

UL SERIES ■ ULTRA LONG LIFE, AUTOMOTIVE 105°C TYPE

KEY FEATURES



- **ALUMINUM ELECTROLYTIC CAPACITOR** ■ Snap-In type
- Useful life: 105°C ■ 10 000 hours
- Extremely stable dissipation factor and leakage current
- Especially for applications with demanding operating environment
- AEC-Q200 version available



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 ≤ 315V) ▫ V _S = 1.15·V _R		(V _R > 315V) ▫ V _S = 1.10·V _R	
Capacitance Range	C _R	82 ~ 2700μF		47 ~ 680μF	
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 ~ 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 _R (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	10 000 hours
	ΔC/C _R	≤ ±20% of initial measured value
	tanδ	≤ 200% of initial specified value
	I _{Leak}	≤ 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	5 000 hours
	ΔC/C _R	≤ ±15% of initial measured value
	tanδ	≤ 175% of initial specified value
	I _{Leak}	≤ the initial specified value
Shelf Life 105°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 (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
200	180	22	20	580	1110	750	UL181M200M200A□□□
	220	22	25	470	900	800	UL221M200M250A□□□
	270	22	25	390	740	1310	UL271M200M250A□□□
	270	22	30	390	740	1350	UL271M200M300A□□□
	270	25	25	390	740	1350	UL271M200N250A□□□
	330	22	25	320	600	1410	UL331M200M250A□□□
	330	22	30	320	600	1530	UL331M200M300A□□□
	330	25	25	320	600	1480	UL331M200N250A□□□
	390	22	30	270	510	1630	UL391M200M300A□□□
	390	22	35	270	510	1680	UL391M200M350A□□□
	390	25	25	270	510	1630	UL391M200N250A□□□
	390	25	30	270	510	1680	UL391M200N300A□□□
	390	30	25	270	510	1680	UL391M200O250A□□□
	470	22	30	220	420	1720	UL471M200M300A□□□
	470	22	35	220	420	1840	UL471M200M350A□□□
	470	25	25	220	420	1630	UL471M200N250A□□□
	470	25	30	220	420	1750	UL471M200N300A□□□
	470	35	25	220	420	1750	UL471M200P250A□□□
	560	22	35	190	360	1950	UL561M200M350A□□□
	560	22	40	190	360	2070	UL561M200M400A□□□
	560	25	30	190	360	1840	UL561M200N300A□□□
	560	25	35	190	360	1920	UL561M200N350A□□□
	560	30	30	190	360	1840	UL561M200O300A□□□
	560	35	25	190	360	1840	UL561M200P250A□□□
	680	22	40	150	290	2220	UL681M200M400A□□□
	680	22	45	150	290	2320	UL681M200M450A□□□
	680	25	35	150	290	2110	UL681M200N350A□□□
	680	25	40	150	290	2320	UL681M200N400A□□□
	680	30	30	150	290	2110	UL681M200O300A□□□
	680	30	35	150	290	2320	UL681M200O350A□□□
	680	35	30	150	290	2320	UL681M200P300A□□□
	820	22	50	130	240	2600	UL821M200M500A□□□
	820	25	40	130	240	2370	UL821M200N400A□□□
	820	30	30	130	240	2110	UL821M200O300A□□□
	820	30	35	130	240	2370	UL821M200O350A□□□
	820	35	30	130	240	2370	UL821M200P300A□□□
	1000	22	60	110	200	3000	UL102M200M600A□□□
	1000	25	45	110	200	2630	UL102M200N450A□□□
	1000	30	35	110	200	2370	UL102M200O350A□□□
	1000	30	40	110	200	2420	UL102M200O400A□□□
	1000	35	30	110	200	2370	UL102M200P300A□□□
	1000	35	35	110	200	2420	UL102M200P350A□□□
	1200	25	50	89	170	2880	UL122M200N500A□□□
	1200	30	40	89	170	2550	UL122M200O400A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
200	1200	35	30	89	170	2440	UL122M200P300A□□□
	1200	35	35	89	170	2880	UL122M200P350A□□□
	1500	30	45	68	130	2820	UL152M200O450A□□□
	1500	30	50	68	130	3000	UL152M200O500A□□□
	1500	35	35	68	130	2980	UL152M200P350A□□□
	1500	35	40	68	130	3080	UL152M200P400A□□□
	1800	30	50	58	110	3080	UL182M200O500A□□□
	1800	35	40	58	110	3180	UL182M200P400A□□□
	1800	35	45	58	110	3280	UL182M200P450A□□□
	2200	35	50	48	90	3450	UL222M200P500A□□□
	2700	35	60	39	74	4000	UL272M200P600A□□□
250	220	22	25	470	900	850	UL221M250M250A□□□
	270	22	25	390	740	1320	UL271M250M250A□□□
	270	22	30	390	740	1360	UL271M250M300A□□□
	270	25	25	390	740	1360	UL271M250N250A□□□
	330	22	30	320	600	1550	UL331M250M300A□□□
	330	22	35	320	600	1600	UL331M250M350A□□□
	330	25	25	320	600	1450	UL331M250N250A□□□
	330	25	30	320	600	1600	UL331M250N300A□□□
	390	22	35	270	510	1750	UL391M250M350A□□□
	390	22	40	270	510	1800	UL391M250M400A□□□
	390	25	30	270	510	1680	UL391M250N300A□□□
	390	25	35	270	510	1730	UL391M250N350A□□□
	390	30	30	270	510	1730	UL391M250O300A□□□
	470	22	40	220	420	1970	UL471M250M400A□□□
	470	22	45	220	420	2020	UL471M250M450A□□□
	470	25	30	220	420	1750	UL471M250N300A□□□
	470	25	35	220	420	1800	UL471M250N350A□□□
	470	30	25	220	420	1750	UL471M250O250A□□□
	470	30	30	220	420	1800	UL471M250O300A□□□
	560	22	45	190	360	2200	UL561M250M450A□□□
	560	25	40	190	360	2200	UL561M250N400A□□□
	560	30	30	190	360	1970	UL561M250O300A□□□
	560	30	35	190	360	2050	UL561M250O350A□□□
	560	35	30	190	360	2050	UL561M250P300A□□□
	680	22	50	150	290	2450	UL681M250M500A□□□
	680	25	45	150	290	2250	UL681M250N450A□□□
	680	30	35	150	290	2180	UL681M250O350A□□□
	680	30	40	150	290	2250	UL681M250O400A□□□
	680	35	30	150	290	2180	UL681M250P300A□□□
	820	25	50	130	240	2490	UL821M250N500A□□□
	820	30	45	130	240	2190	UL821M250O450A□□□
	820	35	35	130	240	2150	UL821M250P350A□□□
	1000	25	55	110	200	2910	UL102M250N550A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
250	1000	30	40	110	200	2440	UL102M250O400A□□□
	1000	30	45	110	200	2540	UL102M250O450A□□□
	1000	35	35	110	200	2380	UL102M250P350A□□□
	1000	35	40	110	200	2540	UL102M250P400A□□□
	1200	30	45	89	170	2680	UL122M250O450A□□□
	1200	30	50	89	170	2730	UL122M250O500A□□□
	1200	35	40	89	170	2720	UL122M250P400A□□□
	1500	30	55	68	130	3150	UL152M250O550A□□□
	1500	35	45	68	130	3150	UL152M250P450A□□□
	1500	35	50	68	130	3200	UL152M250P500A□□□
	1800	35	50	58	110	3420	UL182M250P500A□□□
	1800	35	55	58	110	3600	UL182M250P550A□□□
	2200	35	60	48	90	3750	UL222M250P600A□□□
315	120	22	25	870	1660	720	UL121M315M250A□□□
	150	22	25	700	1330	1000	UL151M315M250A□□□
	150	22	30	700	1330	1030	UL151M315M300A□□□
	150	30	25	700	1330	1000	UL151M315O250A□□□
	180	22	30	580	1110	1140	UL181M315M300A□□□
	180	22	35	580	1110	1180	UL181M315M350A□□□
	180	25	30	580	1110	1180	UL181M315N300A□□□
	220	22	35	470	900	1310	UL221M315M350A□□□
	220	22	40	470	900	1350	UL221M315M400A□□□
	220	25	30	470	900	1310	UL221M315N300A□□□
	220	25	35	470	900	1350	UL221M315N350A□□□
	220	30	25	470	900	1310	UL221M315O250A□□□
	270	22	40	390	740	1490	UL271M315M400A□□□
	270	22	45	390	740	1540	UL271M315M450A□□□
	270	25	35	390	740	1390	UL271M315N350A□□□
	270	25	40	390	740	1540	UL271M315N400A□□□
	270	30	30	390	740	1390	UL271M315O300A□□□
	330	22	45	320	600	1690	UL331M315M450A□□□
	330	22	50	320	600	1760	UL331M315M500A□□□
	330	25	35	320	600	1590	UL331M315N350A□□□
	330	25	40	320	600	1630	UL331M315N400A□□□
	330	30	25	320	600	1410	UL331M315O250A□□□
	330	30	30	320	600	1460	UL331M315O300A□□□
	330	35	25	320	600	1460	UL331M315P250A□□□
	390	22	50	270	510	1870	UL391M315M500A□□□
	390	25	40	270	510	1780	UL391M315N400A□□□
	390	25	45	270	510	1830	UL391M315N450A□□□
	390	30	30	270	510	1630	UL391M315O300A□□□
	390	30	35	270	510	1680	UL391M315O350A□□□
	390	35	25	270	510	1480	UL391M315P250A□□□
	390	35	30	270	510	1550	UL391M315P300A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
315	470	22	55	220	420	2090	UL471M315M550A□□□
	470	25	45	220	420	1990	UL471M315N450A□□□
	470	30	35	220	420	1860	UL471M315O350A□□□
	470	30	40	220	420	1990	UL471M315O400A□□□
	470	35	30	220	420	1740	UL471M315P300A□□□
	470	35	35	220	420	1990	UL471M315P350A□□□
	560	22	60	190	360	2290	UL561M315M600A□□□
	560	25	50	190	360	2210	UL561M315N500A□□□
	560	30	40	190	360	2080	UL561M315O400A□□□
	560	30	45	190	360	2160	UL561M315O450A□□□
	560	35	30	190	360	2080	UL561M315P300A□□□
	560	35	35	190	360	2160	UL561M315P350A□□□
	680	25	55	150	290	2440	UL681M315N550A□□□
	680	25	60	150	290	2500	UL681M315N600A□□□
	680	30	45	150	290	2320	UL681M315O450A□□□
	680	30	50	150	290	2400	UL681M315O500A□□□
	680	35	35	150	290	2160	UL681M315P350A□□□
	680	35	40	150	290	2130	UL681M315P400A□□□
	820	30	50	130	240	2550	UL821M315O500A□□□
	820	30	55	130	240	2590	UL821M315O550A□□□
	820	35	40	130	240	2260	UL821M315P400A□□□
	820	35	45	130	240	2350	UL821M315P450A□□□
	1000	30	55	110	200	2780	UL102M315O550A□□□
	1000	30	60	110	200	2820	UL102M315O600A□□□
	1000	35	50	110	200	2700	UL102M315P500A□□□
	1200	30	60	89	170	3010	UL122M315O600A□□□
	1200	35	55	89	170	2920	UL122M315P550A□□□
	1200	35	60	89	170	2960	UL122M315P600A□□□
	1500	35	60	68	130	3420	UL152M315P600A□□□
	1500	35	65	68	130	3620	UL152M315P650A□□□
350	100	22	25	1050	1990	500	UL101M350M250A□□□
	120	22	25	870	1660	920	UL121M350M250A□□□
	120	22	30	870	1660	940	UL121M350M300A□□□
	150	22	30	700	1330	1080	UL151M350M300A□□□
	150	25	25	700	1330	1050	UL151M350N250A□□□
	180	22	35	580	1110	1220	UL181M350M350A□□□
	180	22	40	580	1110	1270	UL181M350M400A□□□
	180	25	30	580	1110	1200	UL181M350N300A□□□
	220	22	40	470	900	1390	UL221M350M400A□□□
	220	22	45	470	900	1430	UL221M350M450A□□□
	220	25	30	470	900	1300	UL221M350N300A□□□
	220	25	35	470	900	1350	UL221M350N350A□□□
	220	30	25	470	900	1300	UL221M350O250A□□□
	270	22	45	390	740	1570	UL271M350M450A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
350	270	22	50	390	740	1620	UL271M350M500A□□□
	270	25	35	390	740	1490	UL271M350N350A□□□
	270	25	40	390	740	1530	UL271M350N400A□□□
	270	30	25	390	740	1340	UL271M350O250A□□□
	270	30	30	390	740	1490	UL271M350O300A□□□
	270	35	25	390	740	1420	UL271M350P250A□□□
	330	22	50	320	600	1770	UL331M350M500A□□□
	330	25	40	320	600	1690	UL331M350N400A□□□
	330	25	45	320	600	1770	UL331M350N450A□□□
	330	30	30	320	600	1560	UL331M350O300A□□□
	330	30	35	320	600	1690	UL331M350O350A□□□
	330	35	25	320	600	1560	UL331M350P250A□□□
	390	22	55	270	510	1960	UL391M350M550A□□□
	390	25	45	270	510	1880	UL391M350N450A□□□
	390	25	50	270	510	1970	UL391M350N500A□□□
	390	30	35	270	510	1770	UL391M350O350A□□□
	390	30	40	270	510	1830	UL391M350O400A□□□
	390	30	45	270	510	1920	UL391M350O450A□□□
	390	35	30	270	510	1660	UL391M350P300A□□□
	390	35	35	270	510	1730	UL391M350P350A□□□
	470	25	50	220	420	2090	UL471M350N500A□□□
	470	25	55	220	420	2140	UL471M350N550A□□□
	470	30	40	220	420	1990	UL471M350O400A□□□
	470	30	45	220	420	2090	UL471M350O450A□□□
	470	35	35	220	420	1900	UL471M350P350A□□□
	560	25	55	190	360	2300	UL561M350N550A□□□
	560	25	60	190	360	2380	UL561M350N600A□□□
	560	30	45	190	360	2200	UL561M350O450A□□□
	560	30	50	190	360	2300	UL561M350O500A□□□
	560	35	40	190	360	2130	UL561M350P400A□□□
	560	35	45	190	360	2350	UL561M350P450A□□□
	680	30	50	150	290	2430	UL681M350O500A□□□
	680	30	55	150	290	2480	UL681M350O550A□□□
	680	35	40	150	290	2170	UL681M350P400A□□□
	680	35	45	150	290	2400	UL681M350P450A□□□
	820	30	55	130	240	2500	UL821M350O550A□□□
	820	30	60	130	240	2650	UL821M350O600A□□□
	820	35	45	130	240	2450	UL821M350P450A□□□
	820	35	50	130	240	2500	UL821M350P500A□□□
	1000	35	50	110	200	2800	UL102M350P500A□□□
	1000	35	60	110	200	3000	UL102M350P600A□□□
	1000	40	50	110	200	3000	UL102M350Q500A□□□
	1200	35	60	89	170	3010	UL122M350P600A□□□
	1200	35	70	89	170	3230	UL122M350P700A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
350	1200	40	60	89	170	3250	UL122M350Q600A□□□
	1500	40	80	68	130	4210	UL152M350Q800A□□□
	1500	45	60	68	130	4060	UL152M350V600A□□□
	1800	40	90	58	110	4900	UL182M350Q900A□□□
	1800	45	70	58	110	4750	UL182M350V700A□□□
	2200	45	85	48	90	5400	UL222M350V850A□□□
	2700	45	100	39	74	6430	UL272M350VA00A□□□
400	82	22	25	1280	2430	550	UL820M400M250A□□□
	100	22	25	1050	1990	660	UL101M400M250A□□□
	100	22	30	1050	1990	680	UL101M400M300A□□□
	100	25	25	1050	1990	680	UL101M400N250A□□□
	120	22	25	870	1660	700	UL121M400M250A□□□
	120	22	30	870	1660	760	UL121M400M300A□□□
	120	25	25	870	1660	760	UL121M400N250A□□□
	150	22	30	700	1330	850	UL151M400M300A□□□
	150	22	35	700	1330	900	UL151M400M350A□□□
	150	25	25	700	1330	850	UL151M400N250A□□□
	150	25	30	700	1330	900	UL151M400N300A□□□
	180	22	35	580	1110	990	UL181M400M350A□□□
	180	22	40	580	1110	1050	UL181M400M400A□□□
	180	25	30	580	1110	1050	UL181M400N300A□□□
	180	25	35	580	1110	1100	UL181M400N350A□□□
	180	30	25	580	1110	1050	UL181M400O250A□□□
	220	22	45	470	900	1120	UL221M400M450A□□□
	220	22	50	470	900	1160	UL221M400M500A□□□
	220	25	30	470	900	1070	UL221M400N300A□□□
	220	25	35	470	900	1120	UL221M400N350A□□□
	220	30	25	470	900	1100	UL221M400O250A□□□
	220	30	30	470	900	1160	UL221M400O300A□□□
	270	22	50	390	740	1260	UL271M400M500A□□□
	270	25	40	390	740	1260	UL271M400N400A□□□
	270	25	45	390	740	1290	UL271M400N450A□□□
	270	30	30	390	740	1260	UL271M400O300A□□□
	270	30	35	390	740	1290	UL271M400O350A□□□
	270	35	25	390	740	1260	UL271M400P250A□□□
	330	22	55	320	600	1450	UL331M400M550A□□□
	330	25	40	320	600	1350	UL331M400N400A□□□
	330	25	45	320	600	1420	UL331M400N450A□□□
	330	30	30	320	600	1350	UL331M400O300A□□□
	330	30	35	320	600	1420	UL331M400O350A□□□
	330	35	30	320	600	1460	UL331M400P300A□□□
	390	25	50	270	510	1620	UL391M400N500A□□□
	390	25	55	270	510	1690	UL391M400N550A□□□
	390	30	40	270	510	1620	UL391M400O400A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
400	390	30	45	270	510	1690	UL391M400O450A□□□
	390	35	30	270	510	1590	UL391M400P300A□□□
	390	35	35	270	510	1690	UL391M400P350A□□□
	470	30	45	220	420	1880	UL471M400O450A□□□
	470	30	50	220	420	1970	UL471M400O500A□□□
	470	35	35	220	420	1860	UL471M400P350A□□□
	470	35	40	220	420	1960	UL471M400P400A□□□
	560	35	40	190	360	2130	UL561M400P400A□□□
	560	35	45	190	360	2250	UL561M400P450A□□□
	680	35	45	150	290	2480	UL681M400P450A□□□
	680	35	50	150	290	2600	UL681M400P500A□□□
	820	35	55	130	240	2670	UL821M400P550A□□□
	820	35	60	130	240	2780	UL821M400P600A□□□
	820	40	50	130	240	2780	UL821M400Q500A□□□
	1000	35	65	110	200	3250	UL102M400P650A□□□
	1000	40	55	110	200	3250	UL102M400Q550A□□□
	1200	35	75	89	170	3720	UL122M400P750A□□□
	1200	40	65	89	170	3720	UL122M400Q650A□□□
	1200	45	55	89	170	3720	UL122M400V550A□□□
	1500	40	80	68	130	4560	UL152M400Q800A□□□
	1500	45	65	68	130	4560	UL152M400V650A□□□
450	1800	45	80	58	110	5360	UL182M400V800A□□□
	82	22	25	1700	3230	600	UL820M450M250A□□□
	100	22	25	1390	2650	640	UL101M450M250A□□□
	100	22	30	1390	2650	690	UL101M450M300A□□□
	100	25	25	1390	2650	690	UL101M450N250A□□□
	120	22	30	1160	2210	760	UL121M450M300A□□□
	120	22	35	1160	2210	810	UL121M450M350A□□□
	120	25	25	1160	2210	760	UL121M450N250A□□□
	120	25	30	1160	2210	810	UL121M450N300A□□□
	150	22	35	930	1770	900	UL151M450M350A□□□
	150	22	40	930	1770	960	UL151M450M400A□□□
	150	25	30	930	1770	900	UL151M450N300A□□□
	150	25	35	930	1770	960	UL151M450N350A□□□
	150	30	25	930	1770	900	UL151M450O250A□□□
	150	30	30	930	1770	960	UL151M450O300A□□□
	180	22	40	770	1470	1050	UL181M450M400A□□□
	180	22	45	770	1470	1100	UL181M450M450A□□□
	180	25	30	770	1470	1050	UL181M450N300A□□□
	180	25	35	770	1470	1100	UL181M450N350A□□□
	180	30	25	770	1470	1030	UL181M450O250A□□□
	180	30	30	770	1470	1110	UL181M450O300A□□□
	180	35	25	770	1470	1110	UL181M450P250A□□□
	220	22	45	640	1210	1160	UL221M450M450A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
450	220	25	35	640	1210	1150	UL221M450N350A□□□
	220	25	40	640	1210	1180	UL221M450N400A□□□
	220	30	30	640	1210	1150	UL221M450O300A□□□
	220	30	35	640	1210	1200	UL221M450O350A□□□
	220	35	25	640	1210	1150	UL221M450P250A□□□
	270	22	55	520	980	1310	UL271M450M550A□□□
	270	25	45	520	980	1290	UL271M450N450A□□□
	270	25	50	520	980	1310	UL271M450N500A□□□
	270	30	30	520	980	1230	UL271M450O300A□□□
	270	30	40	520	980	1350	UL271M450O400A□□□
	270	35	30	520	980	1350	UL271M450P300A□□□
	330	25	50	420	800	1500	UL331M450N500A□□□
	330	30	40	420	800	1500	UL331M450O400A□□□
	330	30	45	420	800	1580	UL331M450O450A□□□
	330	35	30	420	800	1500	UL331M450P300A□□□
	330	35	35	420	800	1580	UL331M450P350A□□□
	390	25	55	360	680	1690	UL391M450N550A□□□
	390	30	45	360	680	1720	UL391M450O450A□□□
	390	30	50	360	680	1800	UL391M450O500A□□□
	390	35	35	360	680	1720	UL391M450P350A□□□
	390	35	40	360	680	1790	UL391M450P400A□□□
	470	30	50	290	560	1970	UL471M450O500A□□□
	470	30	55	290	560	2060	UL471M450O550A□□□
	470	35	40	290	560	1950	UL471M450P400A□□□
	470	35	45	290	560	2060	UL471M450P450A□□□
	560	30	55	250	470	2240	UL561M450O550A□□□
	560	35	45	250	470	2160	UL561M450P450A□□□
	560	35	50	250	470	2360	UL561M450P500A□□□
	680	35	50	210	390	2500	UL681M450P500A□□□
	680	35	55	210	390	2620	UL681M450P550A□□□
	820	35	65	170	320	3000	UL821M450P650A□□□
	820	40	55	170	320	3000	UL821M450Q550A□□□
	1000	35	70	140	270	3100	UL102M450P700A□□□
	1000	35	80	140	270	3560	UL102M450P800A□□□
	1000	40	70	140	270	3600	UL102M450Q700A□□□
	1000	45	60	140	270	3600	UL102M450V600A□□□
	1200	40	80	120	220	3950	UL122M450Q800A□□□
	1500	45	80	95	180	4800	UL152M450V800A□□□
	1800	45	90	79	150	5670	UL182M450V900A□□□
500	47	22	25	2970	5640	400	UL470M500M250A□□□
	56	22	25	2490	4740	430	UL560M500M250A□□□
	56	22	30	2490	4740	470	UL560M500M300A□□□
	56	25	25	2490	4740	470	UL560M500N250A□□□
	68	22	30	2050	3900	520	UL680M500M300A□□□

□□□ see description at end of standard ratings

STANDARD RATINGS

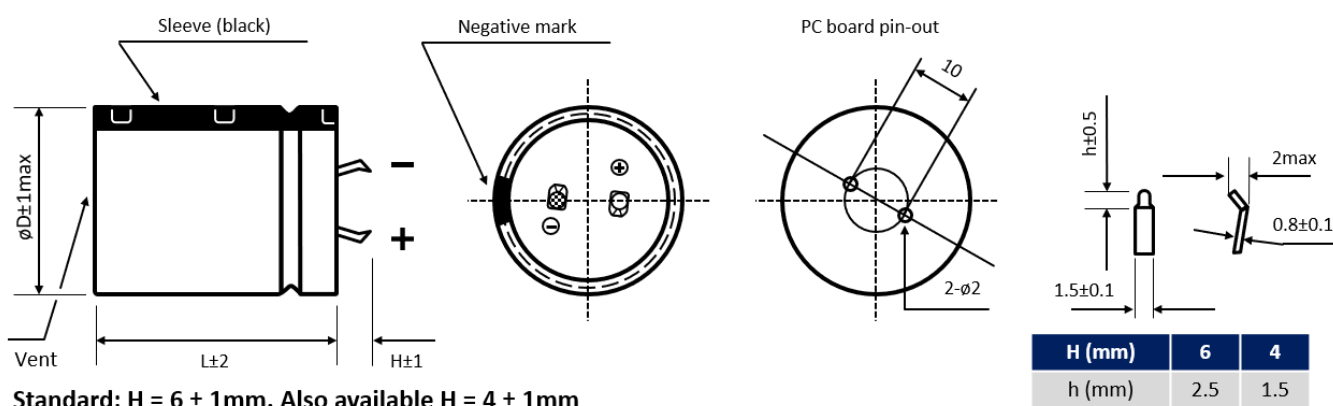
V _R (V)	C _R (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
500	68	22	35	2050	3900	550	UL680M500M350A□□□
	68	25	25	2050	3900	520	UL680M500N250A□□□
	68	25	30	2050	3900	550	UL680M500N300A□□□
	82	22	35	1700	3230	610	UL820M500M350A□□□
	82	25	30	1700	3230	610	UL820M500N300A□□□
	100	22	40	1390	2650	720	UL101M500M400A□□□
	100	25	35	1390	2650	720	UL101M500N350A□□□
	100	30	30	1390	2650	720	UL101M500O300A□□□
	120	22	45	1160	2210	740	UL121M500M450A□□□
	120	25	40	1160	2210	740	UL121M500N400A□□□
	120	30	35	1160	2210	770	UL121M500O350A□□□
	120	35	30	1160	2210	800	UL121M500P300A□□□
	150	22	50	930	1770	960	UL151M500M500A□□□
	150	25	45	930	1770	980	UL151M500N450A□□□
	150	30	35	930	1770	920	UL151M500O350A□□□
	150	35	30	930	1770	920	UL151M500P300A□□□
	180	25	50	770	1470	1130	UL181M500N500A□□□
	180	30	35	770	1470	1050	UL181M500O350A□□□
	180	35	30	770	1470	1100	UL181M500P300A□□□
	220	25	50	640	1210	1220	UL221M500N500A□□□
	220	30	45	640	1210	1250	UL221M500O450A□□□
	220	35	30	640	1210	1100	UL221M500P300A□□□
	220	35	35	640	1210	1230	UL221M500P350A□□□
	270	30	50	520	980	1510	UL271M500O500A□□□
	270	35	35	520	980	1310	UL271M500P350A□□□
	270	35	40	520	980	1420	UL271M500P400A□□□
	330	35	40	420	800	1480	UL331M500P400A□□□
	330	35	45	420	800	1560	UL331M500P450A□□□
	390	35	50	360	680	1780	UL391M500P500A□□□
	470	35	55	290	560	2140	UL471M500P550A□□□
	470	35	60	290	560	2260	UL471M500P600A□□□
	560	35	65	250	470	2380	UL561M500P650A□□□
	680	40	65	210	390	2520	UL681M500Q650A□□□
550	220	35	40	640	1210	1300	UL221M550P400A□□□
	270	35	50	520	980	1600	UL271M550P500A□□□
	330	35	55	420	800	1630	UL331M550P550A□□□
	390	35	60	360	680	1800	UL391M550P600A□□□
	470	35	70	290	560	2100	UL471M550P700A□□□

□□□: 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

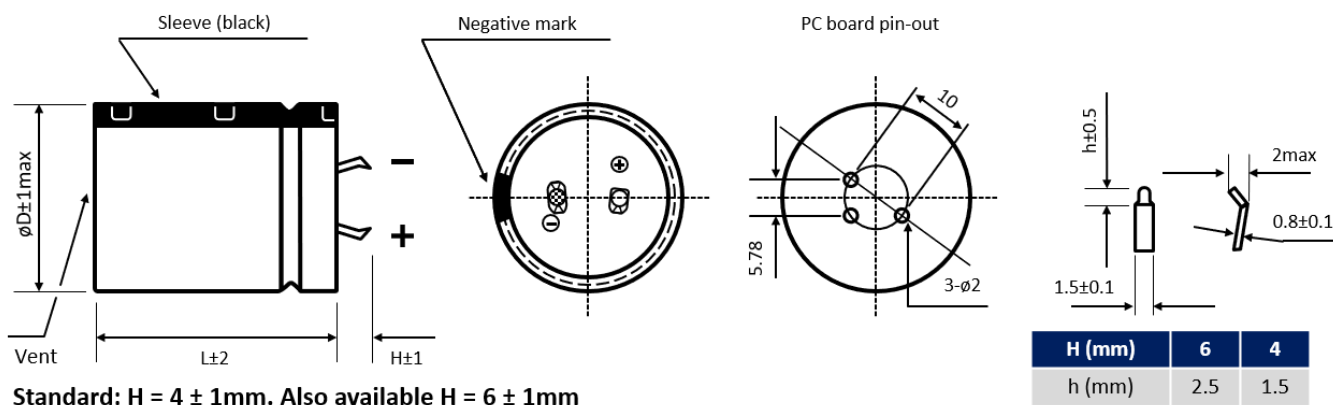
□□□: Enter **P4** for standard type • 4mm pin length
 □□□: Enter **P4X** for standard type • 4mm pin length • AEC-Q200
 □□□: Enter **Z4** for 3-pin type • 4mm pin length
 □□□: Enter **Z4X** for 3-pin type • 4mm pin length • AEC-Q200
 □□□: Enter **Y4** for multi-pin type • 4mm pin length
 □□□: Enter **Y4X**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

DIMENSIONS • All dimensions in mm

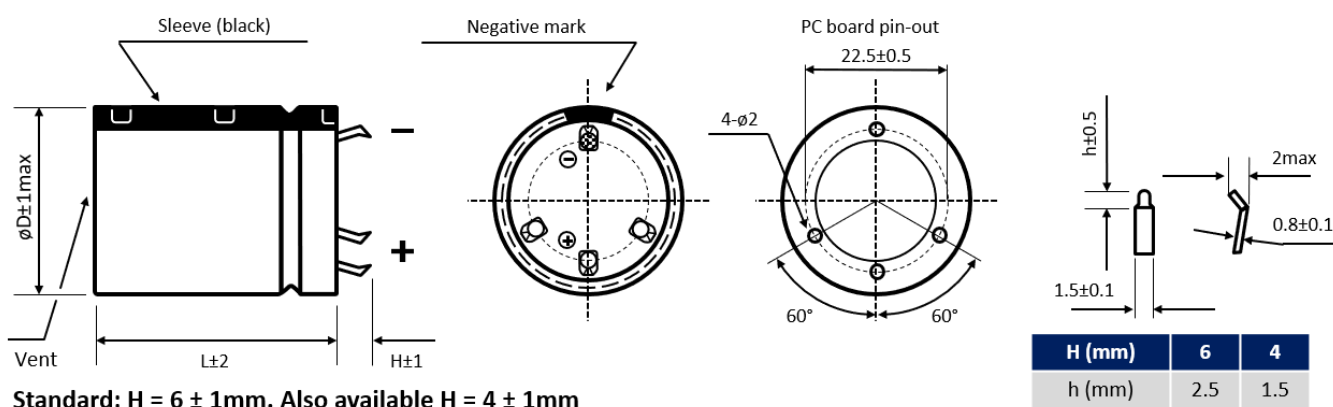
2-pin version • Standard type



3-pin version • Polarity protection



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



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

MULTIPLIER K_f for RIPPLE CURRENT vs. FREQUENCY

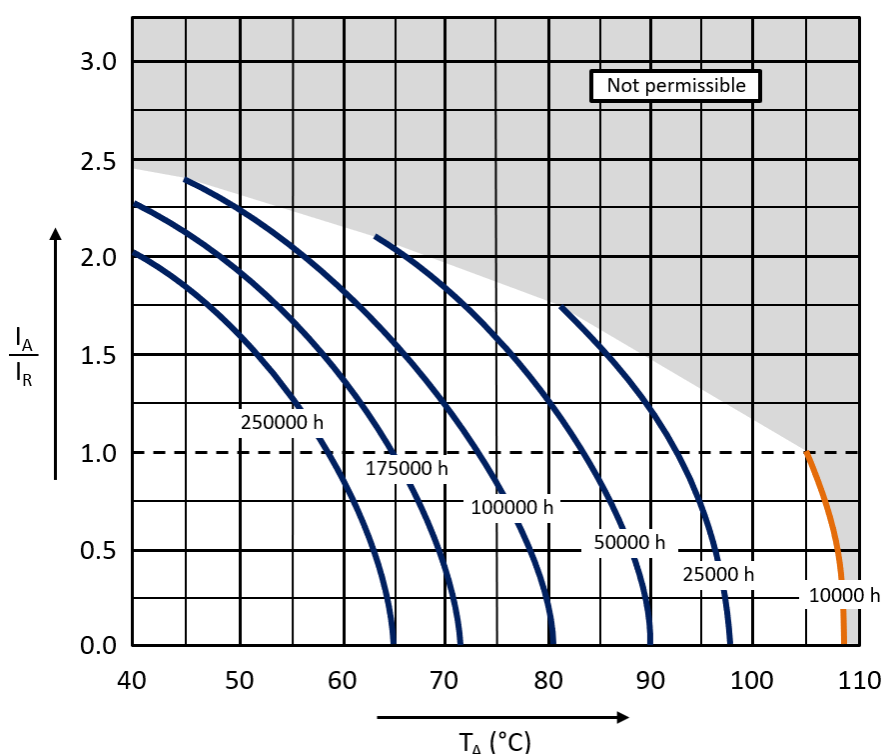
V_R (V) / Frequency (Hz)	50/60	100/120	300	1k	10k	50k - 100k
$200 \leq V_R \leq 250$	0.81	1	1.17	1.32	1.45	1.5
$315 \leq V_R \leq 550$	0.77	1	1.16	1.3	1.41	1.43

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.

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

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.

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 or contact CapXon directly.