

# SMD Aluminum Electrolytic Capacitor – JCK

## FEATURES

- Chip type, operating with wide temperature range -40~+105°C.
- Load Life of 1,000~2,000 hours
- Designed for surface mounting on high density circuit board.
- Emboss carrier tape packing system is available for automatic insertion.

## SPECIFICATIONS

Operating Temperature  
Voltage Range  
Capacitance Range  
Capacitance Tolerance  
Leakage Current

-40°C ~ +105°C  
4V ~ 100V.DC  
0.1 ~ 10000 μF  
±20% at 120Hz, 20°C  
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 minutes application of rated voltage)



Fig 1



Fig 2



Fig 3

Note: Fig 1 & 2: Diameter 4 ~10mm

Fig 3 : Diameter: ≥12.5mm

Dissipation Factor (Tan δ)

Measurement Frequency: 120Hz, Temperature: 20°C

Rated Voltage (V)		4	6.3	10	16	25	35	50	63	100
Tan δ (Max.)	Φ4~Φ10	0.35	0.3	0.24	0.2	0.16	0.14	0.14	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 Temp.

Measurement Frequency: 120Hz

Rated Voltage (V)		4	6.3	10	16	25	35	50~63	100
Impedance Ratio ZT/Z20 (Max.)	Φ4~Φ10	Z(-25°C)/ Z(20°C)	7	4	3	2	2	2	3
		Z(-40°C)/ Z(20°C)	15	8	6	4	4	3	4
	Φ12.5~Φ16	Z(-25°C)/ Z(20°C)	7	5	4	3	2	2	2
		Z(-40°C)/ Z(20°C)	17	12	10	8	5	4	3

Load Life

After 2000 hours (1000hrs. for Φ4~Φ6.3x5.8) application of 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 & 6.3V)
Dissipation Factor	200% or less of initial specified value
Leakage Current	Initial specified value or less

Self Life

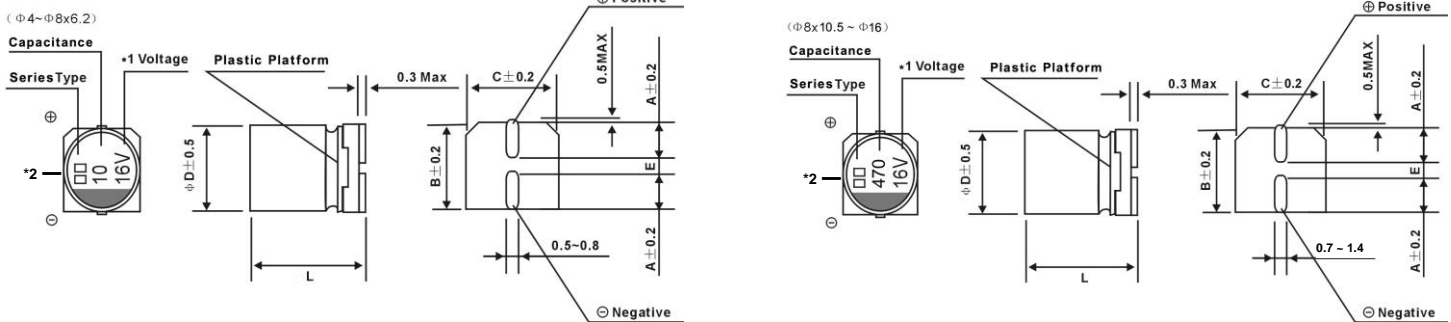
After leaving capacitors under no load at 105°C for 1000 hours, They meet the specified value for load life characteristics listed above.

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

## DRAWING (Unit: mm)



\*1 Voltage mark for 6.3V is [6V] or [6.3V]

\*2 Surface Marking Types: jBK, jK, CK, XT

ΦDxL	4x5.4	5x5.4	6.3x5.4	6.3x7.7	8x6.5	8x10.5	10x10.5	10x13.5	12.5x13.5	12.5x16	16x16.5	16x21.5
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7	4.7	5.5	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	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	17.0
E	1.0±0.2	1.3±0.2	2.2±0.2	2.2±0.2	3.1±0.2	3.1±0.2	4.4±0.2	4.4±0.2	4.8±0.6	4.4±0.2	6.7±0.2	6.7±0.2
L	5.4±0.6	5.4±0.6	5.4±0.6	7.7±0.6	6.5±0.6	10.5±0.6	10.5±0.6	13.5±1.0	13.5±1.0	16.0±1.0	16.5±1.0	21.5±1.0

## FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency		50Hz	120Hz	300Hz	1KHz	10KHz~
Coefficient	Φ4~Φ10	0.1~68μF	0.70	1.00	1.17	1.50
		100~3300μF	0.85	1.00	1.08	1.30
	Φ12.5~Φ16	~68μF	0.75	1.00	1.35	2.00
		100~680μF	0.8	1.00	1.23	1.34
	1000~10000μF	0.85	1.00	1.10	1.13	1.15

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## STANDARD SIZE

WV/V		4		6.3		10		16		25	
Cap/μF		0G		0J		1A		1C		1E	
4.7	4R7	--	--	--	--	--	--	4x5.4	13	4x5.4	14
10	100	--	--	--	--	--	--	4x5.4	19	4x5.4 5x5.4	14 14
22	220	4x5.4	23	4x5.4	20	4x5.4 5x5.4	21 27	4x5.4 5x5.4	22 31	5x5.4 6.3x5.4	25 36
33	330	4x5.4 5x5.4	22 27	4x5.4 5x5.4	22 27	4x5.4 5x5.4	23 34	5x5.4 6.3x5.4	28 40	5x5.4 6.3x5.4	29 44
47	470	4x5.4 5x5.4	25 37	4x5.4 5x5.4	25 37	4x5.4 5x5.4 6.3x5.4	30 38 41	5x5.4 6.3x5.4	31 55	6.3x5.4 8x6.5	48 80
56	560	4x5.4	39	5x5.4	46	6.3x5.4	57	6.3x5.4	74	6.3x5.4	82
68	680	5x5.4	45	6.3x5.4	62	6.3x5.4	72	6.3x5.4	80	6.3x5.4	94
100	101	5x5.4 6.3x5.4	39 57	5x5.4 6.3x5.4	39 57	5x5.4 6.3x5.4	41 53	6.3x5.4 8x6.5	75 120	6.3x5.4 6.3x7.7	80 91
150	151	6.3x5.4	61	6.3x5.4	55	6.3x5.4	55	6.3x7.7 8x6.5	80 120	6.3x7.7 8x10.5	92 140
220	221	6.3x5.4	67	6.3x5.4 6.3x7.7	95 69	6.3x5.4 6.3x7.7	95 67	6.3x7.7 8x6.5 8x10.5	89 105 180	8x10.5 10x7.7	175 180
330	331	6.3x7.7	100	6.3x7.7 8x6.5	120 105	6.3x7.7 8x10.5	135 195	8x10.5 10x7.7	195 185	8x10.5 10x10.5	205 220
470	471	6.3x7.7 8x6.5	105 105	6.3x7.7 8x10.5	120 230	6.3x7.7 8x10.5 10x10.5	120 210 295	8x10.5 10x10.5	270 280	10x10.5	280
680	681	8x10.5	210	8x10.5 10x7.7	230 210	8x10.5 10x10.5	230 270	10x10.5	315	10x10.5 10x13.5	245 400
1000	102	8x10.5 10x7.7	230 210	8x10.5 10x10.5	290 315	8x10.5 10x10.5	290 315	10x10.5 10x13.5 12.5x13.5	315 390 500	10x13.5 12.5x13.5	430 580
1500	152	10x10.5	315	10x10.5 10x13.5	410 450	10x10.5 10x13.5	335 460	10x13.5 12.5x13.5	430 550	--	--
2200	222	10x10.5 10x13.5	340 440	10x13.5 12.5x13.5	500 620	12.5x13.5	680	--	--	--	--
3300	332	10x13.5	490	12.5x13.5	660	--	--	--	--	--	--
4700	472	12.5x13.5	600	--	--	--	--	--	--	Case Size	Ripple Current

WV/V		35		50		63		100	
Cap/μF		1V		1H		1J		2A	
0.1	0R1	--	--	4x5.4	2	4x5.4	2	--	--
0.22	R22	--	--	4x5.4	4	4x5.4	4	--	--
0.33	R33	--	--	4x5.4	4	4x5.4	4	--	--
0.47	R47	--	--	4x5.4	5	4x5.4	5	--	--
1	010	--	--	4x5.4	8	4x5.4	8	4x5.4	7
2.2	2R2	--	--	4x5.4	11	4x5.4	11	5x5.4 6.3x5.4	12 13
3.3	3R3	4x5.4	13	4x5.4	13	5x5.4 6.3x5.4	14 30	6.3x5.4 6.3x7.7 8x6.5	18 30 30
4.7	4R7	4x5.4	15	4x5.4 5x5.4	14 18	5x5.4 6.3x5.4	15 18	5x5.4 6.3x5.4 6.3x7.7	15 19 33
10	100	4x5.4 5x5.4	17 24	5x5.4 6.3x5.4	20 28	6.3x5.4 6.3x7.7 8x6.5	24 39 25	6.3x5.4 6.3x7.7 8x10.5	25 34 77
22	220	5x5.4 6.3x5.4	34 40	6.3x5.4 6.3x7.7 8x6.5	42 42 70	6.3x7.7 8x6.5 8x10.5	48 55 98	8x10.5 10x10.5	82 122
33	330	6.3x5.4 8x6.5	50 85	6.3x7.7 8x6.5	60 70	6.3x7.7 8x10.5	49 112	10x10.5	133
47	470	6.3x5.4 6.3x7.7 8x6.5	58 57 85	6.3x7.7 8x6.5 8x10.5	63 85 120	8x10.5 10x10.5	117 160	10x10.5 10x13.5 12.5x13.5	140 160 250
68	680	6.3x7.7 8x6.5	80 90	8x6.5 8x10.5	70 120	10x10.5 10x13.5	140 160	10x13.5 12.5x13.5	180 300
100	101	6.3x7.7 8x10.5 10x7.7	80 150 160	8x10.5 10x10.5 10x7.7	160 180 145	10x10.5 10x13.5 12.5x13.5	196 210 270	12.5x13.5	380
150	151	8x10.5	185	10x10.5	200	10x13.5	225	--	--
220	221	8x10.5 10x10.5	185 250	10x10.5 10x13.5	220 280	12.5x13.5	470	--	--
330	331	10x10.5 10x13.5	300 330	10x13.5 12.5x13.5	295 420	--	--	--	--
470	471	10x10.5 10x13.5 12.5x13.5	310 375 356	12.5x13.5	470	--	--	--	--
680	681	12.5x13.5	530	--	--	--	--	Case size	Allowable ripple

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