

ALUMINUM ELECTROLYTIC CAPACITOR(CD110X WP)

WP FEATURES

- High performance, standard
- $\Phi D \geq 8\text{mm}$ with top safety vent construction
- For general consumer and industrial electronic products applications

SPECIFICATIONS

Item	Performance Characteristics																
Rated Voltage Range	6.3V.DC~100V.DC								160V.DC~450V.DC								
Operating Temperature Range	-40°C+85°C								-25°C+85°C								
Nominal Capacitance Range	0.1 μ F~22000 μ F								1 μ F~220Mf								
Capacitance Tolerance	$\pm 20\%$ (M,+25°C,120HZ)																
Leakage Current	(V) Rated Working Voltage	6.3~100								160~450							
		After application of rated voltage for 2 minute: $1 \leq 0.01CV$ or $3\delta A$ (Whichever is greater) $25^\circ C$								After application of rated voltage for 2 minute: $1 \leq 0.02CV$ or $5\delta A$ (Whichever is greater) $25^\circ C$							
		Nominal Capacitance in δF ;								Rated working Voltage in V							
(tg δ) Dissipation Factor	When capacitance is over 1000 μ F, tg δ shall be added 10.02 with increase of every 1000 μ F																
	(V) Rated working voltage	6.3	10	16	25	35	50	63	100	160	200	250	350	400	450		
	tan δ (MAX) (25°C,120HZ)	0.24	0.20	0.16	0.14	0.12	0.10	0.09	0.08	0.15	0.15	0.15	0.20	0.20	0.20		
Temperature Stability	Rated working voltage(V)		6.3	10	16	25	35	50	63	100	160	200	250	350	400	450	
	(120HZ) Impedance	Z-25°C/Z+20°C	4	3	8						3			6		10	
	Ratio(MAX)	Z-40°C/Z+20c	8	6	4	3											
Load Life	After application of rated working voltage and maximum permissible ripple current specified of +85°C for 2000hours at +85°C, Capacitors meet the characteristics requirement measured at +25°C listed below:																
	Leakage Current								Less than the initial specified value								
	tg δ								Less than 200% of the initial specified value								
	Capacitance Change								Within $\pm 20\%$ of the initial measured value								
Shelf Life	After Leaving capacitor under no load at +85°C for 1000 hours, Capacitors meet the characteristics listed above.																

MULTIPLIER FOR RIPPLE CURRENT

Frequency coefficient

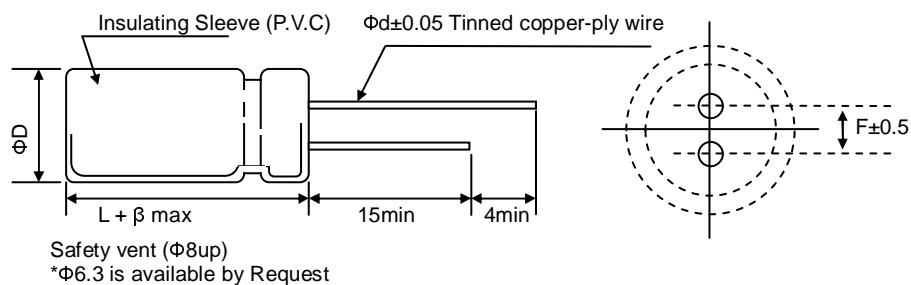
Cap(μ F)	Frequency (Hz)	50(60)	100(120)	1K	10K
6.3~35		0.8	1	1.1	1.2
50~63	> 1000	0.8	1	1.2	1.3
	≤ 1000	0.8	1	1.5	1.7
100~250	> 1000	0.8	1	1.2	1.3
	≤ 1000	0.8	1	1.6	1.9
350~450		0.8	1	1.3	1.5

Temperature coefficient

Ambient Temperature(°C)	+85	+70	+50
Factor	1.0	1.6	2.0

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CASE SIZE TABLE



β	0.5		1.0					
ΦD	5	6.3	8	10	12,13	16	18	22
$F \pm 0.5$	2.0	2.5	3.5	5		7.5		10.5
$\Phi d \pm 0.1$	0.5		0.6		0.8			
L	11		12,16	14,17,20	20,25	25,30,35	30,35,40	40
α	1.0		$L < 17; 1.0; L \geq 17; 2.0$					

DIMENSIONS, RATED VOLTAGE RANGE AND CAPACITANCE

V uF	160		200		250		350		400		450	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
1	5x11		6.3x11		6.3x11	17	8x12	20	8x12	20	8x12	21
1.5	6.3x11		6.3x11		6.3x11	23	8x12	23	8x12	23	8x12	13
2.2	6.3x11		6.3x11		8x12	30	8X16 (10X14)	31	8X16 (10X14)31	31	8X16 (10X14)	29
3.3	6.3x11		6.3x11	36	8x12	45	10x14	45	10x14	43	10x17	40
4.7	8x12	45	8x12	51	10x14	54	10x17	56	10x17	56	10x20	56
6.8	8x12	63	10x17	65	10x17	69	10x20	76	10x20	69	13x20	64
10	8X16 (10X14)	83	10x17	85	10x17	90	13x20	100	13x20	90	13x20	84
15	10x17	102	10x20	103	10x20	115	17x20	142	13x20	128	13x25	107
22	10x17	102	10x20	103	13x20	150	13x25	185	13x25	180	13x25	140
33	12x20	180	13x20	205	13x20	205	16x25	230	16x25	230	16x30	180
47	13x20	230	13x20	230	13x25	260	16x30	270	16x30	270	18x30	220
68	13x25	296	13x25	307	16x25	346						
100	16x25	385	16x25	400	16x30	450						
150	18x30	496	18x30	496								
220	18x35	645	18x35	645								

(1) Case Size DxL(mm)

(2) Max allowable ripple current (mArms+85°C120Hz)

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DIMENSIONS, RATED VOLTAGE RANGE AND CAPACITANCE

V uF	6.3		10		16		25		35		50		63		100	
	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)	(1)	(2)
0.1											5X11	1.1				
0.15											5X11	1.5				
0.22											5X11	2.5				
0.33											5X11	4				
0.47											5X11	7			5X11	10
0.68											5X11	10			5X11	16
1											5X11	13			5X11	21
1.5											5X11	17			5X11	27
2.2											5X11	23			5X11	35
3.3											5X11	35			5X11	45
4.7											5X11	41			5X11	50
6.8											5X11	46			5X11	57
10					5X11		5X11		5X11		5X11	60	5X11	70	6.3x11	75
15					5X11		5X11		5X11		5X11	73	6.3X12	84	6.3x11	103
22					5X11		5X11		5X11	90	5X11	95	6.3X12	110	8X12	135
33					5X11		5X11	95	5X11	110	5X11	130	6.3X12	140	8X12	185
47			5X11	80	5X11	115	5X11	120	5X12	135	6.3X11	160	8X12	190	10X14	220
68			5X11	100	6.3X11	134	6.3X11	142	6.3X11	165	8X12	207	8X12	223	10X20	292
100	5X11	135	5X11	140	6.3X11	175	6.3X11	185	6.3X11	215	8X12	270	8X16 (10X14)	290	10X20	380
150	5X11	170	6.3X11	180	6.3X11	215	8X12	238	8X12	285	10X14	334	10X17	376	13X20	469
220	6.3X11	220	6.3X11	230	6.3X11	280	8X12	310	8X12	370	10X17	435	10X20	490	13X25	610
330	6.3X11	280	8X12	310	8X12	360	10X14	410	10X14	500	10X20	590	13X20	680	16X25	760
470	6.3X11	360	8x12	400	8X12	460	10X14	550	10X17	680	13X20	760	13X25	880	16X30	950
680	8X12	450	10X14	520	10X14	615	10X20	669	13X20	907	13X25	1038	16X25	1038	18x35	1038
1000	8X12	590	10X14	660	10X17	800	10X20	870	13X20	1180	16X25	1350	16X25	1350	18x40	1350
1500	10X14	750	10X20	870	13X20	1015	13X20	1207	16X25	1392	16X30	1523	18X30	1769		
2200	10X17	920	10X20	1090	13X20	1320	16X25	1570	16X25	1810	18X30	1980	18X35	2300		
3300	12X20	1200	13X20	1440	13X25	1670	16X25	2000	16X30	2100	18X35	2340				
4700	13X20	1550	13X25	1800	16X25	2120	16x30	2120	18x35	2500						
6800	13X25	1920	16X25	2250	16X30	2250	18x35	2600								
10000	13X25	2370	18x30	2250	18x35	2710										
15000	18x30	2550	18x35	2540												
22000	18x35	3200														