

### RL SERIES ▪ ULTRA LONG LIFE 105°C TYPE

#### KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ▪ Screw terminal type
- Endurance: 105°C ▪ 5 000 hours, Useful life: 105°C ▪ 10 000 hours
- Wide capacitance range
- All-welded construction ensures highest reliability
- Bottom cooling possible due to the thermal construction



#### SPECIFICATIONS

Items		Performance Characteristics		
Operating Temperature Range		-40 ~ +105°C		-25 ~ +105°C
Rated Voltage Range	V <sub>R</sub>	160 ~ 450V DC		500V 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>	220 ~ 22000μF		680 ~ 8200μF
Cap. Tolerance	ΔC	±20% (120Hz ▪ 20°C)		
Leakage Current (20°C ▪ V <sub>R</sub> applied)	I <sub>LEAK</sub>	≤ 0.018·(C <sub>R</sub> ·V <sub>R</sub> ) <sup>0.85</sup> + 4 (μA) or 5mA (whichever is smaller) ▪ 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)	160 ~ 450	500
		tanδ	15	20
Low Temperature Characteristics at 120Hz	Z ratio max.	V <sub>R</sub> (V DC)	160 ~ 450	500
		Z-25°C/Z+20°C	4	4
		Z-40°C/Z+20°C	10	-
Lifetime Test				
Useful Life 105°C (V <sub>R</sub> & I <sub>R</sub> applied)	Test	10 000 hours		
	ΔC/C <sub>R</sub>	≤ ±15% of initial measured value		
	tanδ	≤ 175% of initial specified value		
	I <sub>Leak</sub>	≤ 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 <sub>R</sub> & I <sub>R</sub> applied)	Test	5 000 hours		
	ΔC/C <sub>R</sub>	≤ ±15% of initial measured value		
	tanδ	≤ 150% of initial specified value		
	I <sub>Leak</sub>	≤ the initial specified value		
Shelf Life 105°C (V <sub>R</sub> = 0)	Test	1 000 hours		
	ΔC/C <sub>R</sub>	≤ ±15% of initial measured value		
	tanδ	≤ 150% of initial specified value		
	I <sub>Leak</sub>	≤ the initial specified value		
		Before measurement: Restore capacitor to 20°C, apply V <sub>R</sub> for 30 min according JIS-C-5101-4		
Vibration Resistance Test		Max. 10g force, f <sub>RANGE</sub> 10Hz ... 55Hz, amplitude 0.75mm; X/Y/Z-axis each 2h; capacitor rigidly clamped by body to surface ▪ IEC 60068-2-6		

★ Remark: For Halogen Free products see chapter SLEEVE AND PRINTING selection.

## STANDARD RATINGS

□□□ see terminal code at dimensions table

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
160	680	35	50	150	290	1600	RL681M160P500□□□
	820	35	80	120	240	2200	RL821M160P800□□□
	1000	35	80	100	200	2500	RL102M160P800□□□
	1200	35	80	87	170	2700	RL122M160P800□□□
	1500	35	80	67	130	2900	RL152M160P800□□□
	1800	35	100	56	110	3600	RL182M160PA00□□□
	2200	35	120	46	90	4200	RL222M160PA20□□□
	2700	35	120	38	74	4600	RL272M160PA20□□□
	3300	51	100	31	60	5800	RL332M160RA00□□□
	3900	51	120	26	51	6800	RL392M160RA20□□□
	4700	51	120	22	42	7500	RL472M160RA20□□□
	5600	51	120	18	36	8300	RL562M160RA20□□□
	6800	63.5	120	15	29	10200	RL682M160SA20□□□
	8200	76.2	100	12	24	11500	RL822M160TA00□□□
	10000	76.2	120	10	20	13000	RL103M160TA20□□□
	12000	76.2	140	9	17	14500	RL123M160TA40□□□
	15000	89	140	7	13	17300	RL153M160XA40□□□
200	470	35	50	220	420	1300	RL471M200P500□□□
	560	35	80	180	360	1700	RL561M200P800□□□
	680	35	80	150	290	1900	RL681M200P800□□□
	820	35	80	120	240	2100	RL821M200P800□□□
	1000	35	100	100	200	2600	RL102M200PA00□□□
	1200	35	120	87	170	3100	RL122M200PA20□□□
	1500	35	120	67	130	3500	RL152M200PA20□□□
	1800	51	80	56	110	3800	RL182M200R800□□□
	2200	51	100	46	90	4700	RL222M200RA00□□□
	2700	51	120	38	74	5700	RL272M200RA20□□□
	3300	51	120	31	60	6200	RL332M200RA20□□□
	3900	63.5	100	26	51	7100	RL392M200SA00□□□
	4700	63.5	120	22	42	8300	RL472M200SA20□□□
	5600	76.2	100	18	36	9400	RL562M200TA00□□□
	6800	76.2	120	15	29	11000	RL682M200TA20□□□
	8200	76.2	140	12	24	13000	RL822M200TA40□□□
	10000	89	140	10	20	15800	RL103M200XA40□□□
250	330	35	50	310	600	1100	RL331M250P500□□□
	390	35	80	260	510	1500	RL391M250P800□□□
	470	35	80	220	420	1600	RL471M250P800□□□
	560	35	80	180	360	1800	RL561M250P800□□□
	680	35	100	150	290	2100	RL681M250PA00□□□
	820	35	100	120	240	2300	RL821M250PA00□□□
	1000	35	120	100	200	2800	RL102M250PA20□□□
	1200	51	80	87	170	3200	RL122M250R800□□□
	1500	51	100	67	130	3900	RL152M250RA00□□□
	1800	51	120	56	110	4600	RL182M250RA20□□□

## STANDARD RATINGS

□□□ see terminal code at dimensions table

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	2200	51	120	46	90	5100	RL222M250RA20□□□
	2700	63.5	100	38	74	6000	RL272M250SA00□□□
	3300	63.5	120	31	60	7000	RL332M250SA20□□□
	3900	76.2	100	26	51	7900	RL392M250TA00□□□
	4700	76.2	120	22	42	9200	RL472M250TA20□□□
	5600	76.2	140	18	36	10700	RL562M250TA40□□□
	6800	89	140	15	29	12900	RL682M250XA40□□□
350	330	35	80	310	600	2200	RL331M350P800□□□
	470	35	80	220	420	2900	RL471M350P800□□□
	680	51	60	150	290	3700	RL681M350R600□□□
	820	51	60	120	240	3800	RL821M350R600□□□
	1000	51	75	100	200	6400	RL102M350R750□□□
	1000	51	80	100	200	6600	RL102M350R800□□□
	1200	51	75	87	170	6600	RL122M350R750□□□
	1200	51	80	87	170	6700	RL122M350R800□□□
	1500	51	80	67	130	8000	RL152M350R800□□□
	1500	51	96	67	130	8700	RL152M350R960□□□
	1800	51	96	56	110	8800	RL182M350R960□□□
	1800	51	120	56	110	9700	RL182M350RA20□□□
	2200	51	98	46	90	10100	RL222M350R980□□□
	2200	51	120	46	90	11000	RL222M350RA20□□□
	2700	51	98	38	74	10500	RL272M350R980□□□
	2700	51	125	38	74	11700	RL272M350RA25□□□
	2700	63.5	85	38	74	11900	RL272M350S850□□□
	2700	63.5	100	38	74	12800	RL272M350SA00□□□
	3300	51	118	31	60	11500	RL332M350RA18□□□
	3300	51	145	31	60	12600	RL332M350RA45□□□
	3300	63.5	100	31	60	13800	RL332M350SA00□□□
	3900	63.5	100	26	51	15100	RL392M350SA00□□□
	3900	63.5	130	26	51	16900	RL392M350SA30□□□
	3900	76.2	100	26	51	16700	RL392M350TA00□□□
	4700	63.5	115	22	42	17900	RL472M350SA15□□□
	4700	76.2	110	22	42	19400	RL472M350TA10□□□
	5600	63.5	135	18	36	20500	RL562M350SA35□□□
	5600	63.5	170	18	36	22800	RL562M350SA70□□□
	5600	76.2	125	18	36	22200	RL562M350TA25□□□
	5600	89	105	18	36	24100	RL562M350XA05□□□
	6800	63.5	189	15	29	26400	RL682M350SA89□□□
	6800	76.2	125	15	29	24300	RL682M350TA25□□□
	6800	76.2	150	15	29	26300	RL682M350TA50□□□
	6800	89	119	15	29	27300	RL682M350XA19□□□
	8200	63.5	244	12	24	32500	RL822M350SB44□□□
	8200	76.2	136	12	24	27500	RL822M350TA36□□□
	8200	76.2	170	12	24	30400	RL822M350TA70□□□

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□□□ see terminal code at dimensions table

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	8200	89	120	12	24	28500	RL822M350XA20□□□
	8200	89	150	12	24	31400	RL822M350XA50□□□
	10000	76.2	190	10	20	31600	RL103M350TA90□□□
	10000	76.2	220	10	20	33800	RL103M350TB20□□□
	10000	89	136	10	20	29700	RL103M350XA36□□□
	10000	89	170	10	20	32700	RL103M350XA70□□□
	12000	76.2	240	9	17	35300	RL123M350TB40□□□
	12000	89	136	9	17	29800	RL123M350XA36□□□
	12000	89	190	9	17	34300	RL123M350XA90□□□
	12000	100	190	9	17	36800	RL123M350DA90□□□
	15000	89	176	7	13	39000	RL153M350XA76□□□
	15000	89	220	7	13	43000	RL153M350XB20□□□
	15000	100	250	7	13	48700	RL153M350DB50□□□
	18000	89	186	6	11	40000	RL183M350XA86□□□
	18000	89	240	6	11	44900	RL183M350XB40□□□
	22000	89	230	5	9	45200	RL223M350XB30□□□
	22000	89	270	5	9	48700	RL223M350XB70□□□
	22000	100	250	5	9	50000	RL223M350DB50□□□
400	220	35	80	460	900	1700	RL221M400P800□□□
	330	35	80	310	600	2400	RL331M400P800□□□
	470	35	100	220	420	3200	RL471M400PA00□□□
	680	51	60	150	290	3800	RL681M400R600□□□
	680	51	80	150	290	4300	RL681M400R800□□□
	1000	51	75	100	200	6500	RL102M400R750□□□
	1000	51	80	100	200	6700	RL102M400R800□□□
	1200	51	80	87	170	7000	RL122M400R800□□□
	1200	51	96	87	170	7700	RL122M400R960□□□
	1500	51	96	67	130	8800	RL152M400R960□□□
	1500	51	115	67	130	9500	RL152M400RA15□□□
	1800	51	105	56	110	9600	RL182M400RA05□□□
	1800	51	140	56	110	10800	RL182M400RA40□□□
	1800	63.5	85	56	110	9900	RL182M400S850□□□
	2200	51	105	46	90	10500	RL222M400RA05□□□
	2200	51	125	46	90	11300	RL222M400RA25□□□
	2200	63.5	85	46	90	10800	RL222M400S850□□□
	2200	63.5	100	46	90	11600	RL222M400SA00□□□
	2700	51	145	38	74	13600	RL272M400RA45□□□
	2700	63.5	90	38	74	12400	RL272M400S900□□□
	2700	63.5	115	38	74	13700	RL272M400SA15□□□
	3300	63.5	95	31	60	14500	RL332M400S950□□□
	3300	63.5	130	31	60	16700	RL332M400SA30□□□
	3300	76.2	75	31	60	14700	RL332M400T750□□□
	3300	76.2	100	31	60	16500	RL332M400TA00□□□
	3900	63.5	100	26	51	15800	RL392M400SA00□□□

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□□□ see terminal code at dimensions table

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	3900	63.5	150	26	51	18900	RL392M400SA50□□□
	3900	76.2	85	26	51	15300	RL392M400T850□□□
	3900	76.2	110	26	51	18300	RL392M400TA10□□□
	3900	76.2	130	26	51	19700	RL392M400TA30□□□
	4700	63.5	120	22	42	18600	RL472M400SA20□□□
	4700	63.5	170	22	42	21700	RL472M400SA70□□□
	4700	76.2	95	22	42	18600	RL472M400T950□□□
	4700	76.2	130	22	42	21200	RL472M400TA30□□□
	5600	63.5	135	18	36	22100	RL562M400SA35□□□
	5600	63.5	190	18	36	25800	RL562M400SA90□□□
	5600	76.2	105	18	36	21900	RL562M400TA05□□□
	5600	76.2	150	18	36	25600	RL562M400TA50□□□
	5600	89	105	18	36	24300	RL562M400XA05□□□
	6800	63.5	250	15	29	31200	RL682M400SB50□□□
	6800	76.2	125	15	29	25200	RL682M400TA25□□□
	6800	76.2	170	15	29	28900	RL682M400TA70□□□
	6800	89	105	15	29	25900	RL682M400XA05□□□
	6800	89	125	15	29	27900	RL682M400XA25□□□
	6800	89	140	15	29	29300	RL682M400XA40□□□
	6800	89	150	15	29	31000	RL682M400XA50□□□
	6800	89	155	15	29	31400	RL682M400XA55□□□
	8200	76.2	170	12	24	30600	RL822M400TA70□□□
	8200	76.2	210	12	24	33700	RL822M400TB10□□□
	8200	89	115	12	24	28200	RL822M400XA15□□□
	8200	89	125	12	24	29200	RL822M400XA25□□□
	8200	89	160	12	24	32500	RL822M400XA60□□□
	8200	89	170	12	24	33400	RL822M400XA70□□□
	10000	76.2	220	10	20	36400	RL103M400TB20□□□
	10000	89	135	10	20	31900	RL103M400XA35□□□
	10000	89	190	10	20	37100	RL103M400XA90□□□
	10000	100	190	10	20	39600	RL103M400DA90□□□
	12000	89	165	9	17	36800	RL123M400XA65□□□
	12000	89	190	9	17	39100	RL123M400XA90□□□
	12000	89	220	9	17	41800	RL123M400XB20□□□
	12000	100	220	9	17	44600	RL123M400DB20□□□
	15000	89	195	7	13	39600	RL153M400XA95□□□
	15000	89	240	7	13	43500	RL153M400XB40□□□
	15000	100	220	7	13	44600	RL153M400DB20□□□
	18000	89	235	6	11	44000	RL183M400XB35□□□
	18000	89	270	6	11	46900	RL183M400XB70□□□
450	220	35	80	460	900	1900	RL221M450P800□□□
	330	35	100	310	600	2500	RL331M450PA00□□□
	470	51	60	220	420	3000	RL471M450R600□□□
	560	51	60	180	360	3300	RL561M450R600□□□

## STANDARD RATINGS

□□□ see terminal code at dimensions table

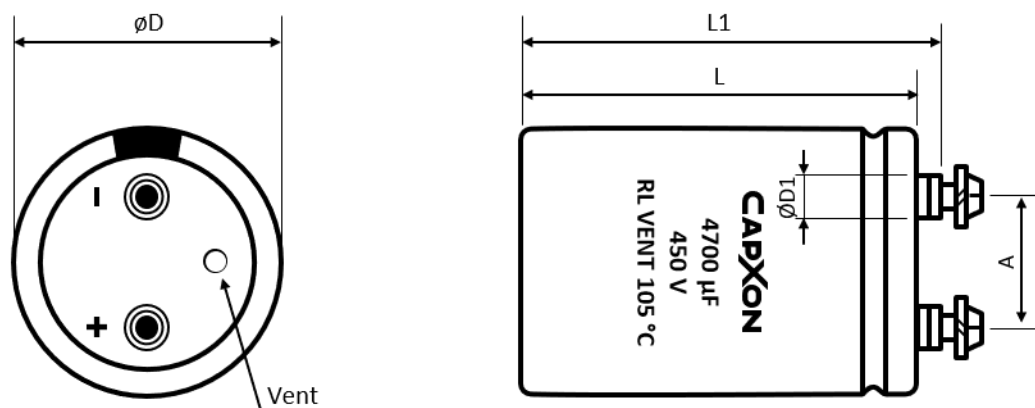
V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
450	680	51	85	150	290	4500	RL681M450R850□□□
	1000	51	85	100	200	6900	RL102M450R850□□□
	1000	51	105	100	200	7600	RL102M450RA05□□□
	1200	51	85	87	170	7400	RL122M450R850□□□
	1200	51	115	87	170	8500	RL122M450RA15□□□
	1500	51	100	67	130	9100	RL152M450RA00□□□
	1500	51	115	67	130	9600	RL152M450RA15□□□
	1800	51	100	56	110	9500	RL182M450RA00□□□
	1800	63.5	85	56	110	10000	RL182M450S850□□□
	2200	51	120	46	90	11500	RL222M450RA20□□□
	2200	63.5	100	46	90	12000	RL222M450SA00□□□
	2700	51	143	38	74	13800	RL272M450RA43□□□
	2700	63.5	100	38	74	13200	RL272M450SA00□□□
	2700	63.5	130	38	74	14800	RL272M450SA30□□□
	2700	76.2	85	38	74	13700	RL272M450T850□□□
	2700	76.2	115	38	74	15600	RL272M450TA15□□□
	3300	63.5	115	31	60	14700	RL332M450SA15□□□
	3300	63.5	150	31	60	16600	RL332M450SA50□□□
	3300	76.2	95	31	60	16200	RL332M450T950□□□
	3300	76.2	130	31	60	18500	RL332M450TA30□□□
	3900	63.5	135	26	51	18000	RL392M450SA35□□□
	3900	63.5	170	26	51	20000	RL392M450SA70□□□
	3900	76.2	105	26	51	17900	RL392M450TA05□□□
	3900	76.2	130	26	51	19800	RL392M450TA30□□□
	3900	89	105	26	51	19600	RL392M450XA05□□□
	4700	63.5	165	22	42	21600	RL472M450SA65□□□
	4700	76.2	115	22	42	20400	RL472M450TA15□□□
	4700	76.2	130	22	42	21500	RL472M450TA30□□□
	4700	76.2	150	22	42	22900	RL472M450TA50□□□
	4700	89	105	22	42	21500	RL472M450XA05□□□
	5600	63.5	244	18	36	29400	RL562M450SB44□□□
	5600	76.2	135	18	36	22500	RL562M450TA35□□□
	5600	76.2	150	18	36	25900	RL562M450TA50□□□
	5600	76.2	190	18	36	28800	RL562M450TA90□□□
	5600	89	105	18	36	24800	RL562M450XA05□□□
	5600	89	125	18	36	26100	RL562M450XA25□□□
	5600	89	150	18	36	28900	RL562M450XA50□□□
	6800	76.2	170	15	29	29000	RL682M450TA70□□□
	6800	76.2	190	15	29	30500	RL682M450TA90□□□
	6800	76.2	220	15	29	32600	RL682M450TB20□□□
	6800	89	115	15	29	26700	RL682M450XA15□□□
	6800	89	125	15	29	27700	RL682M450XA25□□□
	6800	89	170	15	29	31600	RL682M450XA70□□□
	8200	76.2	195	12	24	33600	RL822M450TA95□□□

## STANDARD RATINGS

□□□ see terminal code at dimensions table

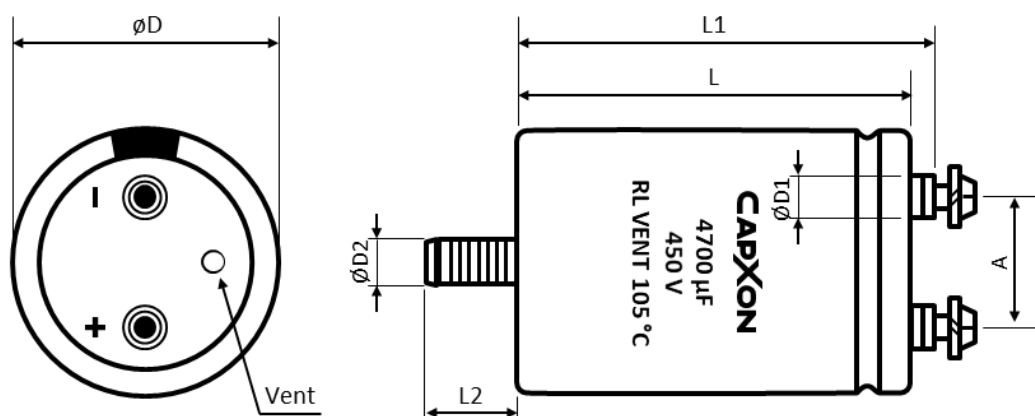
V <sub>R</sub> (V)	C <sub>R</sub> (μF)	ø D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I <sub>R</sub> • Max. Ripple Current +105°C • 120Hz (mA rms)	CapXon Part Number
450	8200	76.2	240	12	24	37000	RL822M450TB40□□□
	8200	89	145	12	24	32100	RL822M450XA45□□□
	8200	89	190	12	24	36200	RL822M450XA90□□□
	10000	89	165	10	20	34900	RL103M450XA65□□□
	10000	89	190	10	20	37200	RL103M450XA90□□□
	10000	89	220	10	20	39700	RL103M450XB20□□□
	10000	100	220	10	20	42300	RL103M450DB20□□□
	12000	89	195	9	17	39400	RL123M450XA95□□□
	12000	89	230	9	17	42500	RL123M450XB30□□□
	12000	100	250	9	17	47000	RL123M450DB50□□□
	15000	89	235	7	13	44400	RL153M450XB35□□□
	15000	89	250	7	13	45700	RL153M450XB50□□□
500	680	51	75	200	390	4100	RL681M500R750□□□
	1000	51	90	140	270	5100	RL102M500R900□□□
	1200	51	115	110	220	5900	RL122M500RA15□□□
	1200	63.5	80	110	220	5700	RL122M500S800□□□
	1500	51	135	92	180	7100	RL152M500RA35□□□
	1500	63.5	90	92	180	6700	RL152M500S900□□□
	1800	63.5	100	77	150	7800	RL182M500SA00□□□
	1800	76.2	70	77	150	7500	RL182M500T700□□□
	2200	63.5	120	62	120	8600	RL222M500SA20□□□
	2200	76.2	95	62	120	8600	RL222M500T950□□□
	2700	63.5	135	50	98	9800	RL272M500SA35□□□
	2700	76.2	105	50	98	9700	RL272M500TA05□□□
	3300	63.5	165	41	80	11000	RL332M500SA65□□□
	3300	76.2	130	41	80	11000	RL332M500TA30□□□
	3900	76.2	145	35	68	13100	RL392M500TA45□□□
	3900	89	105	35	68	12500	RL392M500XA05□□□
	4700	76.2	165	29	56	14500	RL472M500TA65□□□
	4700	89	125	29	56	14000	RL472M500XA25□□□
	5600	89	145	24	47	15900	RL562M500XA45□□□
	6800	89	165	20	39	18600	RL682M500XA65□□□
	8200	89	205	17	32	20300	RL822M500XB05□□□

### DIMENSIONS ▪ Ring clamp mounting ▪ All dimensions in mm



Terminal	Dimensions (mm) with insulating sleeve					Min. Full Thread (mm)	Max. Torque (Nm)	Terminal code
	$D \pm 2$	$L \pm 3$	$L1 \pm 3$	$D1 \text{ max.}$	$A \pm 0.5$			
M5	35	50 ~ 120	56.5 ~ 126.5	8.3	12.7	8	2	A50
M5	51	50 ~ 140	56.5 ~ 146.5	10.3	22	8	2	A50
M5	63.5	80 ~ 140	86.5 ~ 146.5	10.3	28.6	8	2	A50
M5	63.5	80 ~ 140	86.5 ~ 146.5	13	28.6	8	2	A53
M5	76.2	100 ~ 240	106.5 ~ 246.5	10.3	31.8	12	2.5	A50
M5	76.2	100 ~ 240	106.5 ~ 246.5	17.5	31.8	12	2.5	A57
M6	76.2	100 ~ 240	106.5 ~ 246.5	17.5	31.8	12	2.5	A67
M6	89	100 ~ 240	106.5 ~ 246.5	17.5	31.8	12	2.5	A67
M8	100	100 ~ 240	110 ~ 250	17.5	41.5	16	5	A87

### DIMENSIONS ▪ Threaded stud mounting ▪ All dimensions in mm





## DIMENSIONS ▪ Threaded stud mounting ▪ All dimensions in mm

Terminal	Dimensions (mm) with insulating sleeve							Min. Full Thread (mm)	Max. Torque (Nm)	Terminal code
	D ± 2	L ± 3	L1 ± 3	L2 ± 1	D1 max.	D2	A ± 0.5			
M5	35	50 ~ 120	56.5 ~ 126.5	12	8.3	M8	12.7	8	2	E50
M5	51	50 ~ 140	56.5 ~ 146.5	16	10.3	M12	22	8	2	E50
M5	63.5	80 ~ 140	86.5 ~ 146.5	16	10.3	M12	28.6	8	2	E50
M5	63.5	80 ~ 140	86.5 ~ 146.5	16	13	M12	28.6	8	2	E53
M5	76.2	100 ~ 240	106.5 ~ 246.5	16	10.3	M12	31.8	12	2.5	E50
M5	76.2	100 ~ 240	106.5 ~ 246.5	16	17.5	M12	31.8	12	2.5	E57
M6	76.2	100 ~ 240	106.5 ~ 246.5	16	17.5	M12	31.8	12	2.5	E67
M6	89	100 ~ 240	106.5 ~ 246.5	16	17.5	M12	31.8	12	2.5	E67
M8	100	100 ~ 240	110 ~ 250	16	17.5	M12	41.5	16	5	E87

## SLEEVE AND PRINTING SELECTION TABLE

Diameter ØD (mm)	Sleeve Material	Sleeve Printing	CapXon Standard	Halogen Free	Product Code Suffix	Product Code Example
35	PET	Ink	Yes	Yes	-	RL331M250P500E50
> 35	PVC	Thermo	Yes	No	-	RL392M350TA00E50
> 35	PET	Thermo	No	No	(*) Note	RL392M350TA00E50*
> 35	PET	Ink	No	Yes	(**) Note	RL392M350TA00E50**

Note: (\*) and (\*\*) consult CapXon for further details.

## ACCESSORIES

- The capacitors are supplied with suitable screws, serrated washers and plain washers. Accessories are not fastened to the capacitor.
- Suitable ring clamps and further assembly material see packaging information “Accessories”.

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

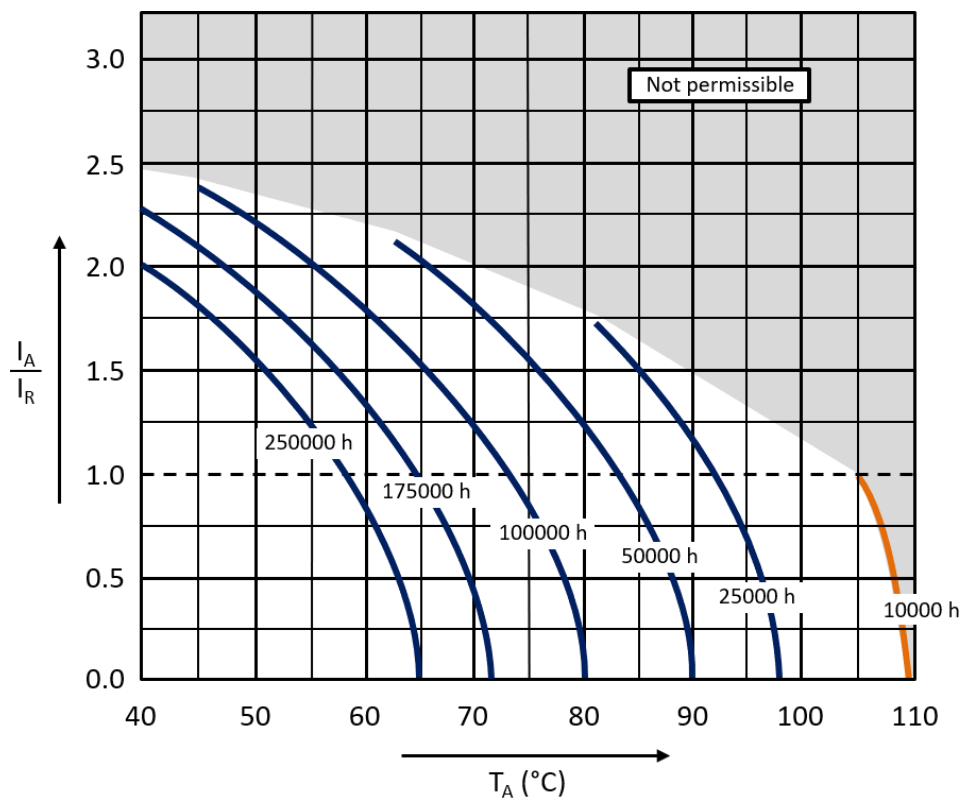
Frequency (Hz)	50/60	100/120	300	1k	≥ 3k
$K_f$	0.8	1	1.2	1.3	1.4

## 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.

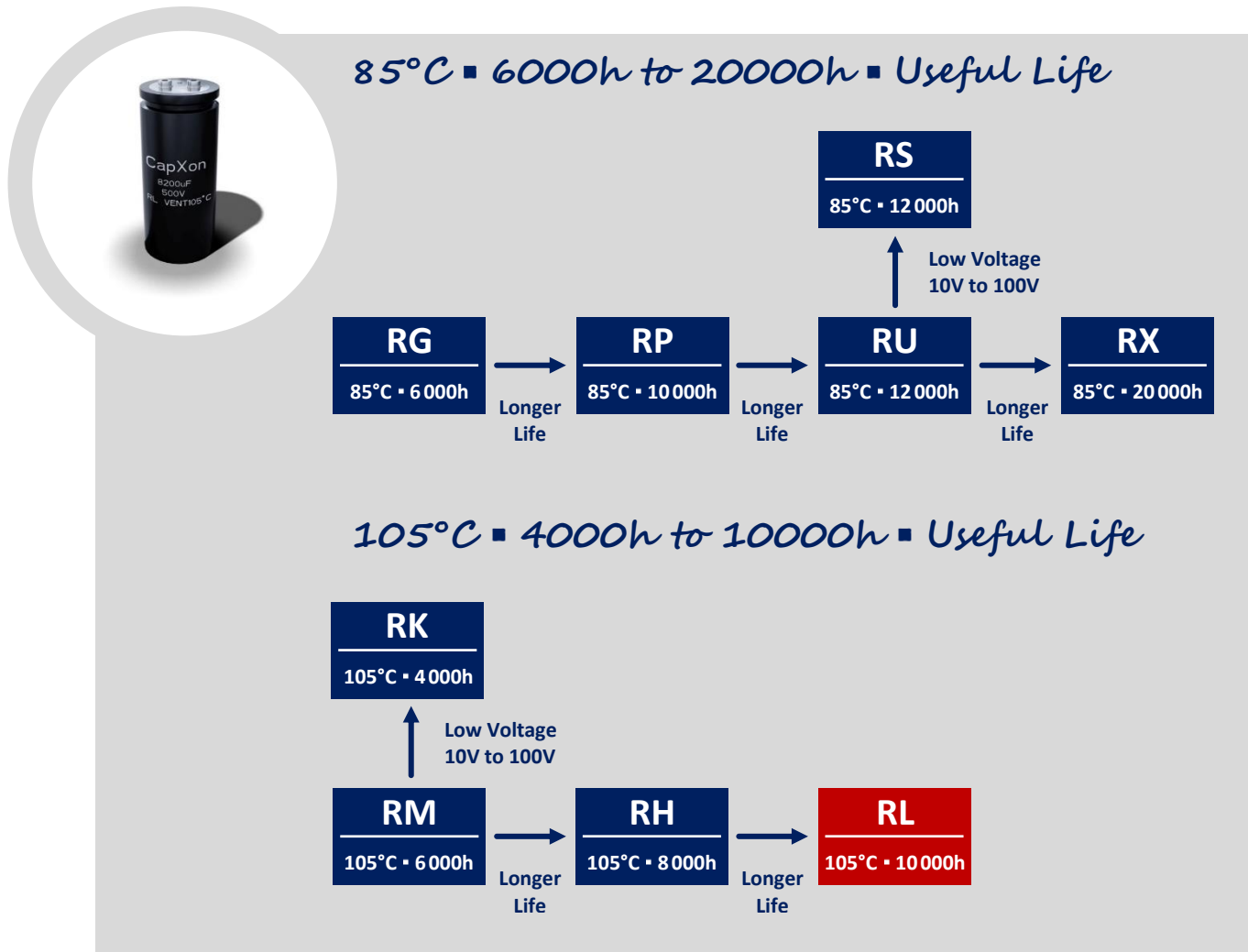
<a href="#">General Precautions &amp; Guidelines</a>	<a href="#">Packaging Information</a>	<a href="#">3D Models</a>	<a href="#">Reliability Tests</a>

### USEFUL LIFE



With:  $I_A$ : Actual application current  
 $I_R$ : Maximum permissible rated ripple current (A RMS)  
 $T_A$ : Ambient 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.