

### UJ 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 ▪ 2 000 hours, Useful life: 105°C ▪ 5 000 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	$V_R$	200 ~ 450V DC	500 ~ 550V DC
Surge Voltage	$V_S$	$(V_R \leq 315V) \cdot V_S = 1.15 \cdot V_R$ $(V_R > 315V) \cdot V_S = 1.10 \cdot V_R$	
Capacitance Range	$C_R$	82 ~ 3300µF	47 ~ 1000µF
Cap. Tolerance	$\Delta C$	$\pm 20\%$ (120Hz ▪ 20°C)	
Leakage Current (20°C ▪ $V_R$ applied)	$I_{LEAK}$	$\leq 3 \cdot \sqrt{C_R \cdot V_R}$ ▪ After 5 minutes $[ I_{LEAK} (\mu A) ; C_R (\mu F) ; V_R (V) ]$	
Dissipation Factor % (20°C ▪ 120Hz)	$\tan \delta$	$V_R$ (V DC)	200 ~ 400
		$\tan \delta$	15
Self-Resistance (20°C ▪ 120Hz)	ESR	450 ~ 550	
		20	
Low Temperature Characteristics at 120Hz	Z ratio max.	Not to exceed the values shown in standard ratings	
		$V_R$ (V DC)	200 ~ 250
		315 ~ 450	500 ~ 550
		Z-25°C/Z+20°C	4
		Z-40°C/Z+20°C	7
		10	-

Lifetime Test	
Useful Life 105°C ( $V_R$ & $I_R$ applied)	Test <b>5 000 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>2 000 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
Vibration Resistance Test	Before measurement: Restore capacitor to 20°C, apply $V_R$ for 30 min according JIS-C-5101-4
	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	330	600	1130	UJ331M200M250A□□□
	390	22	25	280	510	1210	UJ391M200M250A□□□
	390	22	30	280	510	1250	UJ391M200M300A□□□
	390	25	25	280	510	1310	UJ391M200N250A□□□
	470	22	30	230	420	1400	UJ471M200M300A□□□
	470	25	25	230	420	1400	UJ471M200N250A□□□
	470	25	30	230	420	1520	UJ471M200N300A□□□
	560	22	35	200	360	1610	UJ561M200M350A□□□
	560	25	30	200	360	1610	UJ561M200N300A□□□
	560	30	25	200	360	1620	UJ561M200O250A□□□
	680	22	40	160	290	1860	UJ681M200M400A□□□
	680	25	30	160	290	1690	UJ681M200N300A□□□
	680	30	25	160	290	1980	UJ681M200O250A□□□
	820	22	45	130	240	2140	UJ821M200M450A□□□
	820	25	35	130	240	2140	UJ821M200N350A□□□
	820	30	30	130	240	2290	UJ821M200O300A□□□
	1000	22	50	110	200	2480	UJ102M200M500A□□□
	1000	25	40	110	200	2480	UJ102M200N400A□□□
	1000	30	30	110	200	2520	UJ102M200O300A□□□
	1000	35	25	110	200	2440	UJ102M200P250A□□□
	1200	25	45	94	170	2890	UJ122M200N450A□□□
	1200	30	35	94	170	2890	UJ122M200O350A□□□
	1200	35	30	94	170	3030	UJ122M200P300A□□□
	1500	25	55	72	130	3520	UJ152M200N550A□□□
	1500	30	40	72	130	3590	UJ152M200O400A□□□
	1500	35	35	72	130	3520	UJ152M200P350A□□□
	1800	30	45	61	110	4090	UJ182M200O450A□□□
	1800	35	35	61	110	3770	UJ182M200P350A□□□
	2200	30	55	50	90	4820	UJ222M200O550A□□□
	2200	35	45	50	90	4820	UJ222M200P450A□□□
	2700	35	50	41	74	5160	UJ272M200P500A□□□
	3300	35	55	33	60	5850	UJ332M200P550A□□□
250	220	22	25	500	900	910	UJ221M250M250A□□□
	270	22	25	410	740	1030	UJ271M250M250A□□□
	330	22	30	330	600	1200	UJ331M250M300A□□□
	390	22	35	280	510	1370	UJ391M250M350A□□□
	390	25	25	280	510	1260	UJ391M250N250A□□□
	470	22	35	230	420	1530	UJ471M250M350A□□□
	470	25	30	230	420	1530	UJ471M250N300A□□□
	470	30	25	230	420	1690	UJ471M250O250A□□□
	560	22	40	200	360	1760	UJ561M250M400A□□□
	560	25	35	200	360	1680	UJ561M250N350A□□□
	680	22	45	160	290	2040	UJ681M250M450A□□□
	680	25	40	160	290	2130	UJ681M250N400A□□□

□□□ 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	30	30	160	290	2130	UJ681M250O300A□□□
	680	35	25	160	290	2120	UJ681M250P250A□□□
	820	25	45	130	240	2230	UJ821M250N450A□□□
	820	30	35	130	240	2450	UJ821M250O350A□□□
	820	35	30	130	240	2620	UJ821M250P300A□□□
	1000	25	50	110	200	2570	UJ102M250N500A□□□
	1000	30	40	110	200	2850	UJ102M250O400A□□□
	1000	35	30	110	200	2770	UJ102M250P300A□□□
	1200	30	45	94	170	3420	UJ122M250O450A□□□
	1200	35	35	94	170	3260	UJ122M250P350A□□□
	1500	30	50	72	130	3720	UJ152M250O500A□□□
	1500	35	40	72	130	3780	UJ152M250P400A□□□
	1800	35	45	61	110	4090	UJ182M250P450A□□□
	2200	35	55	50	90	5040	UJ222M250P550A□□□
350	100	22	25	1110	1990	590	UJ101M350M250A□□□
	120	22	30	920	1660	690	UJ121M350M300A□□□
	120	25	25	920	1660	690	UJ121M350N250A□□□
	150	22	35	740	1330	800	UJ151M350M350A□□□
	180	25	30	620	1110	850	UJ181M350N300A□□□
	180	30	25	620	1110	890	UJ181M350O250A□□□
	220	22	40	500	900	990	UJ221M350M400A□□□
	220	25	40	500	900	1100	UJ221M350N400A□□□
	220	30	30	500	900	1080	UJ221M350O300A□□□
	220	35	25	500	900	1080	UJ221M350P250A□□□
	270	25	45	410	740	1280	UJ271M350N450A□□□
	270	30	35	410	740	1250	UJ271M350O350A□□□
	270	35	25	410	740	1250	UJ271M350P250A□□□
	330	25	50	330	600	1550	UJ331M350N500A□□□
	330	30	35	330	600	1460	UJ331M350O350A□□□
	330	35	30	330	600	1460	UJ331M350P300A□□□
	390	35	40	280	510	1920	UJ391M350P400A□□□
	470	35	45	230	420	2170	UJ471M350P450A□□□
	560	35	45	200	360	2410	UJ561M350P450A□□□
	560	40	40	200	360	2460	UJ561M350Q400A□□□
	680	35	55	160	290	2790	UJ681M350P550A□□□
	680	40	45	160	290	2790	UJ681M350Q450A□□□
	820	35	60	130	240	3210	UJ821M350P600A□□□
	820	40	50	130	240	3150	UJ821M350Q500A□□□
	820	45	40	130	240	3110	UJ821M350V400A□□□
	1000	35	60	110	200	3230	UJ102M350P600A□□□
	1000	40	50	110	200	3260	UJ102M350Q500A□□□
	1200	40	55	94	170	3680	UJ122M350Q550A□□□
	1500	40	65	72	130	4560	UJ152M350Q650A□□□
	1800	40	75	61	110	5670	UJ182M350Q750A□□□

□□□ 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	100	22	25	1110	1990	650	UJ101M400M250A□□□
	120	22	25	920	1660	920	UJ121M400M250A□□□
	150	22	30	740	1330	1080	UJ151M400M300A□□□
	180	22	30	620	1110	1150	UJ181M400M300A□□□
	180	25	25	620	1110	1120	UJ181M400N250A□□□
	220	22	35	500	900	1320	UJ221M400M350A□□□
	220	25	30	500	900	1300	UJ221M400N300A□□□
	270	22	40	410	740	1500	UJ271M400M400A□□□
	270	25	35	410	740	1490	UJ271M400N350A□□□
	270	30	25	410	740	1330	UJ271M400O250A□□□
	330	22	50	330	600	1760	UJ331M400M500A□□□
	330	25	40	330	600	1680	UJ331M400N400A□□□
	330	30	30	330	600	1550	UJ331M400O300A□□□
	330	35	25	330	600	1440	UJ331M400P250A□□□
	390	22	55	280	510	1940	UJ391M400M550A□□□
	390	25	45	280	510	1860	UJ391M400N450A□□□
	390	30	35	280	510	1750	UJ391M400O350A□□□
	390	35	30	280	510	1750	UJ391M400P300A□□□
	470	25	50	230	420	2070	UJ471M400N500A□□□
	470	30	40	230	420	1970	UJ471M400O400A□□□
	470	35	30	230	420	1910	UJ471M400P300A□□□
	560	25	60	200	360	2370	UJ561M400N600A□□□
	560	30	45	200	360	2180	UJ561M400O450A□□□
	560	35	35	200	360	1920	UJ561M400P350A□□□
	680	30	50	160	290	2410	UJ681M400O500A□□□
	680	35	40	160	290	2350	UJ681M400P400A□□□
	820	30	60	130	240	2760	UJ821M400O600A□□□
	820	35	45	130	240	2670	UJ821M400P450A□□□
	1000	35	55	110	200	3160	UJ102M400P550A□□□
	1000	40	50	110	200	3240	UJ102M400Q500A□□□
	1200	35	60	94	170	3560	UJ122M400P600A□□□
	1200	40	55	94	170	3640	UJ122M400Q550A□□□
	1500	45	70	72	130	4680	UJ152M400V700A□□□
	1800	45	80	61	110	5290	UJ182M400V800A□□□
450	82	22	25	1790	3230	590	UJ820M450M250A□□□
	100	22	30	1470	2650	690	UJ101M450M300A□□□
	100	25	25	1470	2650	690	UJ101M450N250A□□□
	120	22	35	1230	2210	720	UJ121M450M350A□□□
	150	22	35	980	1770	920	UJ151M450M350A□□□
	150	25	30	980	1770	910	UJ151M450N300A□□□
	150	30	25	980	1770	970	UJ151M450O250A□□□
	180	22	40	820	1470	1280	UJ181M450M400A□□□
	180	25	30	820	1470	1200	UJ181M450N300A□□□
	180	30	25	820	1470	1180	UJ181M450O250A□□□

□□□ 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	220	22	45	670	1210	1440	UJ221M450M450A□□□
	220	25	35	670	1210	1370	UJ221M450N350A□□□
	220	30	30	670	1210	1360	UJ221M450O300A□□□
	330	22	60	440	800	1860	UJ331M450M600A□□□
	330	25	50	440	800	1820	UJ331M450N500A□□□
	330	30	35	440	800	1640	UJ331M450O350A□□□
	330	35	30	440	800	1640	UJ331M450P300A□□□
	390	25	55	380	680	2010	UJ391M450N550A□□□
	390	30	40	380	680	1830	UJ391M450O400A□□□
	390	35	35	380	680	1830	UJ391M450P350A□□□
	470	25	60	310	560	2210	UJ471M450N600A□□□
	470	30	45	310	560	2050	UJ471M450O450A□□□
	470	35	40	310	560	2050	UJ471M450P400A□□□
	560	30	50	260	470	2260	UJ561M450O500A□□□
	560	35	45	260	470	2180	UJ561M450P450A□□□
	680	30	60	220	390	2590	UJ681M450O600A□□□
	680	35	50	220	390	2580	UJ681M450P500A□□□
	820	35	60	180	320	2800	UJ821M450P600A□□□
	820	40	50	180	320	2800	UJ821M450Q500A□□□
	1000	35	65	150	270	3210	UJ102M450P650A□□□
	1000	40	55	150	270	3210	UJ102M450Q550A□□□
	1200	40	70	120	220	3540	UJ122M450Q700A□□□
500	56	22	25	2630	4740	630	UJ560M500M250A□□□
	82	22	35	1790	3230	820	UJ820M500M350A□□□
	82	25	25	1790	3230	780	UJ820M500N250A□□□
	120	22	45	1230	2210	1050	UJ121M500M450A□□□
	120	25	35	1230	2210	1020	UJ121M500N350A□□□
	120	30	25	1230	2210	970	UJ121M500O250A□□□
	150	22	50	980	1770	1200	UJ151M500M500A□□□
	150	25	40	980	1770	1170	UJ151M500N400A□□□
	150	30	30	980	1770	1130	UJ151M500O300A□□□
	150	35	25	980	1770	1090	UJ151M500P250A□□□
	180	22	60	820	1470	1370	UJ181M500M600A□□□
	180	25	45	820	1470	1310	UJ181M500N450A□□□
	180	30	35	820	1470	1280	UJ181M500O350A□□□
	180	35	30	820	1470	1260	UJ181M500P300A□□□
	220	25	50	670	1210	1460	UJ221M500N500A□□□
	220	30	40	670	1210	1450	UJ221M500O400A□□□
	220	35	35	670	1210	1440	UJ221M500P350A□□□
	270	25	60	540	980	1700	UJ271M500N600A□□□
	270	30	45	540	980	1630	UJ271M500O450A□□□
	270	35	35	540	980	1630	UJ271M500P350A□□□
	330	30	50	440	800	1810	UJ331M500O500A□□□
	330	35	40	440	800	1710	UJ331M500P400A□□□

□□□ see description at end of standard ratings

## STANDARD RATINGS

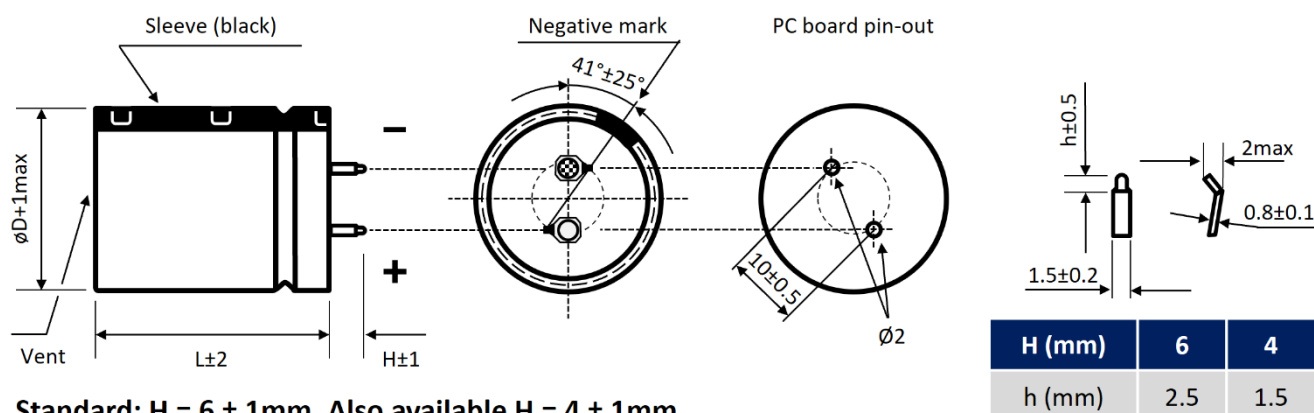
V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
500	390	30	60	380	680	2060	UJ391M500O600A□□□
	390	35	50	380	680	2060	UJ391M500P500A□□□
	470	35	55	310	560	2190	UJ471M500P550A□□□
	560	35	60	260	470	2650	UJ561M500P600A□□□
	680	40	60	220	390	3000	UJ681M500Q600A□□□
	820	40	70	180	320	4000	UJ821M500Q700A□□□
	1000	40	80	150	270	4680	UJ102M500Q800A□□□
550	47	25	25	3130	5640	470	UJ470M550N250A□□□
	56	25	30	2630	4740	540	UJ560M550N300A□□□
	68	25	35	2170	3900	620	UJ680M550N350A□□□
	68	30	25	2170	3900	650	UJ680M550O250A□□□
	82	25	35	1790	3230	690	UJ820M550N350A□□□
	82	30	30	1790	3230	730	UJ820M550O300A□□□
	100	25	40	1470	2650	800	UJ101M550N400A□□□
	100	30	35	1470	2650	840	UJ101M550O350A□□□
	100	35	25	1470	2650	870	UJ101M550P250A□□□
	120	25	50	1230	2210	920	UJ121M550N500A□□□
	120	30	35	1230	2210	940	UJ121M550O350A□□□
	120	35	30	1230	2210	1040	UJ121M550P300A□□□
	150	25	55	980	1770	1090	UJ151M550N550A□□□
	150	30	45	980	1770	1170	UJ151M550O450A□□□
	150	35	35	980	1770	1210	UJ151M550P350A□□□
	180	30	50	820	1470	1330	UJ181M550O500A□□□
	180	35	40	820	1470	1360	UJ181M550P400A□□□
	180	35	35	820	1470	1290	UJ181M550P350A□□□
	220	30	55	670	1210	1540	UJ221M550O550A□□□
	220	35	45	670	1210	1560	UJ221M550P450A□□□
	220	35	35	670	1210	1400	UJ221M550P350A□□□
	270	35	50	540	980	1790	UJ271M550P500A□□□
	270	35	40	540	980	1630	UJ271M550P400A□□□
	330	35	50	440	800	1660	UJ331M550P500A□□□
	390	35	55	380	680	1850	UJ391M550P550A□□□
	470	35	60	310	560	2100	UJ471M550P600A□□□

□□□: 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

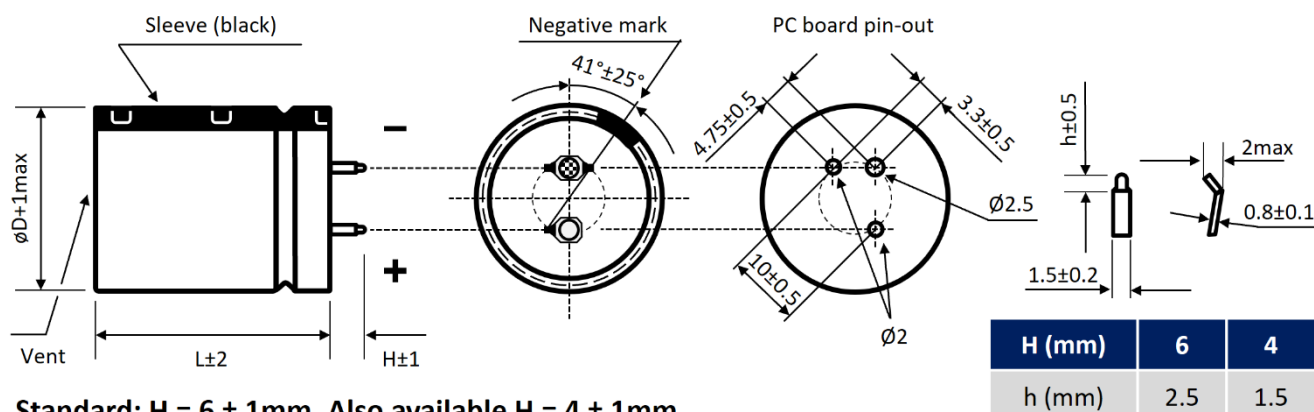
### DIMENSIONS • All dimensions in mm

#### 2-pin version • Standard type



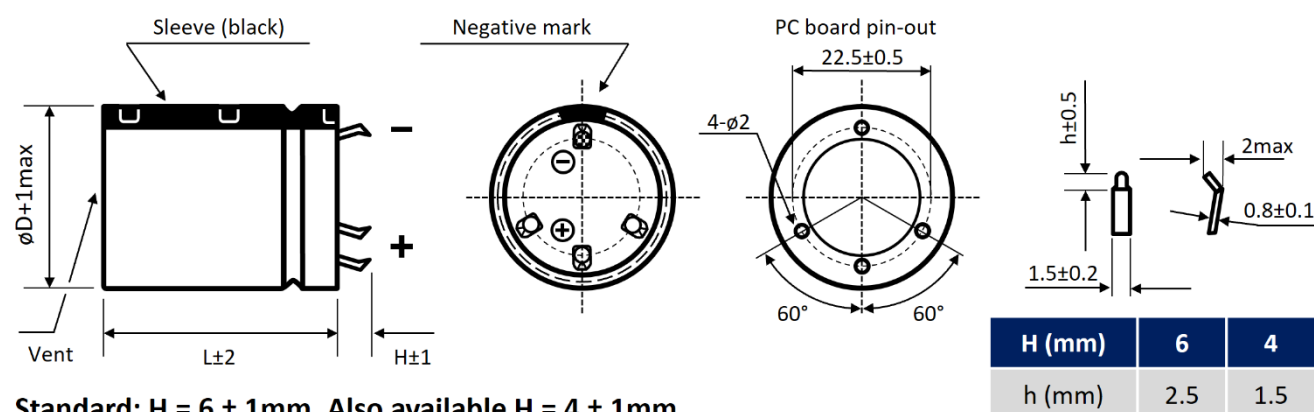
Standard:  $H = 6 \pm 1\text{mm}$ . Also available  $H = 4 \pm 1\text{mm}$ .

#### 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

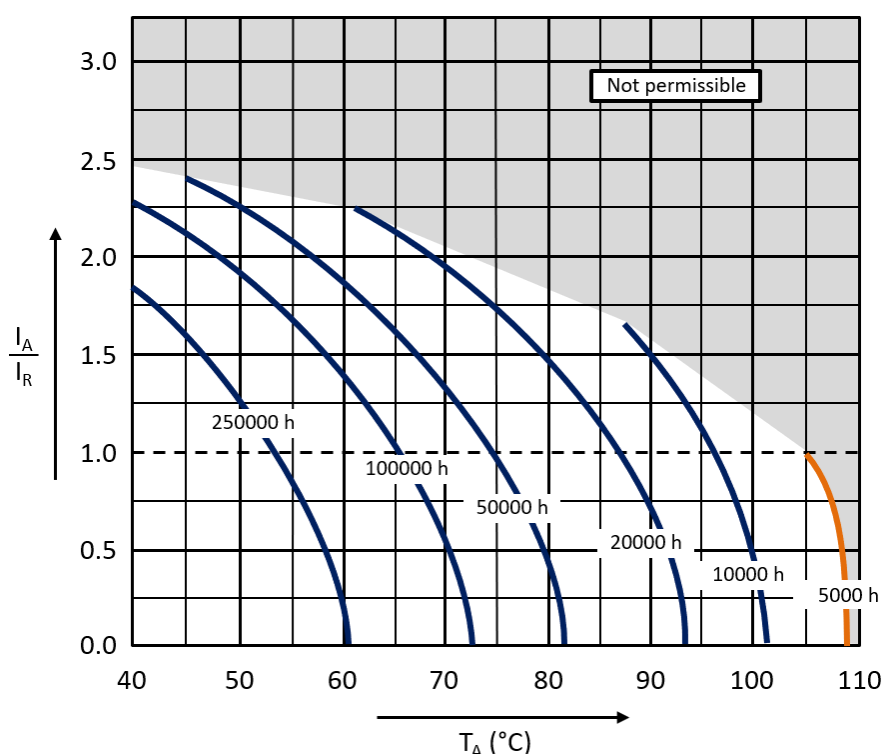
$V_R$ (V) / Frequency (Hz)	50/60	100/120	300	1k	10k	50k - 100k
$200 \leq V_R \leq 250$	0.81	1	1.17	1.32	1.45	1.5
$350 \leq V_R \leq 550$	0.77	1	1.16	1.3	1.41	1.43

### 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>

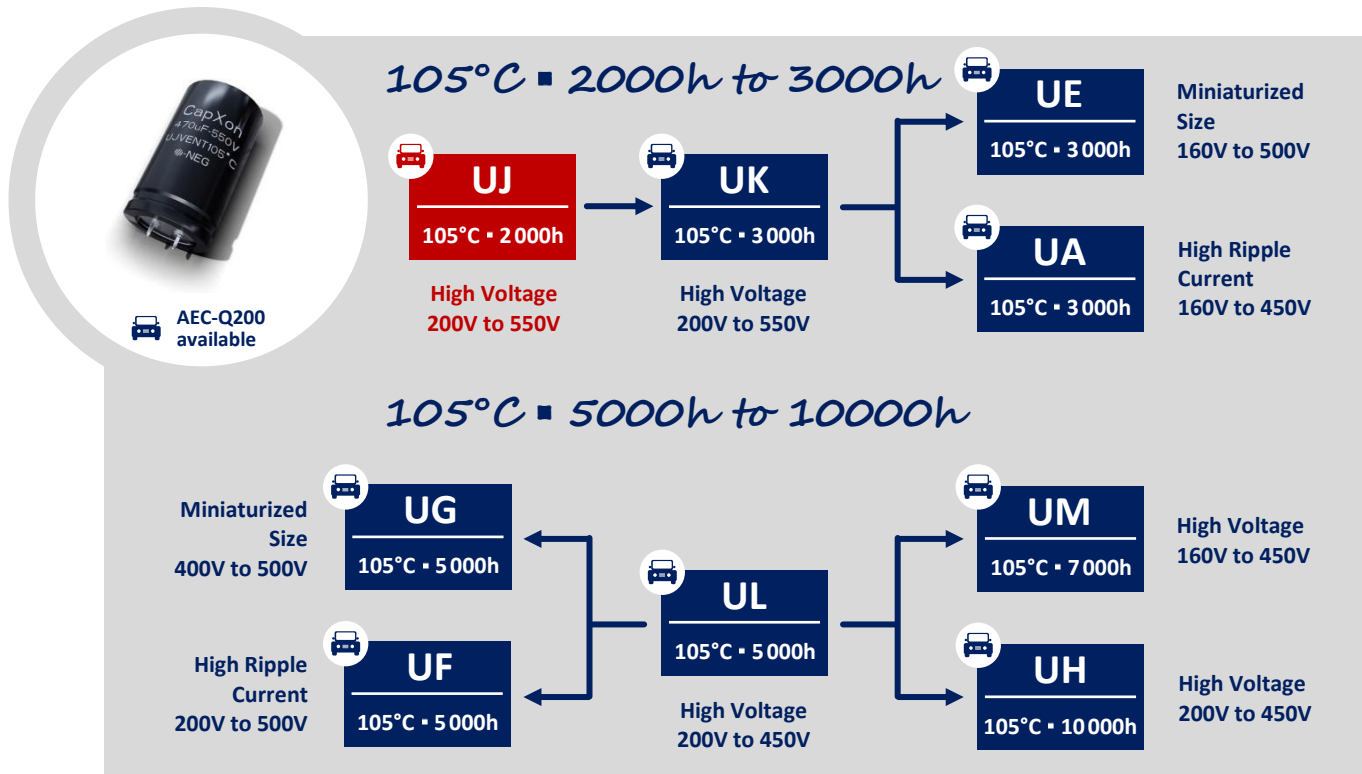
### USEFUL LIFE



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.