92	170	3380	UK122M200P300A□□□
	1500	25	60	70	130	3290	UK152M200N600A□□□
	1500	30	45	70	130	4120	UK152M200O450A□□□
	1500	35	35	70	130	3910	UK152M200P350A□□□
	1800	30	50	59	110	4330	UK182M200O500A□□□
	1800	35	40	59	110	4460	UK182M200P400A□□□
	2200	30	60	49	90	4750	UK222M200O600A□□□
	2200	35	45	49	90	5110	UK222M200P450A□□□
250	220	22	25	490	900	1150	UK221M250M250A□□□
	270	22	25	400	740	1210	UK271M250M250A□□□
	330	22	30	320	600	1520	UK331M250M300A□□□
	330	25	25	320	600	1450	UK331M250N250A□□□
	390	22	35	280	510	1720	UK391M250M350A□□□
	390	22	40	280	510	1820	UK391M250M400A□□□
	390	25	30	280	510	1580	UK391M250N300A□□□
	390	30	25	280	510	1620	UK391M250O250A□□□
	470	22	40	230	420	1960	UK471M250M400A□□□
	470	25	30	230	420	1720	UK471M250N300A□□□
	470	30	25	230	420	1880	UK471M250O250A□□□
	560	22	45	190	360	2160	UK561M250M450A□□□
	560	25	35	190	360	1960	UK561M250N350A□□□
	560	30	30	190	360	2220	UK561M250O300A□□□
	560	35	25	190	360	2080	UK561M250P250A□□□
	680	22	50	160	290	2410	UK681M250M500A□□□
	680	25	40	160	290	2210	UK681M250N400A□□□
	680	30	30	160	290	2350	UK681M250O300A□□□

□□□ see description at end of standard ratings

## STANDARD RATINGS

V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
250	680	35	25	160	290	2500	UK681M250P250A□□□
	820	30	35	130	240	2780	UK821M250O350A□□□
	820	35	30	130	240	2900	UK821M250P300A□□□
	1000	30	40	110	200	3300	UK102M250O400A□□□
	1000	35	35	110	200	3360	UK102M250P350A□□□
	1200	30	50	92	170	3850	UK122M250O500A□□□
	1200	35	40	92	170	3820	UK122M250P400A□□□
	1500	30	55	70	130	4330	UK152M250O550A□□□
	1500	35	45	70	130	4340	UK152M250P450A□□□
	1800	35	50	59	110	4700	UK182M250P500A□□□
	2200	35	60	49	90	5580	UK222M250P600A□□□
315	150	22	25	720	1330	1000	UK151M315M250A□□□
	180	22	30	600	1110	1150	UK181M315M300A□□□
	220	22	30	490	900	1300	UK221M315M300A□□□
	220	25	25	490	900	1300	UK221M315N250A□□□
	270	22	35	400	740	1410	UK271M315M350A□□□
	270	25	30	400	740	1420	UK271M315N300A□□□
	330	22	40	320	600	1740	UK331M315M400A□□□
	330	25	35	320	600	1580	UK331M315N350A□□□
	330	30	25	320	600	1620	UK331M315O250A□□□
	390	22	50	280	510	1940	UK391M315M500A□□□
	390	25	35	280	510	1700	UK391M315N350A□□□
	390	30	30	280	510	1780	UK391M315O300A□□□
	390	35	25	280	510	1800	UK391M315P250A□□□
	470	22	55	230	420	2050	UK471M315M550A□□□
	470	25	45	230	420	2040	UK471M315N450A□□□
	470	30	35	230	420	2030	UK471M315O350A□□□
	470	35	30	230	420	2070	UK471M315P300A□□□
	560	25	50	190	360	2280	UK561M315N500A□□□
	560	30	35	190	360	2230	UK561M315O350A□□□
	560	35	30	190	360	2250	UK561M315P300A□□□
	680	25	55	160	290	2700	UK681M315N550A□□□
	680	30	40	160	290	2660	UK681M315O400A□□□
	680	35	35	160	290	2700	UK681M315P350A□□□
	820	30	50	130	240	3120	UK821M315O500A□□□
	820	35	40	130	240	3100	UK821M315P400A□□□
	1000	30	55	110	200	3640	UK102M315O550A□□□
	1000	35	45	110	200	3560	UK102M315P450A□□□
	1200	35	50	92	170	4050	UK122M315P500A□□□
	1500	35	60	70	130	4350	UK152M315P600A□□□
350	100	22	25	1080	1990	740	UK101M350M250A□□□
	100	25	20	1080	1990	520	UK101M350N200A□□□
	120	22	25	900	1660	920	UK121M350M250A□□□
	150	22	30	720	1330	1060	UK151M350M300A□□□

□□□ see description at end of standard ratings

## STANDARD RATINGS

V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
350	180	22	30	600	1110	1170	UK181M350M300A□□□
	180	25	25	600	1110	1170	UK181M350N250A□□□
	220	22	35	490	900	1320	UK221M350M350A□□□
	220	22	40	490	900	1400	UK221M350M400A□□□
	220	25	30	490	900	1330	UK221M350N300A□□□
	220	30	25	490	900	1350	UK221M350O250A□□□
	270	22	45	400	740	1550	UK271M350M450A□□□
	270	25	35	400	740	1470	UK271M350N350A□□□
	270	30	25	400	740	1370	UK271M350O250A□□□
	330	22	50	320	600	1760	UK331M350M500A□□□
	330	25	40	320	600	1680	UK331M350N400A□□□
	330	30	30	320	600	1640	UK331M350O300A□□□
	330	35	25	320	600	1690	UK331M350P250A□□□
	390	25	45	280	510	1860	UK391M350N450A□□□
	390	30	35	280	510	1840	UK391M350O350A□□□
	390	35	30	280	510	1870	UK391M350P300A□□□
	470	25	50	230	420	2090	UK471M350N500A□□□
	470	30	40	230	420	2090	UK471M350O400A□□□
	470	35	30	230	420	2080	UK471M350P300A□□□
	560	30	45	190	360	2240	UK561M350O450A□□□
	560	35	35	190	360	2260	UK561M350P350A□□□
	680	30	50	160	290	2670	UK681M350O500A□□□
	680	35	40	160	290	2710	UK681M350P400A□□□
	820	35	45	130	240	3110	UK821M350P450A□□□
	820	35	50	130	240	3250	UK821M350P500A□□□
	1000	35	55	110	200	3580	UK102M350P550A□□□
	1200	35	60	92	170	4100	UK122M350P600A□□□
400	82	22	25	1310	2430	610	UK820M400M250A□□□
	100	22	25	1080	1990	670	UK101M400M250A□□□
	120	22	30	900	1660	790	UK121M400M300A□□□
	120	25	25	900	1660	790	UK121M400N250A□□□
	120	25	30	900	1660	850	UK121M400N300A□□□
	150	22	35	720	1330	950	UK151M400M350A□□□
	150	22	40	720	1330	1000	UK151M400M400A□□□
	150	25	25	720	1330	890	UK151M400N250A□□□
	150	25	30	720	1330	960	UK151M400N300A□□□
	150	30	25	720	1330	990	UK151M400O250A□□□
	180	22	35	600	1110	1040	UK181M400M350A□□□
	180	22	40	600	1110	1100	UK181M400M400A□□□
	180	25	30	600	1110	1050	UK181M400N300A□□□
	180	25	35	600	1110	1120	UK181M400N350A□□□
	180	30	25	600	1110	1090	UK181M400O250A□□□
	180	30	30	600	1110	1170	UK181M400O300A□□□
	220	22	45	490	900	1200	UK221M400M450A□□□
	220	25	35	490	900	1200	UK221M400N350A□□□

□□□ see description at end of standard ratings

## STANDARD RATINGS

V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
400	220	25	45	490	900	1240	UK221M400N450A□□□
	220	30	25	490	900	1150	UK221M400O250A□□□
	220	30	30	490	900	1240	UK221M400O300A□□□
	220	35	25	490	900	1240	UK221M400P250A□□□
	270	22	50	400	740	1320	UK271M400M500A□□□
	270	25	40	400	740	1290	UK271M400N400A□□□
	270	25	50	400	740	1420	UK271M400N500A□□□
	270	30	30	400	740	1270	UK271M400O300A□□□
	270	30	35	400	740	1350	UK271M400O350A□□□
	270	35	25	400	740	1300	UK271M400P250A□□□
	270	35	30	400	740	1390	UK271M400P300A□□□
	330	25	45	320	600	1500	UK331M400N450A□□□
	330	25	50	320	600	1570	UK331M400N500A□□□
	330	30	35	320	600	1500	UK331M400O350A□□□
	330	30	40	320	600	1580	UK331M400O400A□□□
	330	35	30	320	600	1540	UK331M400P300A□□□
	330	35	35	320	600	1640	UK331M400P350A□□□
	390	25	50	280	510	1700	UK391M400N500A□□□
	390	30	40	280	510	1720	UK391M400O400A□□□
	390	30	45	280	510	1800	UK391M400O450A□□□
	390	35	30	280	510	1700	UK391M400P300A□□□
	390	35	35	280	510	1780	UK391M400P350A□□□
	470	30	45	230	420	1980	UK471M400O450A□□□
	470	30	50	230	420	2070	UK471M400O500A□□□
	470	35	35	230	420	1980	UK471M400P350A□□□
	470	35	40	230	420	2070	UK471M400P400A□□□
	470	35	45	230	420	2160	UK471M400P450A□□□
	560	30	50	190	360	2260	UK561M400O500A□□□
	560	35	40	190	360	2260	UK561M400P400A□□□
	560	35	45	190	360	2360	UK561M400P450A□□□
	680	30	50	160	290	2490	UK681M400O500A□□□
	680	35	45	160	290	2600	UK681M400P450A□□□
	680	35	50	160	290	2720	UK681M400P500A□□□
	820	35	55	130	240	3110	UK821M400P550A□□□
	820	35	60	130	240	3230	UK821M400P600A□□□
	1000	35	55	110	200	3440	UK102M400P550A□□□
	1000	35	60	110	200	3570	UK102M400P600A□□□
	1200	35	60	92	170	3910	UK122M400P600A□□□
450	68	22	25	2110	3900	550	UK680M450M250A□□□
	82	22	25	1750	3230	610	UK820M450M250A□□□
	100	22	30	1430	2650	720	UK101M450M300A□□□
	100	25	25	1430	2650	720	UK101M450N250A□□□
	120	22	35	1190	2210	850	UK121M450M350A□□□
	120	22	40	1190	2210	900	UK121M450M400A□□□
	120	25	30	1190	2210	850	UK121M450N300A□□□

□□□ see description at end of standard ratings

## STANDARD RATINGS

V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>r</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
450	120	25	35	1190	2210	910	UK121M450N350A□□□
	120	30	25	1190	2210	850	UK121M450O250A□□□
	150	22	40	960	1770	1000	UK151M450M400A□□□
	150	25	30	960	1770	960	UK151M450N300A□□□
	150	25	35	960	1770	1020	UK151M450N350A□□□
	150	30	25	960	1770	1000	UK151M450O250A□□□
	150	30	30	960	1770	1060	UK151M450O300A□□□
	150	35	25	960	1770	1090	UK151M450P250A□□□
	180	22	45	790	1470	1160	UK181M450M450A□□□
	180	22	50	790	1470	1210	UK181M450M500A□□□
	180	25	35	790	1470	1120	UK181M450N350A□□□
	180	25	40	790	1470	1210	UK181M450N400A□□□
	180	30	30	790	1470	1210	UK181M450O300A□□□
	180	30	35	790	1470	1240	UK181M450O350A□□□
	180	35	25	790	1470	1210	UK181M450P250A□□□
	180	35	30	790	1470	1280	UK181M450P300A□□□
	220	25	40	650	1210	1240	UK221M450N400A□□□
	220	25	45	650	1210	1280	UK221M450N450A□□□
	220	30	30	650	1210	1240	UK221M450O300A□□□
	220	30	35	650	1210	1280	UK221M450O350A□□□
	220	35	25	650	1210	1240	UK221M450P250A□□□
	220	35	30	650	1210	1280	UK221M450P300A□□□
	270	25	50	530	980	1420	UK271M450N500A□□□
	270	30	30	530	980	1280	UK271M450O300A□□□
	270	30	35	530	980	1350	UK271M450O350A□□□
	270	35	30	530	980	1390	UK271M450P300A□□□
	270	35	35	530	980	1480	UK271M450P350A□□□
	330	30	40	430	800	1580	UK331M450O400A□□□
	330	30	45	430	800	1660	UK331M450O450A□□□
	330	35	30	430	800	1580	UK331M450P300A□□□
	330	35	35	430	800	1660	UK331M450P350A□□□
	390	30	45	370	680	1800	UK391M450O450A□□□
	390	30	50	370	680	1890	UK391M450O500A□□□
	390	35	40	370	680	1890	UK391M450P400A□□□
	390	35	45	370	680	1970	UK391M450P450A□□□
	470	30	50	300	560	2080	UK471M450O500A□□□
	470	35	35	300	560	1970	UK471M450P350A□□□
	470	35	40	300	560	2080	UK471M450P400A□□□
	470	35	45	300	560	2160	UK471M450P450A□□□
	560	35	50	250	470	2470	UK561M450P500A□□□
	560	35	55	250	470	2570	UK561M450P550A□□□
	680	35	50	210	390	2720	UK681M450P500A□□□
	680	35	60	210	390	2940	UK681M450P600A□□□
	820	35	60	170	320	3230	UK821M450P600A□□□
	820	35	65	170	320	3350	UK821M450P650A□□□

□□□ see description at end of standard ratings

## STANDARD RATINGS

V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
500	47	22	25	3050	5640	450	UK470M500M250A□□□
	56	22	30	2560	4740	520	UK560M500M300A□□□
	68	22	30	2110	3900	520	UK680M500M300A□□□
	68	22	35	2110	3900	560	UK680M500M350A□□□
	68	25	25	2110	3900	540	UK680M500N250A□□□
	68	25	30	2110	3900	580	UK680M500N300A□□□
	82	22	35	1750	3230	700	UK820M500M350A□□□
	82	25	30	1750	3230	710	UK820M500N300A□□□
	100	22	40	1430	2650	810	UK101M500M400A□□□
	100	25	35	1430	2650	860	UK101M500N350A□□□
	100	30	30	1430	2650	850	UK101M500O300A□□□
	120	22	50	1190	2210	980	UK121M500M500A□□□
	120	25	40	1190	2210	950	UK121M500N400A□□□
	120	30	35	1190	2210	1000	UK121M500O350A□□□
	120	35	30	1190	2210	1030	UK121M500P300A□□□
	150	22	50	960	1770	1100	UK151M500M500A□□□
	150	25	45	960	1770	1130	UK151M500N450A□□□
	150	30	40	960	1770	1190	UK151M500O400A□□□
	150	35	35	960	1770	1230	UK151M500P350A□□□
	180	25	50	790	1470	1240	UK181M500N500A□□□
	180	30	45	790	1470	1310	UK181M500O450A□□□
	220	25	55	650	1210	1450	UK221M500N550A□□□
	220	30	45	650	1210	1470	UK221M500O450A□□□
	220	35	40	650	1210	1530	UK221M500P400A□□□
	220	35	35	650	1210	1450	UK221M500P350A□□□
	270	30	50	530	980	1550	UK271M500O500A□□□
	270	35	40	530	980	1620	UK271M500P400A□□□
	330	30	55	430	800	1890	UK331M500O550A□□□
	390	35	45	370	680	1850	UK391M500P450A□□□
	390	35	55	370	680	2020	UK391M500P550A□□□
	470	35	60	300	560	2280	UK471M500P600A□□□
	560	35	65	250	470	2320	UK561M500P650A□□□
	680	40	60	210	390	2450	UK681M500Q600A□□□
550	220	35	35	650	1210	1300	UK221M550P350A□□□
	270	35	45	530	980	1600	UK271M550P450A□□□
	330	35	50	430	800	1630	UK331M550P500A□□□
	390	35	55	370	680	1800	UK391M550P550A□□□
	470	35	65	300	560	2100	UK471M550P650A□□□

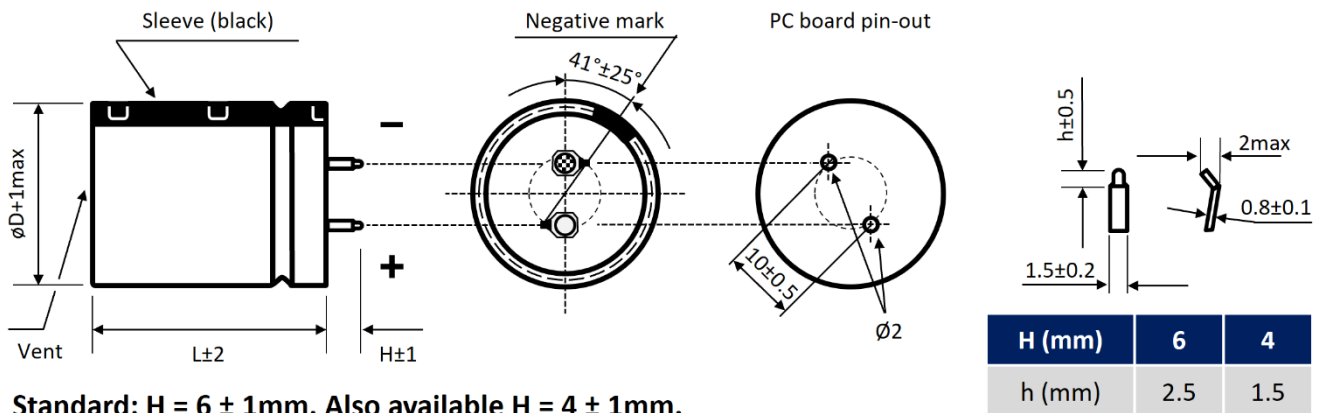
□□□: Enter **P6** for standard type • 6mm pin length  
□□□: Enter **P6X** for standard type • 6mm pin length • AEC-Q200  
□□□: Enter **Z6** for 3-pin type • 6mm pin length  
□□□: Enter **Z6X** for 3-pin type • 6mm pin length • AEC-Q200  
□□□: Enter **Y6** for multi-pin type • 6mm pin length  
□□□: Enter **Y6X** for multi-pin type • 6mm pin length • AEC-Q200

□□□: Enter **P4** for standard type • 4mm pin length  
□□□: Enter **P4X** for standard type • 4mm pin length • AEC-Q200  
□□□: Enter **Z4** for 3-pin type • 4mm pin length  
□□□: Enter **Z4X** for 3-pin type • 4mm pin length • AEC-Q200  
□□□: Enter **Y4** for multi-pin type • 4mm pin length  
□□□: Enter **Y4X** for multi-pin type • 4mm pin length • AEC-Q200



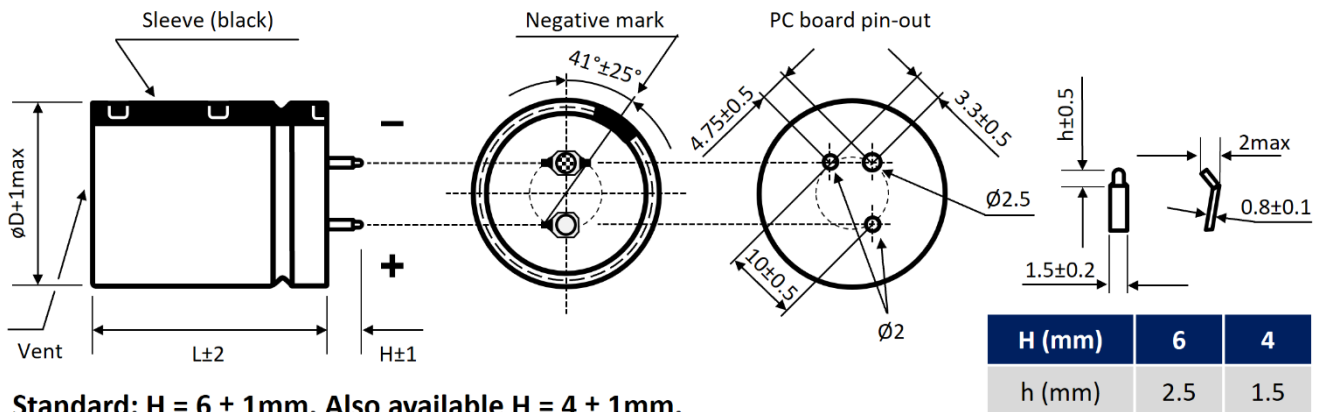
### DIMENSIONS ▪ All dimensions in mm

#### 2-pin version ▪ Standard type



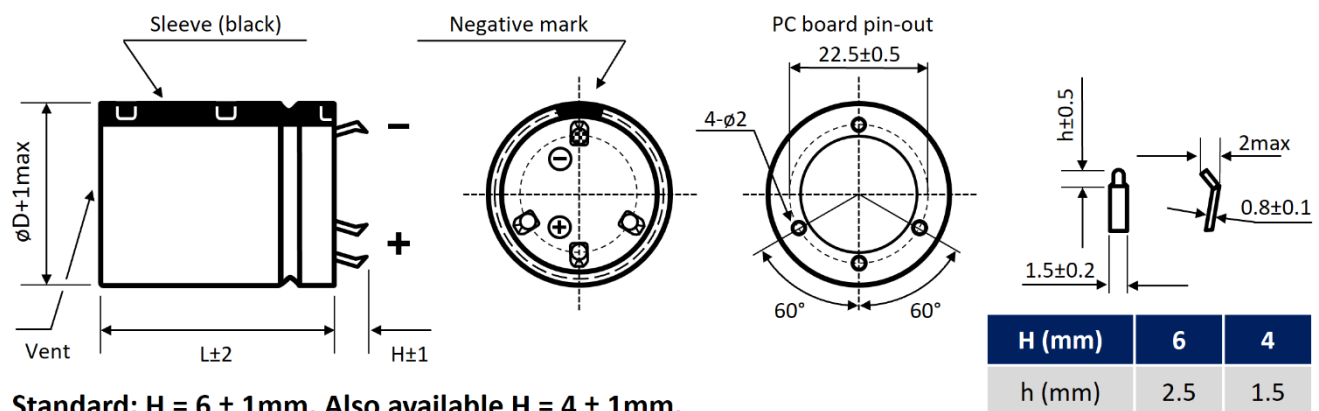
Standard:  $H = 6 \pm 1\text{mm}$ . Also available  $H = 4 \pm 1\text{mm}$ .

#### 3-pin version ▪ Polarity protection



Standard:  $H = 6 \pm 1\text{mm}$ . Also available  $H = 4 \pm 1\text{mm}$ .

#### Multipin version ▪ Diameter $\phi D \geq 30\text{ mm}$



Standard:  $H = 6 \pm 1\text{mm}$ . Also available  $H = 4 \pm 1\text{mm}$ .

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




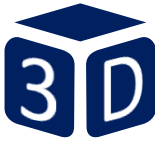



### MULTIPLIER $K_f$ for RIPPLE CURRENT vs. FREQUENCY

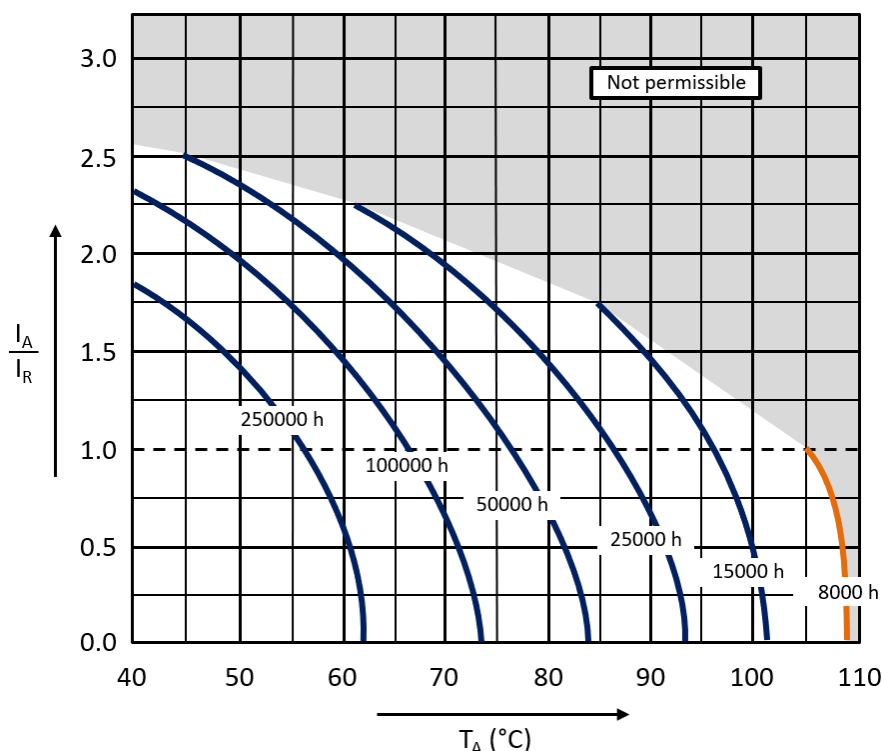
$V_R$ (V) / Frequency (Hz)	50/60	100/120	300	1k	10k	50k - 100k
$200 \leq V_R \leq 250$	0.81	1	1.17	1.32	1.45	1.5
$315 \leq V_R \leq 550$	0.77	1	1.16	1.3	1.41	1.43

### 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.

				
<a href="#">General Precautions &amp; Guidelines</a>	<a href="#">Packaging Information</a>	<a href="#">Vibration Test Profiles</a>	<a href="#">3D Models</a>	<a href="#">Reliability Tests</a>

### USEFUL LIFE

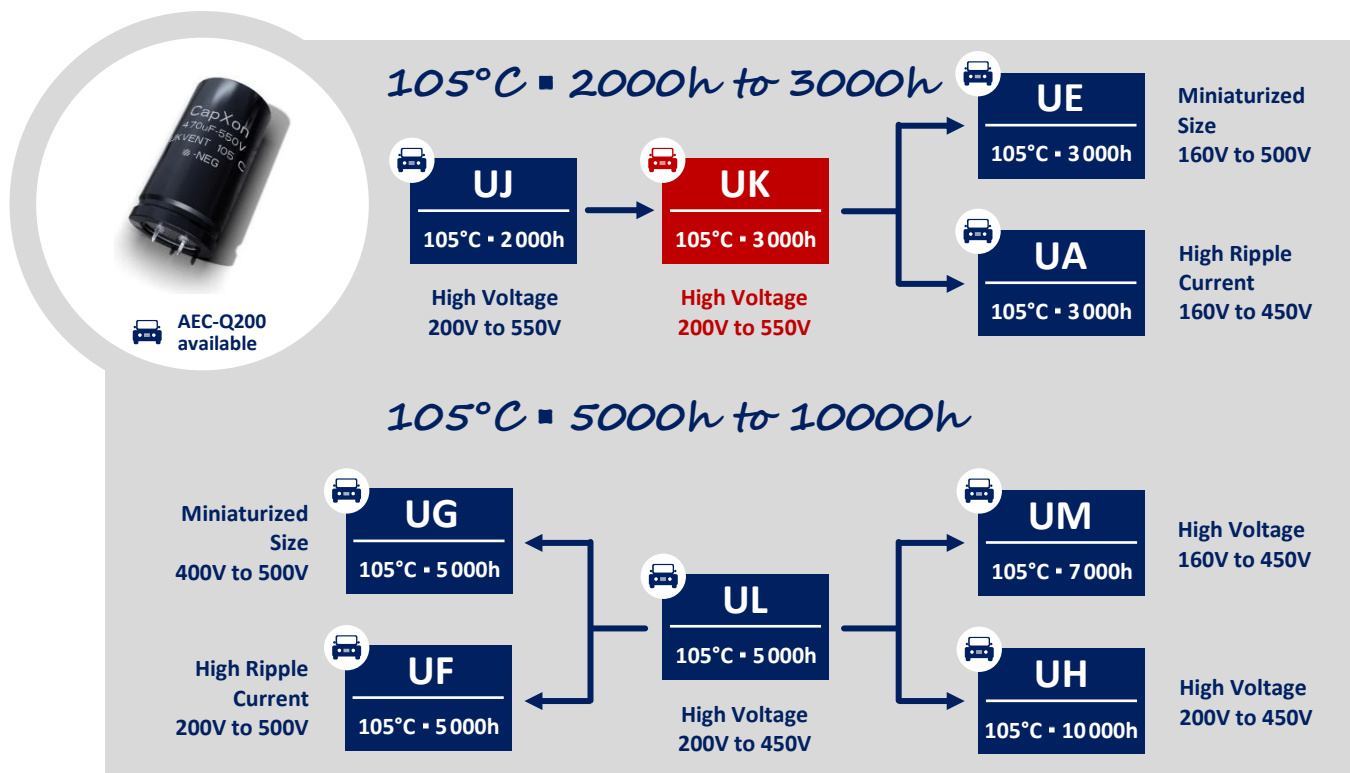


With:  $I_A$ : Application current

$I_R$ : Rated ripple current (A RMS)

$T_A$ : Application temperature of the capacitor

### GROUP CHART



#### 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.

Except for the written expressed warranties, CapXon does not impliedly, by assumption or whatever else, warrant, undertake, promise any other warranty or guaranty for any CapXon product.

For further information, please visit our website [www.capxongroup.com](http://www.capxongroup.com) or contact CapXon directly.