

# Aluminum Electrolytic Capacitors

**YUSCON**®

## CK Series

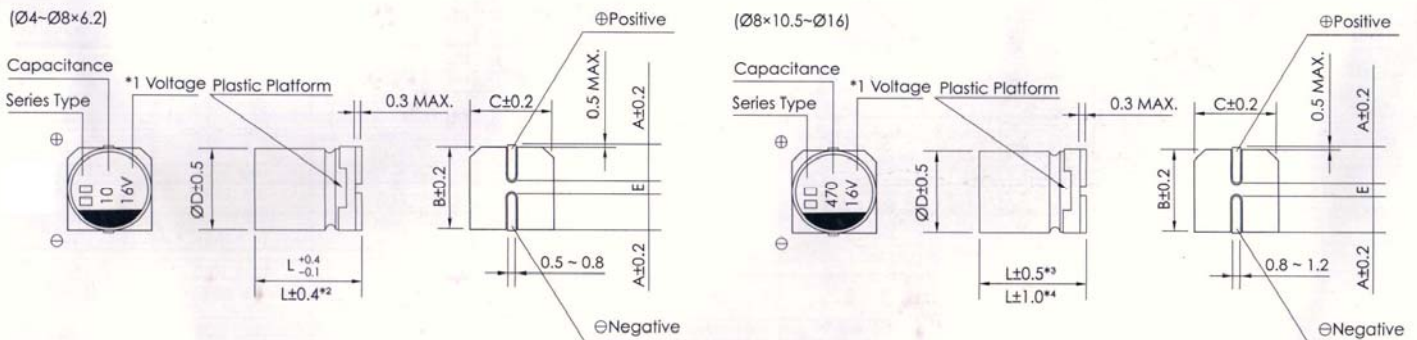
- Operating with wide temperature range - 40 ~ +105 °C
- Load life of 1000~2000 hours
- Comply with the RoHS directive



### ■ SPECIFICATIONS

Item	Characteristics										
Operating Temperature Range	- 40 ~ +105°C										
Voltage Range	4 ~ 100 V.DC										
Nominal Cap. Range	0.1 ~ 6800 μ F										
Capacitance Tolerance	- 20% ~ + 20% (at 20 °C, 120Hz)										
Leakage Current	Leakage current (Φ4~Φ10) ≤ 0.01CV or 3μA, whichever is greater (after 2 minutes application of rated voltage) Leakage current (Φ12.5~Φ16) ≤ 0.03CV or 4μA, whichever is greater (after 1 minute application of rated voltage)										
Dissipation Factor (tanδ) (at 120Hz, +20°C)	Measurement frequency: 120Hz, Temperature: 20°C										
	Rated Voltage (V)		4	6.3	10	16	25	35	50	63	100
	tanδ	Φ4~Φ10	0.35	0.26	0.20	0.16	0.14	0.12	0.12	0.12	0.12
Φ12.5~Φ16		0.42	0.38	0.34	0.3	0.26	0.22	0.18	0.14	0.12	
Stability at Low Temperature	Measurement frequency: 120Hz										
	Rated Voltage (V)		4	6.3	10	16	25	35	50~63	100	
	Impedance Ratio	Φ4~Φ10	Z(-25°C) / Z(+20°C)	7	4	3	2	2	2	2	3
			Z(-40°C) / Z(+20°C)	15	8	6	4	4	3	3	4
	ZT/Z20 (max.)	Φ12.5~Φ16	Z(-25°C) / Z(+20°C)	7	5	4	3	2	2	2	2
Z(-40°C) / Z(+20°C)			17	12	10	8	5	4	3	3	
Load Life	After 2000 hrs. (1000 hrs. for Ø4~Ø6.3×5.4) application of the rated voltage at 105°C, they meet the characteristics listed below.										
	Capacitance Change	Within ±20% of initial value for capacitors of 10V or more (Within ±30% of initial value for capacitors of 4V or less) ≥ 10V									
	Dissipation Factor	200% or less of initial specified value									
	Leakage Current	initial specified value or less									
Shelf Life	After leaving capacitors under no load at 105°C for 1000 hours, they meet the specified value for load life characteristics listed above.										
Resistance to Soldering Heat	After reflow soldering and restored at room temperature, they meet the characteristics listed below.										
	Capacitance Change	Within ±10% of initial value									
	Dissipation Factor	initial specified value or less									
	Leakage Current	initial specified value or less									
Marking	Black print on the case top.										

### □ DRAWING (Unit: mm) 外形圖



- \*1. Voltage mark for 6.3V is [6V]      6.3V 的產品標識為 [6V]  
 \*2. Applicable to Ø6.3×7.7      適用於 Ø6.3×7.7  
 \*3. Applicable to Ø8×10.5~Ø10      適用於 Ø8×10.5~Ø10  
 \*4. Applicable to Ø12.5~Ø16      適用於 Ø12.5~Ø16

## CK Series

● DIMENSIONS(Unit:mm)

size(ΦDxL)	4×5.4	5×5.4	6.3×5.4	6.3×7.7	8×6.2	8×10.5	10×10.5	10×13.5	12.5×13.5	12.5×16	16×16.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	5.5
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0	13.0	17.0
E±0.2	1.0	1.3	2.2	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.7
L	5.4	5.4	5.4	7.7	6.2	10.5	10.5	13.5	13.5	16.0	16.5

### ■ DIMENSIONS & MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV(Vdc) μF		4		6.3		10		16		25	
		4.7	4R7								
10	100							4X5.4	18	5X5.4 (4X5.4)	20 (14)
22	220			4X5.4	22	5X5.4 (4X5.4)	25 (20)	5X5.4 (4X5.4)	27 (20)	6.3X5.4 (5X5.4)	36 (25)
33	330	5X5.4 (4X5.4)	30 (18)	5X5.4 (4X5.4)	27 (22)	5X5.4 (4X5.4)	30 (22)	6.3X5.4 (5X5.4)	40 (28)	6.3X5.4 (5X5.4)	44 (29)
47	470	5X5.4 (4X5.4)	36 (24)	5X5.4 (4X5.4)	33 (25)	6.3X5.4 (5X5.4)	41 (30)	6.3X5.4 (5X5.4)	48 (31)	6.3X5.4 (8X6.2)	48 (91)
100	101	6.3X5.4 (5X5.4)	60 (43)	6.3X5.4 (5X5.4)	50 (39)	6.3X5.4 (8X6.2)	53 (110)	6.3X5.4 (8X6.2)	60 (120)	6.3X7.7	91
150	151	6.3X5.4	52	6.3X5.4	55	6.3X5.4	62	6.3X7.7	95	8X10.5 (6.3X7.7)	140 (100)
220	221	6.3X5.4	57	6.3X7.7 (6.3X5.4)	105 (67)	6.3X7.7 (8X6.2)	105 (105)	8X10.5 (6.3X7.7) (8X6.2)	150 (105) (85)	8X10.5	175
330	331	6.3X7.7	100	6.3X7.7	105	8X10.5	196	8X10.5	195	10X10.5 (8X10.5)	240 (220)
470	471	6.3X7.7	105	8X10.5 (6.3X7.7)	210 (120)	10X10.5 (8X10.5)	260 (210)	10X10.5 (8X10.5)	295 (230)	10X10.5	280
680	681	8X10.5	210	8X10.5	210	10X10.5	270	10X10.5	315	10X13.5	400
1000	102	8X10.5	230	10X10.5 (8X10.5)	300 (230)	10X10.5	315	12.5X13.5 5 (10X13.5) (10X10.5)	590 (390) (340)	12.5X13.5	580
1500	152	10X10.5	315	10X13.5 (10X10.5)	450 (315)	10X13.5	460	12.5X13.5	550	12.5X16	850
2200	222	10X13.5 (10X10.5)	440 (340)	12.5X13.5 (10X13.5)	620 (500)	12.5X13.5	680	16X16.5 (12.5X16)	950 (750)	16X16.5	1050
3300	332	10X13.5	490	12.5X16 (12.5X13.5)	700 (660)	16X16.5	1000	16X16.5	1000		
4700	472	12.5X13.5	600	16X16.5	1000						
6800	682	16X16.5 (12.5X16)	950 (650)								

Rated Ripple Current (mA rms) at 105 °C 120Hz

Case Size: ΦDxL (mm)

## CK Series

### DIMENSIONS MAXIMUM PERMISSIBLE RIPPLE CURRENT

WV(Vdc)		35		50		63		100	
$\mu F$									
0.1	OR1			4X5.4	0.7	4X5.4	0.7		
0.22	R22			4X5.4	1.6	4X5.4	1.6		
0.33	R33			4X5.4	2.5	4X5.4	2.5		
0.47	R47			4X5.4	3.5	4X5.4	3.5		
1	1R0			4X5.4	7	4X5.4	7	4X5.4	7
2.2	2R2			4X5.4	11	4X5.4	11	6.3X5.4	14
3.3	3R3	4X5.4	13	4X5.4	13	5X5.4	13	6.3X7.7 (6.3X5.4)	32 (20)
4.7	4R7	4X5.4	14	5X5.4 (4X5.4)	16 (13)	5X5.4	16	6.3X7.7 (6.3X5.4)	35 (21)
10	100	5X5.4 (4X5.4)	21 (14)	6.3X5.4	24	6.3X7.7 (6.3X5.4) (8X6.2)	39 (24) (25)	8X10.5 (6.3X7.7)	77 (35)
22	220	6.3X5.4	38	6.3X7.7 (6.3X5.4) (8X6.2)	51 (42) (70)	8X10.5 (6.3X7.7)	98 (49)	10X10.5 (8X10.5)	126 (84)
33	330	6.3X5.4 (8X6.2)	42 (84)	6.3X7.7	60	8X10.5	112	10X10.5	133
47	470	6.3X7.7 (6.3X5.4)	70 (50)	8X10.5 (6.3X7.7)	120 (63)	10X10.5 (8X10.5)	160 (119)	12.5X13.5 (10X13.5) (10X10.5)	230 (160) (140)
68	680							12.5X13.5 (10X13.5)	300 (180)
100	101	8X10.5 (6.3X7.7)	120 (84)	10X10.5 (8X10.5)	170 (140)	12.5X13.5 (10X13.5) (10X10.5)	270 (210) (196)	16X16.5 (12.5X13.5)	450 (380)
150	151	8X10.5	155	10X10.5	170	10X13.5	225		
220	221	10X10.5 (8X10.5)	220 (190)	10X13.5 (10X10.5)	280 (220)	16X16.5 12.5X13.5 (10X13.5)	560 (470) (235)	16X16.5	550
330	331	10X10.5	245	16X16.5 12.5X13.5 (10X13.5)	600 (420) (295)	16X16.5 (12.5X16)	700 (510)		
470	471	12.5X13.5 (10X13.5) (10X10.5)	520 (375) (280)	16X16.5 (12.5X16)	700 (520)	16X16.5	750		
680	681	12.5X13.5 (10X13.5)	530 (395)	16X16.5	750				
1000	102	16X16.5 (12.5X16)	750 (600)						

→ Rated Ripple Current (mA rms) at 105 °C 120Hz

→ Case Size:  $\Phi D \times L$  (mm)

### FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency		50HZ	120HZ	300HZ	1KHZ	10KHZ
Coefficient	$\Phi 4. \Phi 10$	0.1_68uF	0.70	1.00	1.17	1.36
		100_3300uF	0.85	1.00	1.08	1.30
	$\Phi 12.5. \Phi 16$	.68uF	0.75	1.00	1.35	1.57
		100_680uF	0.80	1.00	1.23	1.34
		1000_6800uF	0.85	1.00	1.10	1.13

### FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency		50HZ	120HZ	300HZ	1KHZ	10KHZ
Coefficient	$\Phi 4. \Phi 10$	0.1_68uF	0.70	1.00	1.17	1.36
		100_3300uF	0.85	1.00	1.08	1.20
	$\Phi 12.5. \Phi 16$	.68uF	0.75	1.00	1.35	1.57
		100_680uF	0.80	1.00	1.23	1.34
		1000_6800uF	0.85	1.00	1.10	1.13