

LD SERIES ■ ULTRA LONG LIFE 85°C TYPE

KEY FEATURES



- ALUMINUM ELECTROLYTIC CAPACITOR ■ Snap-In type
- Useful life: 85°C ■ 7000 hours up to 10000 hours
- Wide capacitance range
- Small dimensions
- Stable operating under steady state environment



SPECIFICATIONS

Items		Performance Characteristics										
Operating Temperature Range		-40 ~ +85°C						-25 ~ +85°C				
Rated Voltage Range	V _R	10 ~ 350V DC						400 ~ 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	82 ~ 100000µF						47 ~ 1800µF				
Cap. Tolerance	ΔC	±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} (µA) ; C _R (µF) ; V _R (V)]										
Dissipation Factor % (20°C ■ 120Hz)	tanδ	µF / V DC	10	16	25	35	50	63	80	100	160 ~ 420	450 ~ 500
		≤ 8200	-	35	30	25	20	20	15	15	15	20
		10000 ~ 22000	40	40	35	30	30	25	20	-	-	-
		≥ 27000	50	40	35	35	30	25	-	-	-	-
Low Temperature Characteristics at 120Hz	Z ratio max.	V _R (V DC)	10 ~ 16	25	35	50 ~ 100	160 ~ 250	315 ~ 350	400 ~ 500			
		Z-25°C/Z+20°C	5	4	4	4	4	8	8			
		Z-40°C/Z+20°C	15	15	12	12	8	12	-			
Lifetime Test			V _R ≤ 100V					V _R > 100V				
Useful Life 85°C (V _R & I _R applied)		Test	7 000 hours					10 000 hours				
		ΔC/C _R	≤ ±30% of initial measured value					≤ ±20% of initial measured value				
		tanδ	≤ 300% of initial specified value					≤ 200% of initial specified value				
		I _{Leak}	≤ the initial specified value					≤ 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 85°C (V _R & I _R applied)		Test	5 000 hours									
		ΔC/C _R	≤ ±20% of initial measured value					≤ ±15% of initial measured value				
		tanδ	≤ 200% of initial specified value					≤ 175% of initial specified value				
		I _{Leak}	≤ the initial specified value					≤ the initial specified value				
Shelf Life 85°C (V _R = 0)		Test	1 000 hours									
		ΔC/C _R	≤ ±20% of initial measured value					≤ ±15% of initial measured value				
		tanδ	≤ 200% of initial specified value					≤ 175% of initial specified value				
		I _{Leak}	≤ the initial specified value					≤ 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)	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
10	10000	22	25	36	46	2510	LD103M010M250A
	12000	22	25	34	44	2710	LD123M010M250A
	15000	22	30	27	35	3210	LD153M010M300A
	15000	25	25	27	35	3210	LD153M010N250A
	18000	22	35	23	29	3610	LD183M010M350A
	18000	25	30	23	29	3610	LD183M010N300A
	22000	22	40	19	24	4110	LD223M010M400A
	22000	25	35	19	24	4110	LD223M010N350A
	22000	30	25	19	24	4110	LD223M010O250A
	33000	22	45	15	20	4810	LD333M010M450A
	33000	25	40	15	20	5210	LD333M010N400A
	33000	30	30	15	20	5210	LD333M010O300A
	47000	22	50	11	14	6010	LD473M010M500A
	47000	25	45	11	14	6310	LD473M010N450A
	47000	30	35	11	14	6310	LD473M010O350A
	56000	30	40	9	12	7210	LD563M010O400A
	56000	35	35	9	12	7510	LD563M010P350A
	68000	30	50	8	10	8210	LD683M010O500A
	68000	35	40	8	10	8210	LD683M010P400A
	82000	35	50	6	8	9310	LD823M010P500A
100000	35	55	5	7	10110	LD104M010P550A	
16	8200	22	25	44	57	2210	LD822M016M250A
	10000	22	30	36	46	2610	LD103M016M300A
	10000	25	25	36	46	2610	LD103M016N250A
	12000	22	35	34	44	2910	LD123M016M350A
	15000	22	40	27	35	3310	LD153M016M400A
	15000	25	30	27	35	3310	LD153M016N300A
	15000	30	25	27	35	3410	LD153M016O250A
	18000	22	45	23	29	3810	LD183M016M450A
	18000	25	35	23	29	3710	LD183M016N350A
	22000	22	50	19	24	4210	LD223M016M500A
	22000	25	40	19	24	4210	LD223M016N400A
	22000	30	30	19	24	4210	LD223M016O300A
	22000	35	25	19	24	4410	LD223M016P250A
	33000	25	45	12	16	5210	LD333M016N450A
	33000	30	35	12	16	5210	LD333M016O350A
	33000	35	30	12	16	5210	LD333M016P300A
	47000	25	50	9	11	6310	LD473M016N500A
	47000	30	40	9	11	6310	LD473M016O400A
	47000	35	35	9	11	6310	LD473M016P350A
	56000	30	45	7	10	9810	LD563M016O450A
56000	35	40	7	10	9810	LD563M016P400A	
56000	40	40	7	10	9810	LD563M016Q400A	
68000	35	50	6	8	10810	LD683M016P500A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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
16	68000	40	50	6	8	11510	LD683M016Q500A
	82000	35	60	5	7	11810	LD823M016P600A
	82000	40	50	5	7	11810	LD823M016Q500A
	100000	35	80	4	6	13210	LD104M016P800A
	100000	40	60	4	6	13510	LD104M016Q600A
25	5600	22	25	55	71	2010	LD562M025M250A
	6800	22	30	45	59	2310	LD682M025M300A
	6800	25	25	45	59	2310	LD682M025N250A
	8200	22	35	37	49	2610	LD822M025M350A
	10000	22	40	31	40	2910	LD103M025M400A
	10000	25	30	31	40	2810	LD103M025N300A
	10000	30	25	31	40	3010	LD103M025O250A
	12000	22	45	30	39	3310	LD123M025M450A
	12000	25	35	30	39	3210	LD123M025N350A
	12000	30	30	30	39	3410	LD123M025O300A
	15000	25	40	24	31	3710	LD153M025N400A
	15000	35	25	24	31	3910	LD153M025P250A
	18000	25	50	20	26	4310	LD183M025N500A
	18000	30	35	20	26	4210	LD183M025O350A
	18000	35	30	20	26	4410	LD183M025P300A
	22000	30	40	16	21	5010	LD223M025O400A
	22000	35	35	16	21	5010	LD223M025P350A
	33000	35	40	11	14	8110	LD333M025P400A
	33000	40	40	11	14	8710	LD333M025Q400A
	39000	35	45	9	12	9010	LD393M025P450A
	39000	40	40	9	12	9610	LD393M025Q400A
	47000	35	50	8	10	9610	LD473M025P500A
	56000	35	60	6	8	10310	LD563M025P600A
56000	40	50	6	8	10810	LD563M025Q500A	
68000	35	80	5	7	11310	LD683M025P800A	
68000	40	60	5	7	11810	LD683M025Q600A	
82000	40	80	4	6	13510	LD823M025Q800A	
35	3300	22	25	77	100	1810	LD332M035M250A
	3900	22	30	65	85	2110	LD392M035M300A
	4700	25	25	54	71	2210	LD472M035N250A
	5600	22	35	46	59	2310	LD562M035M350A
	5600	25	30	46	59	2310	LD562M035N300A
	6800	22	40	38	49	2910	LD682M035M400A
	6800	25	35	38	49	2910	LD682M035N350A
	6800	30	25	38	49	2910	LD682M035O250A
	8200	22	50	31	40	2810	LD822M035M500A
	8200	25	40	31	40	2810	LD822M035N400A
	8200	30	30	31	40	2810	LD822M035O300A
	8200	35	25	31	40	2910	LD822M035P250A

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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
35	10000	25	45	26	33	3110	LD103M035N450A
	10000	30	35	26	33	3210	LD103M035O350A
	12000	25	50	26	33	3510	LD123M035N500A
	12000	30	40	26	33	3510	LD123M035O400A
	12000	35	30	26	33	3610	LD123M035P300A
	15000	30	45	20	27	4110	LD153M035O450A
	15000	35	35	20	27	4110	LD153M035P350A
	18000	30	50	17	22	4610	LD183M035O500A
	18000	35	40	17	22	4710	LD183M035P400A
	22000	35	45	14	18	5310	LD223M035P450A
	27000	35	45	13	17	8210	LD273M035P450A
	27000	40	40	13	17	8210	LD273M035Q400A
	33000	35	50	11	14	8710	LD333M035P500A
	39000	35	60	9	12	10310	LD393M035P600A
	39000	40	50	9	12	10310	LD393M035Q500A
	47000	35	80	8	10	11410	LD473M035P800A
	47000	40	60	8	10	10810	LD473M035Q600A
	56000	40	70	6	8	12110	LD563M035Q700A
68000	40	80	5	7	14210	LD683M035Q800A	
50	2200	22	25	92	120	1710	LD222M050M250A
	2700	22	30	76	98	1910	LD272M050M300A
	2700	25	25	76	98	1910	LD272M050N250A
	3300	25	30	62	80	1810	LD332M050N300A
	3900	22	35	52	68	2110	LD392M050M350A
	3900	25	30	52	68	2110	LD392M050N300A
	3900	30	25	52	68	2410	LD392M050O250A
	4700	22	40	43	56	2410	LD472M050M400A
	4700	25	35	43	56	2410	LD472M050N350A
	5600	22	50	36	47	2510	LD562M050M500A
	5600	25	40	36	47	2510	LD562M050N400A
	5600	30	30	36	47	2510	LD562M050O300A
	5600	35	25	36	47	2610	LD562M050P250A
	6800	25	45	30	39	3210	LD682M050N450A
	6800	30	35	30	39	3210	LD682M050O350A
	8200	25	50	25	32	3010	LD822M050N500A
	8200	30	40	25	32	3010	LD822M050O400A
	8200	35	30	25	32	3010	LD822M050P300A
	10000	30	45	20	27	3410	LD103M050O450A
	10000	35	35	20	27	3410	LD103M050P350A
	12000	30	45	26	33	3810	LD123M050O450A
	12000	35	35	26	33	3810	LD123M050P350A
15000	30	50	20	27	4510	LD153M050O500A	
15000	35	40	20	27	7710	LD153M050P400A	
15000	40	40	20	27	8110	LD153M050Q400A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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
50	18000	35	45	17	22	8310	LD183M050P450A ☐☐
	18000	40	40	17	22	8310	LD183M050Q400A ☐☐
	22000	35	50	14	18	9110	LD223M050P500A ☐☐
	22000	40	50	14	18	9410	LD223M050Q500A ☐☐
	27000	35	80	11	15	11210	LD273M050P800A ☐☐
	27000	40	60	11	15	10810	LD273M050Q600A ☐☐
	33000	35	80	9	12	13410	LD333M050P800A ☐☐
	33000	40	70	9	12	13410	LD333M050Q700A ☐☐
	39000	40	80	8	10	15510	LD393M050Q800A ☐☐
63	1500	22	25	140	180	1610	LD152M063M250A ☐☐
	1800	22	25	120	150	1810	LD182M063M250A ☐☐
	2200	22	30	92	120	2010	LD222M063M300A ☐☐
	2200	25	25	92	120	2010	LD222M063N250A ☐☐
	2700	22	35	76	98	2210	LD272M063M350A ☐☐
	2700	25	30	76	98	2310	LD272M063N300A ☐☐
	3300	22	40	62	80	2310	LD332M063M400A ☐☐
	3300	25	35	62	80	2310	LD332M063N350A ☐☐
	3300	30	25	62	80	2310	LD332M063O250A ☐☐
	3900	22	45	52	68	2510	LD392M063M450A ☐☐
	3900	25	40	52	68	2610	LD392M063N400A ☐☐
	3900	30	30	52	68	2610	LD392M063O300A ☐☐
	3900	35	25	52	68	2710	LD392M063P250A ☐☐
	4700	30	30	43	56	2910	LD472M063O300A ☐☐
	5600	25	45	36	47	3110	LD562M063N450A ☐☐
	5600	30	35	36	47	3210	LD562M063O350A ☐☐
	5600	35	30	36	47	3310	LD562M063P300A ☐☐
	6800	30	40	30	39	3610	LD682M063O400A ☐☐
	6800	35	35	30	39	3710	LD682M063P350A ☐☐
	8200	30	50	25	32	4710	LD822M063O500A ☐☐
	8200	35	40	25	32	4810	LD822M063P400A ☐☐
	10000	35	45	20	27	5310	LD103M063P450A ☐☐
	12000	35	50	21	28	7810	LD123M063P500A ☐☐
	12000	40	40	21	28	8610	LD123M063Q400A ☐☐
	15000	35	70	17	22	10210	LD153M063P700A ☐☐
	15000	40	50	17	22	9510	LD153M063Q500A ☐☐
	18000	35	80	14	18	11210	LD183M063P800A ☐☐
18000	40	60	14	18	10710	LD183M063Q600A ☐☐	
27000	40	80	9	12	12710	LD273M063Q800A ☐☐	
80	1000	22	25	150	200	1310	LD102M080M250A ☐☐
	1200	22	30	130	170	1510	LD122M080M300A ☐☐
	1500	25	25	100	130	1710	LD152M080N250A ☐☐
	1800	22	35	85	110	1910	LD182M080M350A ☐☐
	1800	25	30	85	110	1910	LD182M080N300A ☐☐

☐☐: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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
80	2200	22	40	70	90	2110	LD222M080M400A
	2200	25	35	70	90	2210	LD222M080N350A
	2200	30	25	70	90	2210	LD222M080O250A
	2700	22	50	57	74	2510	LD272M080M500A
	2700	25	40	57	74	2510	LD272M080N400A
	2700	30	30	57	74	2510	LD272M080O300A
	2700	35	25	57	74	2510	LD272M080P250A
	3300	25	45	46	60	2810	LD332M080N450A
	3300	30	35	46	60	2810	LD332M080O350A
	3900	25	50	39	51	3110	LD392M080N500A
	3900	30	40	39	51	3210	LD392M080O400A
	3900	35	30	39	51	3210	LD392M080P300A
	4700	30	45	33	42	3610	LD472M080O450A
	4700	35	35	33	42	3610	LD472M080P350A
	5600	30	50	27	36	3810	LD562M080O500A
	5600	35	40	27	36	3810	LD562M080P400A
	6800	35	50	23	29	4110	LD682M080P500A
	8200	35	50	19	24	6910	LD822M080P500A
	10000	35	60	22	27	8710	LD103M080P600A
	12000	35	70	18	22	9710	LD123M080P700A
12000	40	50	18	22	9010	LD123M080Q500A	
15000	35	80	14	18	10510	LD153M080P800A	
15000	40	60	14	18	10210	LD153M080Q600A	
18000	40	80	12	15	12310	LD183M080Q800A	
100	680	22	25	220	290	1110	LD681M100M250A
	820	22	30	180	240	1210	LD821M100M300A
	1000	25	25	150	200	1410	LD102M100N250A
	1200	22	35	130	170	1610	LD122M100M350A
	1200	25	30	130	170	1610	LD122M100N300A
	1500	22	40	100	130	1810	LD152M100M400A
	1500	25	35	100	130	1810	LD152M100N350A
	1500	30	25	100	130	1810	LD152M100O250A
	1800	22	50	85	110	2110	LD182M100M500A
	1800	25	40	85	110	2010	LD182M100N400A
	1800	30	30	85	110	2110	LD182M100O300A
	1800	35	25	85	110	2210	LD182M100P250A
	2200	25	45	70	90	2210	LD222M100N450A
	2200	30	35	70	90	2310	LD222M100O350A
	2200	35	30	70	90	2510	LD222M100P300A
	2700	25	50	57	74	2610	LD272M100N500A
	2700	30	40	57	74	2710	LD272M100O400A
	3300	30	45	46	60	3010	LD332M100O450A
3300	35	35	46	60	3110	LD332M100P350A	
3900	30	45	39	51	3410	LD392M100O450A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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
100	3900	35	35	39	51	3410	LD392M100P350A
	4700	35	40	33	42	4010	LD472M100P400A
	5600	35	45	27	36	7010	LD562M100P450A
	5600	40	40	27	36	7410	LD562M100Q400A
	6800	35	50	23	29	8010	LD682M100P500A
	6800	40	50	23	29	8910	LD682M100Q500A
	8200	35	70	19	24	9610	LD822M100P700A
	8200	40	60	19	24	9610	LD822M100Q600A
	10000	35	80	15	20	10410	LD103M100P800A
	10000	40	60	15	20	10210	LD103M100Q600A
	12000	40	80	13	17	12310	LD123M100Q800A
160	220	22	20	500	900	1010	LD221M160M200A
	270	22	25	410	740	1110	LD271M160M250A
	330	22	25	330	600	1510	LD331M160M250A
	390	22	30	280	510	1510	LD391M160M300A
	390	25	25	280	510	1610	LD391M160N250A
	470	22	35	230	420	1810	LD471M160M350A
	470	25	25	230	420	1710	LD471M160N250A
	560	22	35	200	360	2110	LD561M160M350A
	560	25	30	200	360	2210	LD561M160N300A
	560	30	25	200	360	2110	LD561M160Q250A
	680	22	40	160	290	2310	LD681M160M400A
	680	25	35	160	290	2310	LD681M160N350A
	820	22	50	130	240	2710	LD821M160M500A
	820	25	40	130	240	2710	LD821M160N400A
	820	30	30	130	240	2710	LD821M160Q300A
	820	35	25	130	240	2710	LD821M160P250A
	1000	25	45	110	200	3310	LD102M160N450A
	1000	30	35	110	200	3410	LD102M160Q350A
	1000	35	30	110	200	3410	LD102M160P300A
	1200	25	50	94	170	3710	LD122M160N500A
	1200	30	40	94	170	3810	LD122M160Q400A
	1200	35	35	94	170	3810	LD122M160P350A
	1500	30	45	72	130	4410	LD152M160Q450A
	1500	35	40	72	130	4410	LD152M160P400A
	1800	35	40	61	110	4410	LD182M160P400A
	2200	35	45	50	90	4910	LD222M160P450A
	2700	35	50	41	74	5310	LD272M160P500A
	3300	35	70	33	60	5510	LD332M160P700A
3300	40	60	33	60	5510	LD332M160Q600A	
3900	35	80	28	51	5910	LD392M160P800A	
4700	40	80	24	42	7310	LD472M160Q800A	
180	270	22	25	410	740	1210	LD271M180M250A
	330	22	30	330	600	1510	LD331M180M300A

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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
180	390	25	25	280	510	1680	LD391M180N250A
	470	22	35	230	420	1710	LD471M180M350A
	470	25	30	230	420	1710	LD471M180N300A
	470	30	25	230	420	1810	LD471M180O250A
	560	22	40	200	360	2120	LD561M180M400A
	560	25	35	200	360	2120	LD561M180N350A
	680	22	50	160	290	2410	LD681M180M500A
	680	25	40	160	290	2410	LD681M180N400A
	680	30	30	160	290	2410	LD681M180O300A
	680	35	25	160	290	2410	LD681M180P250A
	820	25	45	130	240	2710	LD821M180N450A
	820	30	35	130	240	2710	LD821M180O350A
	820	35	30	130	240	2710	LD821M180P300A
	1000	25	50	110	200	3510	LD102M180N500A
	1000	30	40	110	200	3510	LD102M180O400A
	1200	30	45	94	170	3920	LD122M180O450A
	1200	35	35	94	170	3920	LD122M180P350A
	1500	35	45	72	130	4610	LD152M180P450A
1800	35	50	61	110	4110	LD182M180P500A	
200	220	22	25	500	900	1210	LD221M200M250A
	270	22	25	410	740	1320	LD271M200M250A
	330	22	25	330	600	1540	LD331M200M250A
	330	22	30	330	600	1610	LD331M200M300A
	330	25	25	330	600	1640	LD331M200N250A
	390	22	30	280	510	1750	LD391M200M300A
	390	25	25	280	510	1680	LD391M200N250A
	390	25	30	280	510	1870	LD391M200N300A
	390	30	25	280	510	2060	LD391M200O250A
	470	22	30	230	420	1950	LD471M200M300A
	470	22	35	230	420	2000	LD471M200M350A
	470	25	25	230	420	1950	LD471M200N250A
	470	25	30	230	420	2050	LD471M200N300A
	470	30	25	230	420	2280	LD471M200O250A
	560	22	35	200	360	2250	LD561M200M350A
	560	22	40	200	360	2320	LD561M200M400A
	560	25	30	200	360	2240	LD561M200N300A
	560	25	35	200	360	2340	LD561M200N350A
	560	30	25	200	360	2340	LD561M200O250A
	560	30	30	200	360	2590	LD561M200O300A
	560	35	25	200	360	2580	LD561M200P250A
	680	22	40	160	290	2600	LD681M200M400A
680	22	45	160	290	2570	LD681M200M450A	
680	25	35	160	290	2490	LD681M200N350A	
680	25	40	160	290	2680	LD681M200N400A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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	680	30	25	160	290	2420	LD681M200O250A
	680	30	30	160	290	2870	LD681M200O300A
	680	35	25	160	290	2900	LD681M200P250A
	820	22	45	130	240	2990	LD821M200M450A
	820	25	35	130	240	2760	LD821M200N350A
	820	25	40	130	240	2990	LD821M200N400A
	820	25	45	130	240	3060	LD821M200N450A
	820	30	30	130	240	2990	LD821M200O300A
	820	30	35	130	240	3280	LD821M200O350A
	820	35	25	130	240	3060	LD821M200P250A
	820	35	30	130	240	3300	LD821M200P300A
	1000	25	45	110	200	3630	LD102M200N450A
	1000	25	50	110	200	3800	LD102M200N500A
	1000	30	30	110	200	3510	LD102M200O300A
	1000	30	35	110	200	3630	LD102M200O350A
	1000	30	40	110	200	4000	LD102M200O400A
	1000	35	25	110	200	3510	LD102M200P250A
	1000	35	30	110	200	4100	LD102M200P300A
	1200	25	50	94	170	4030	LD122M200N500A
	1200	30	45	94	170	4530	LD122M200O450A
	1200	35	35	94	170	4530	LD122M200P350A
	1500	30	50	72	130	5260	LD152M200O500A
	1500	35	35	72	130	4800	LD152M200P350A
	1500	35	40	72	130	5260	LD152M200P400A
	1800	30	50	61	110	5310	LD182M200O500A
	1800	30	55	61	110	5670	LD182M200O550A
	1800	35	40	61	110	5310	LD182M200P400A
	1800	35	45	61	110	5770	LD182M200P450A
	2200	35	45	50	90	5810	LD222M200P450A
	2200	35	50	50	90	5910	LD222M200P500A
	2700	35	55	41	74	6030	LD272M200P550A
	2700	35	60	41	74	6190	LD272M200P600A
	2700	40	50	41	74	6190	LD272M200Q500A
3300	35	80	33	60	7500	LD332M200P800A	
3300	40	60	33	60	7500	LD332M200Q600A	
3900	40	80	28	51	8000	LD392M200Q800A	
250	100	22	25	1110	1990	730	LD101M250M250A
	150	22	25	740	1330	930	LD151M250M250A
	180	22	25	620	1110	1120	LD181M250M250A
	220	22	30	500	900	1290	LD221M250M300A
	220	25	25	500	900	1290	LD221M250N250A
	270	22	30	410	740	1470	LD271M250M300A
	270	25	25	410	740	1540	LD271M250N250A
330	22	30	330	600	1670	LD331M250M300A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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	330	22	35	330	600	1700	LD331M250M350A
	330	25	25	330	600	1630	LD331M250N250A
	330	25	30	330	600	1790	LD331M250N300A
	390	22	35	280	510	1910	LD391M250M350A
	390	22	40	280	510	1940	LD391M250M400A
	390	25	30	280	510	1860	LD391M250N300A
	390	25	35	280	510	2020	LD391M250N350A
	390	30	25	280	510	2150	LD391M250O250A
	470	22	40	230	420	2190	LD471M250M400A
	470	22	45	230	420	2220	LD471M250M450A
	470	25	30	230	420	2060	LD471M250N300A
	470	25	35	230	420	2230	LD471M250N350A
	470	30	30	230	420	2450	LD471M250O300A
	560	22	40	200	360	2460	LD561M250M400A
	560	22	50	200	360	2540	LD561M250M500A
	560	25	35	200	360	2460	LD561M250N350A
	560	25	40	200	360	2530	LD561M250N400A
	560	30	30	200	360	2700	LD561M250O300A
	560	35	25	200	360	2730	LD561M250P250A
	680	22	50	160	290	2900	LD681M250M500A
	680	25	40	160	290	2720	LD681M250N400A
	680	25	45	160	290	2900	LD681M250N450A
	680	30	35	160	290	3090	LD681M250O350A
	680	35	25	160	290	2900	LD681M250P250A
	680	35	30	160	290	3350	LD681M250P300A
	820	25	45	130	240	3280	LD821M250N450A
	820	25	50	130	240	3360	LD821M250N500A
	820	25	55	130	240	3480	LD821M250N550A
	820	30	35	130	240	3300	LD821M250O350A
	820	30	40	130	240	3390	LD821M250O400A
	820	35	30	130	240	3440	LD821M250P300A
	820	35	35	130	240	3810	LD821M250P350A
	1000	25	50	110	200	3800	LD102M250N500A
	1000	30	40	110	200	4000	LD102M250O400A
	1000	30	45	110	200	4290	LD102M250O450A
	1000	35	30	110	200	4100	LD102M250P300A
	1000	35	35	110	200	4290	LD102M250P350A
	1000	35	40	110	200	4380	LD102M250P400A
	1200	30	45	94	170	4620	LD122M250O450A
	1200	30	50	94	170	4740	LD122M250O500A
1200	35	35	94	170	4620	LD122M250P350A	
1200	35	40	94	170	4760	LD122M250P400A	
1500	35	40	72	130	5380	LD152M250P400A	
1500	35	45	72	130	5480	LD152M250P450A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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	1800	35	45	61	110	5780	LD182M250P450A
	1800	35	55	61	110	6350	LD182M250P550A
	2200	35	55	50	90	6450	LD222M250P550A
	2200	35	65	50	90	6800	LD222M250P650A
315	100	22	25	1110	1990	730	LD101M315M250A
	120	22	30	920	1660	760	LD121M315M300A
	150	22	30	740	1330	940	LD151M315M300A
	150	25	25	740	1330	940	LD151M315N250A
	180	22	35	620	1110	1120	LD181M315M350A
	180	25	30	620	1110	1120	LD181M315N300A
	220	22	40	500	900	1320	LD221M315M400A
	220	25	35	500	900	1320	LD221M315N350A
	220	30	25	500	900	1320	LD221M315O250A
	270	22	45	410	740	1610	LD271M315M450A
	270	25	40	410	740	1610	LD271M315N400A
	270	30	30	410	740	1610	LD271M315O300A
	270	35	25	410	740	1610	LD271M315P250A
	330	25	45	330	600	1760	LD331M315N450A
	330	30	35	330	600	1760	LD331M315O350A
	390	25	50	280	510	2210	LD391M315N500A
	390	30	40	280	510	2210	LD391M315O400A
	390	35	30	280	510	2210	LD391M315P300A
	470	30	45	230	420	2450	LD471M315O450A
	470	35	35	230	420	2450	LD471M315P350A
560	30	50	200	360	2850	LD561M315O500A	
560	35	40	200	360	2850	LD561M315P400A	
680	35	45	160	290	2310	LD681M315P450A	
350	82	22	25	1350	2430	650	LD820M350M250A
	100	22	25	1110	1990	730	LD101M350M250A
	120	22	30	920	1660	830	LD121M350M300A
	120	25	25	920	1660	830	LD121M350N250A
	150	22	35	740	1330	950	LD151M350M350A
	150	25	30	740	1330	950	LD151M350N300A
	180	22	40	620	1110	1120	LD181M350M400A
	180	30	25	620	1110	1120	LD181M350O250A
	220	22	45	500	900	1420	LD221M350M450A
	220	25	35	500	900	1420	LD221M350N350A
	220	30	30	500	900	1420	LD221M350O300A
	220	35	25	500	900	1510	LD221M350P250A
	270	25	40	410	740	1720	LD271M350N400A
	270	30	35	410	740	1720	LD271M350O350A
	330	25	45	330	600	1830	LD331M350N450A
330	30	40	330	600	1830	LD331M350O400A	
330	35	30	330	600	1830	LD331M350P300A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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	390	30	40	280	510	2340	LD391M350O400A
	390	35	35	280	510	2340	LD391M350P350A
	470	30	45	230	420	2490	LD471M350O450A
	470	35	40	230	420	2490	LD471M350P400A
	560	35	45	200	360	3220	LD561M350P450A
	680	35	45	160	290	3700	LD681M350P450A
	820	35	50	130	240	4500	LD821M350P500A
	1000	35	55	110	200	5200	LD102M350P550A
	1200	35	60	94	170	5500	LD122M350P600A
	1200	40	50	94	170	5600	LD122M350Q500A
	1500	40	60	72	130	8500	LD152M350Q600A
	1800	40	70	61	110	7900	LD182M350Q700A
2200	40	80	50	90	8700	LD222M350Q800A	
400	68	22	25	1630	2930	630	LD680M400M250A
	82	22	25	1350	2430	790	LD820M400M250A
	100	22	25	1110	1990	870	LD101M400M250A
	100	22	30	1110	1990	910	LD101M400M300A
	100	25	25	1110	1990	1050	LD101M400N250A
	120	22	30	920	1660	990	LD121M400M300A
	120	22	35	920	1660	1100	LD121M400M350A
	120	25	25	920	1660	1100	LD121M400N250A
	120	25	30	920	1660	1200	LD121M400N300A
	150	22	30	740	1330	1150	LD151M400M300A
	150	22	35	740	1330	1190	LD151M400M350A
	150	25	25	740	1330	1150	LD151M400N250A
	150	25	30	740	1330	1220	LD151M400N300A
	150	30	25	740	1330	1240	LD151M400O250A
	180	22	35	620	1110	1310	LD181M400M350A
	180	22	40	620	1110	1370	LD181M400M400A
	180	25	30	620	1110	1300	LD181M400N300A
	180	25	35	620	1110	1460	LD181M400N350A
	180	30	30	620	1110	1460	LD181M400O300A
	220	22	40	500	900	1530	LD221M400M400A
	220	22	50	500	900	1760	LD221M400M500A
	220	25	35	500	900	1500	LD221M400N350A
	220	25	40	500	900	1760	LD221M400N400A
	220	30	25	500	900	1530	LD221M400O250A
	220	30	30	500	900	1780	LD221M400O300A
	220	35	25	500	900	1810	LD221M400P250A
	220	35	30	500	900	1860	LD221M400P300A
270	22	45	410	740	1790	LD271M400M450A	
270	25	40	410	740	1830	LD271M400N400A	
270	25	45	410	740	1970	LD271M400N450A	
270	30	30	410	740	1890	LD271M400O300A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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	270	30	35	410	740	2040	LD271M400O350A
	270	35	25	410	740	2170	LD271M400P250A
	270	35	30	410	740	2040	LD271M400P300A
	330	25	45	330	600	2030	LD331M400N450A
	330	25	50	330	600	2200	LD331M400N500A
	330	30	35	330	600	2150	LD331M400O350A
	330	30	40	330	600	2470	LD331M400O400A
	330	35	30	330	600	2370	LD331M400P300A
	390	25	50	280	510	2330	LD391M400N500A
	390	30	35	280	510	2350	LD391M400O350A
	390	30	45	280	510	2590	LD391M400O450A
	390	35	30	280	510	2320	LD391M400P300A
	390	35	35	280	510	2550	LD391M400P350A
	470	25	55	230	420	2660	LD471M400N550A
	470	30	40	230	420	2610	LD471M400O400A
	470	30	50	230	420	2750	LD471M400O500A
	470	35	35	230	420	2580	LD471M400P350A
	470	35	40	230	420	2790	LD471M400P400A
	560	30	55	200	360	3360	LD561M400O550A
	560	35	35	200	360	3150	LD561M400P350A
	560	35	45	200	360	3430	LD561M400P450A
	560	40	40	200	360	3480	LD561M400Q400A
	680	30	55	160	290	3500	LD681M400O550A
	680	35	40	160	290	3850	LD681M400P400A
	680	35	50	160	290	3930	LD681M400P500A
	680	35	55	160	290	4160	LD681M400P550A
	680	40	50	160	290	4380	LD681M400Q500A
	820	35	50	130	240	4500	LD821M400P500A
	820	35	55	130	240	4600	LD821M400P550A
	820	40	50	130	240	4600	LD821M400Q500A
	1000	35	65	110	200	5200	LD102M400P650A
	1000	40	60	110	200	5300	LD102M400Q600A
1000	45	50	110	200	5300	LD102M400V500A	
1200	35	70	94	170	5900	LD122M400P700A	
1200	40	60	94	170	5900	LD122M400Q600A	
1500	40	70	72	130	6700	LD152M400Q700A	
1800	45	80	61	110	7400	LD182M400V800A	
420	100	22	30	1470	2650	1080	LD101M420M300A
	100	25	25	1470	2650	1080	LD101M420N250A
	120	25	30	1230	2210	1230	LD121M420N300A
	150	22	40	980	1770	1190	LD151M420M400A
	150	25	35	980	1770	1240	LD151M420N350A
	180	25	35	820	1470	1460	LD181M420N350A
	180	30	30	820	1470	1460	LD181M420O300A

: See description at end of standard ratings

STANDARD RATINGS

V _R (V)	C _R (μF)	∅ D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (mΩ)	Max. ESR +20°C • 120Hz (mΩ)	I _R - Max. Ripple Current +85°C • 120Hz (mA rms)	CapXon Part Number
420	220	25	40	670	1210	1820	LD221M420N400A
	220	30	35	670	1210	1870	LD221M420O350A
	270	25	55	540	980	2070	LD271M420N550A
	270	30	35	540	980	2070	LD271M420O350A
	270	35	30	540	980	2070	LD271M420P300A
	330	30	45	440	800	2400	LD331M420O450A
	330	35	35	440	800	2400	LD331M420P350A
	390	30	50	380	680	2660	LD391M420O500A
	470	30	55	310	560	2840	LD471M420O550A
	470	35	45	310	560	2890	LD471M420P450A
	560	35	50	260	470	3450	LD561M420P500A
	680	35	60	220	390	4010	LD681M420P600A
	820	35	65	180	320	4610	LD821M420P650A
	1000	35	80	150	270	5610	LD102M420P800A
	1500	40	80	100	180	7210	LD152M420Q800A
1800	45	80	83	150	7810	LD182M420V800A	
450	47	22	25	3130	5640	530	LD470M450M250A
	56	22	25	2630	4740	610	LD560M450M250A
	68	22	30	2170	3900	690	LD680M450M300A
	68	25	25	2170	3900	720	LD680M450N250A
	82	25	25	1790	3230	820	LD820M450N250A
	82	25	30	1790	3230	930	LD820M450N300A
	100	22	35	1470	2650	1100	LD101M450M350A
	100	25	30	1470	2650	1120	LD101M450N300A
	100	30	25	1470	2650	1130	LD101M450O250A
	120	22	40	1230	2210	1240	LD121M450M400A
	120	25	30	1230	2210	1240	LD121M450N300A
	120	30	25	1230	2210	1240	LD121M450O250A
	150	22	45	980	1770	1330	LD151M450M450A
	150	25	30	980	1770	1200	LD151M450N300A
	150	25	35	980	1770	1300	LD151M450N350A
	150	30	30	980	1770	1360	LD151M450O300A
	150	35	25	980	1770	1430	LD151M450P250A
	180	25	35	820	1470	1460	LD181M450N350A
	180	25	40	820	1470	1480	LD181M450N400A
	180	30	35	820	1470	1700	LD181M450O350A
	180	35	25	820	1470	1550	LD181M450P250A
	180	35	30	820	1470	1720	LD181M450P300A
	220	22	50	670	1210	1840	LD221M450M500A
	220	25	40	670	1210	1820	LD221M450N400A
	220	25	50	670	1210	1930	LD221M450N500A
220	30	35	670	1210	1870	LD221M450O350A	
220	30	40	670	1210	1930	LD221M450O400A	
220	35	25	670	1210	1880	LD221M450P250A	

: See description at end of standard ratings

STANDARD RATINGS

V_R (V)	C_R (μ F)	ϕ 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	220	35	30	670	1210	1940	LD221M450P300A ☐☐
	270	25	45	540	980	2110	LD271M450N450A ☐☐
	270	25	55	540	980	2220	LD271M450N550A ☐☐
	270	30	35	540	980	2100	LD271M450Q350A ☐☐
	270	30	40	540	980	2220	LD271M450Q400A ☐☐
	270	35	30	540	980	2050	LD271M450P300A ☐☐
	270	35	35	540	980	2220	LD271M450P350A ☐☐
	330	25	50	440	800	2240	LD331M450N500A ☐☐
	330	30	40	440	800	2240	LD331M450Q400A ☐☐
	330	30	45	440	800	2400	LD331M450Q450A ☐☐
	330	35	30	440	800	2350	LD331M450P300A ☐☐
	330	35	40	440	800	2530	LD331M450P400A ☐☐
	390	30	45	380	680	2640	LD391M450Q450A ☐☐
	390	30	55	380	680	2740	LD391M450Q550A ☐☐
	390	35	35	380	680	2630	LD391M450P350A ☐☐
	390	35	45	380	680	2830	LD391M450P450A ☐☐
	470	30	50	310	560	2750	LD471M450Q500A ☐☐
	470	35	40	310	560	2790	LD471M450P400A ☐☐
	470	35	50	310	560	3220	LD471M450P500A ☐☐
	470	40	40	310	560	3220	LD471M450Q400A ☐☐
	560	30	55	260	470	3630	LD561M450Q550A ☐☐
	560	35	45	260	470	3430	LD561M450P450A ☐☐
	560	35	55	260	470	3630	LD561M450P550A ☐☐
	560	40	50	260	470	3630	LD561M450Q500A ☐☐
	680	35	50	220	390	3490	LD681M450P500A ☐☐
	680	35	60	220	390	3520	LD681M450P600A ☐☐
	680	40	50	220	390	3510	LD681M450Q500A ☐☐
	820	35	65	180	320	4610	LD821M450P650A ☐☐
	820	40	55	180	320	4610	LD821M450Q550A ☐☐
	1000	35	70	150	270	5710	LD102M450P700A ☐☐
	1000	40	60	150	270	5210	LD102M450Q600A ☐☐
	1200	35	80	120	220	5910	LD122M450P800A ☐☐
1200	40	65	120	220	5910	LD122M450Q650A ☐☐	
1500	40	80	100	180	7310	LD152M450Q800A ☐☐	
1800	45	80	83	150	7910	LD182M450V800A ☐☐	
500	47	22	25	3130	5640	560	LD470M500M250A ☐☐
	56	25	25	2630	4740	620	LD560M500N250A ☐☐
	68	22	30	2170	3900	700	LD680M500M300A ☐☐
	68	25	25	2170	3900	750	LD680M500N250A ☐☐
	82	25	30	1790	3230	830	LD820M500N300A ☐☐
	100	25	30	1470	2650	960	LD101M500N300A ☐☐
	100	30	25	1470	2650	990	LD101M500Q250A ☐☐
	120	25	35	1230	2210	1120	LD121M500N350A ☐☐
120	30	30	1230	2210	1130	LD121M500Q300A ☐☐	

☐☐: See description at end of standard ratings

STANDARD RATINGS

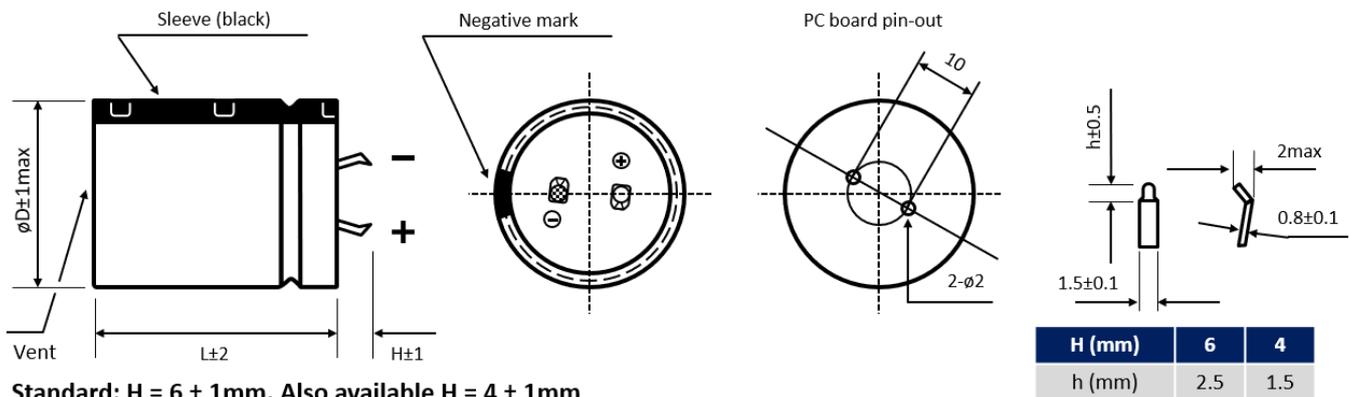
V_R (V)	C_R (μ F)	ϕ D (mm)	L (mm)	Typ. ESR +20°C • 120Hz (m Ω)	Max. ESR +20°C • 120Hz (m Ω)	I_R = Max. Ripple Current +85°C • 120Hz (mA rms)	CapXon Part Number
500	120	35	25	1230	2210	1150	LD121M500P250A
	150	25	40	980	1770	1300	LD151M500N400A
	150	30	30	980	1770	1320	LD151M500O300A
	150	35	25	980	1770	1360	LD151M500P250A
	180	25	45	820	1470	1580	LD181M500N450A
	180	30	35	820	1470	1600	LD181M500O350A
	180	35	30	820	1470	1630	LD181M500P300A
	220	25	55	670	1210	1760	LD221M500N550A
	220	30	40	670	1210	1730	LD221M500O400A
	220	35	35	670	1210	1800	LD221M500P350A
	270	30	45	540	980	2150	LD271M500O450A
	270	35	35	540	980	2150	LD271M500P350A
	330	30	50	440	800	2410	LD331M500O500A
	330	35	40	440	800	2320	LD331M500P400A
	390	35	45	380	680	2710	LD391M500P450A
	470	35	55	310	560	2990	LD471M500P550A
	560	35	60	260	470	3110	LD561M500P600A
	560	40	50	260	470	3130	LD561M500Q500A
	680	35	70	220	390	3210	LD681M500P700A
	680	40	60	220	390	3220	LD681M500Q600A
820	35	80	180	320	4610	LD821M500P800A	
820	40	70	180	320	4430	LD821M500Q700A	
1000	40	80	150	270	5910	LD102M500Q800A	
1200	40	80	120	220	5980	LD122M500Q800A	
1500	40	100	100	180	6310	LD152M500QA00A	

: 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

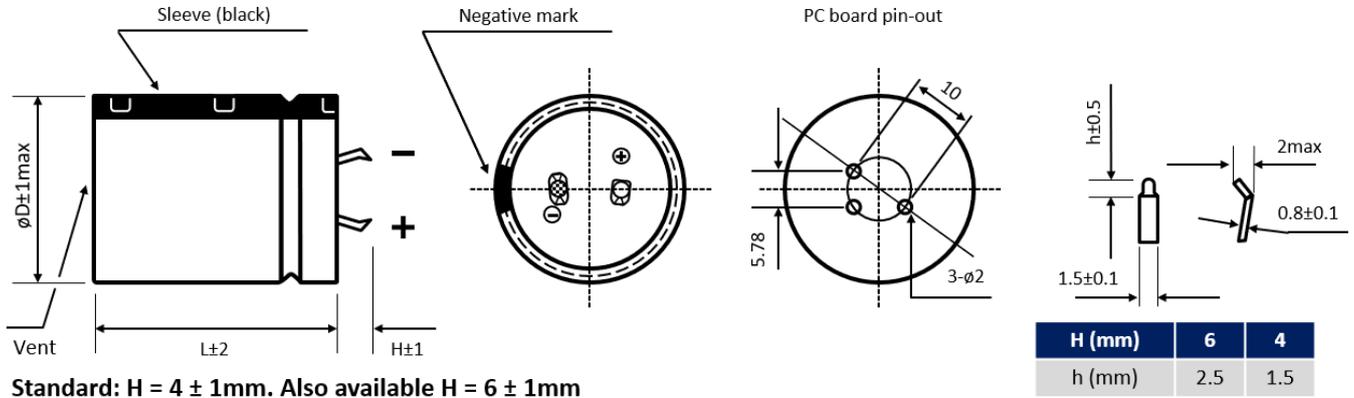
DIMENSIONS ▪ All dimensions in mm

2-pin version ▪ Standard type



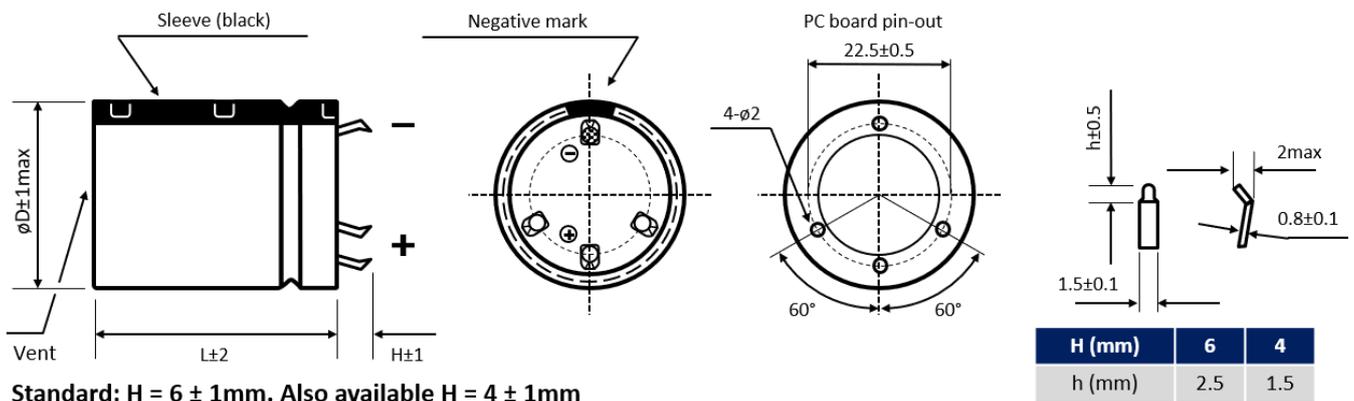
DIMENSIONS ▪ All dimensions in mm

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
$10 \leq V_R \leq 100$	0.88	1	1.07	1.15	1.15	1.15
$160 \leq V_R \leq 250$	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

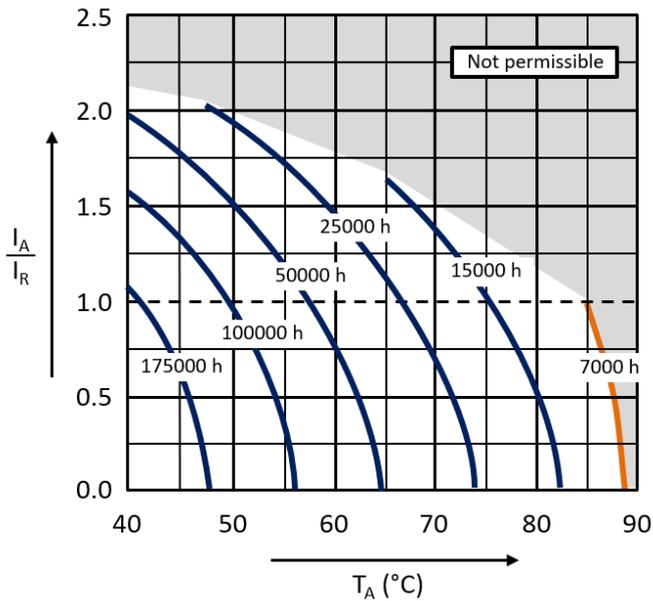
PRECAUTIONS, GUIDELINES AND PACKAGING INFORMATION

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.

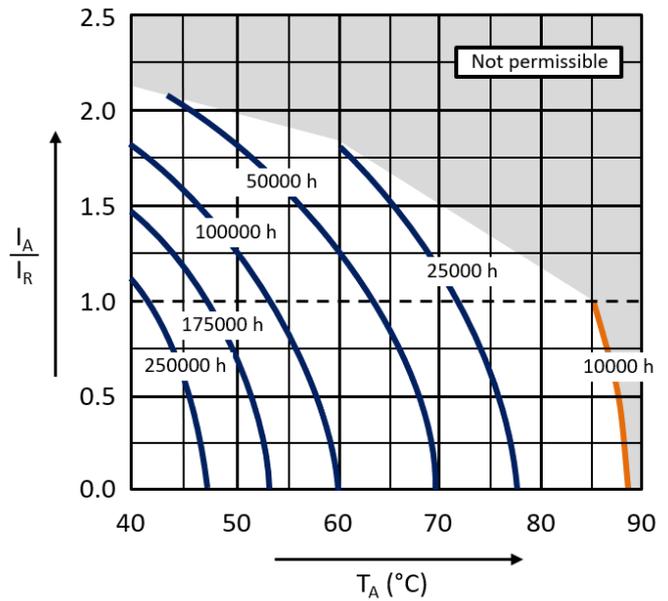
General Precautions & Guidelines	Packaging Information	Vibration Test Profiles	3D Models	Reliability Tests

USEFUL LIFE

$V_R \leq 100V$



$V_R \geq 160V$



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.