

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 μ F
 $\pm 20\%$ at 120Hz, 20°C
Leakage current ($\Phi 4 \sim \Phi 10$) ≤ 0.01 CV or 3 μ A, whichever is greater.
(After 2 minutes application of rated voltage)
Leakage current ($\Phi 12.5 \sim \Phi 16$) ≤ 0.03 CV or 4 μ A, whichever is greater.
(After 1 minutes application of rated voltage)



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	$\Phi 4 \sim \Phi 10$	0.35	0.3	0.24	0.2	0.16	0.14	0.14	0.12
(Max.)	$\Phi 12.5 \sim \Phi 16$	0.42	0.38	0.34	0.3	0.26	0.22	0.18	0.12

Stability At Low Temp.

Measurement Frequency: 120Hz

Rated Voltage (V)	4	6.3	10	16	25	35	50~63	100
Impedance Ratio	$\Phi 4 \sim \Phi 10$	Z(-25°C)/ Z(20°C)	7	4	3	2	2	3
		Z(-40°C)/ Z(20°C)	15	8	6	4	3	4
ZT/Z20 (Max.)	$\Phi 12.5 \sim \Phi 16$	Z(-25°C)/ Z(20°C)	7	5	4	3	2	2
		Z(-40°C)/ Z(20°C)	17	12	10	8	5	3

Load Life

After 2000 hours (1000hrs. for $\Phi 4 \sim \Phi 6.3 \times 5.8$) application of rated voltage at 105°C, They meet the characteristics listed below.

Capacitance Change	within $\pm 20\%$ of initial value for capacitors of 10V or more (within $\pm 30\%$ 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

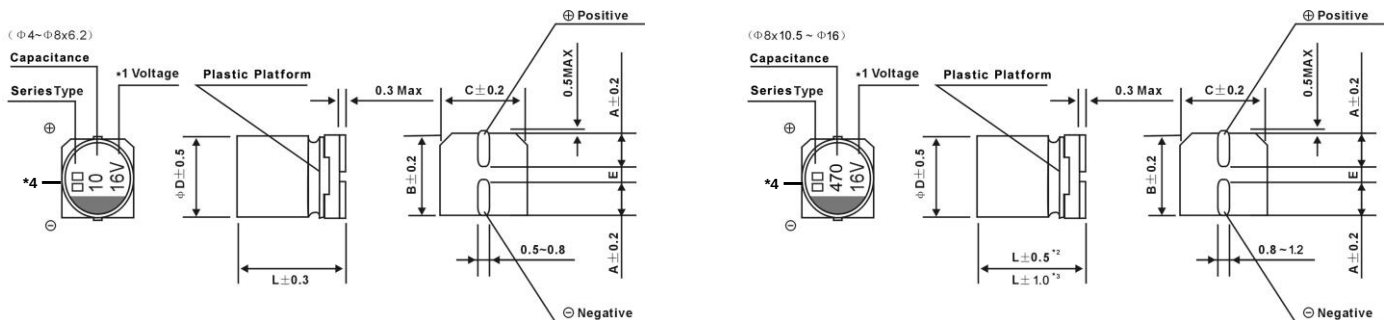
After leaving capacitors under no load at 105°C for 1000 hours, They meet the specified value for load life characteristics listed above.

Resistance to Soldering Heat

After reflow soldering and restored at room temperature, they meet the characteristics listed below.

Capacitance Change	Within $\pm 10\%$ 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 Applicable to $\Phi 8 \times 10.5 \sim \Phi 10$ *3 Applicable to $\Phi 12.5 \sim \Phi 16$ *4 Surface Marking Types: jbk, jk, CK, XT

Φ DxL	4x5.4	5x5.4	6.3x5.4	6.3x7.7	8x6.2	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 ± 0.2	1.0	1.3	2.2	2.2	2.2	3.1	4.4	4.4	4.4	4.4	6.7	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	21.5

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

Frequency	50Hz	120Hz	300Hz	1KHz	10KHz~
$\Phi 4 \sim \Phi 10$					
0.1~68 μ F	0.70	1.00	1.17	1.36	1.50
100~3300 μ F	0.85	1.00	1.08	1.20	1.30
~68 μ F	0.75	1.00	1.35	1.57	2.00
$\Phi 12.5 \sim \Phi 16$					
100~680 μ F	0.8	1.00	1.23	1.34	1.50
1000~10000 μ F	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	245
1000	102	8x10.5 10x7.7	230 210	8x10.5 10x10.5	290 315	8x10.5 10x10.5	290 315	10x10.5 12.5x13.5	315 515	12.5x13.5	700
1500	152	10x10.5	315	10x10.5	410	10x10.5 12.5x13.5	335 458	12.5x13.5	580	--	--
2200	222	10x10.5	340	12.5x13.5	850	12.5x13.5	910	--	--	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	140
68	680	6.3x7.7 8x6.5	80 90	8x6.5 8x10.5	70 120	10x10.5	140	--	--
100	101	6.3x7.7 8x10.5 10x7.7	80 150 160	8x10.5 10x10.5 10x7.7	160 180 145	10x10.5 12.5x13.5	196 510	12.5x13.5	386
150	151	8x10.5	185	10x10.5	200	--	--	--	--
220	221	8x10.5 10x10.5	185 250	10x10.5	220	12.5x13.5	560	--	--
330	331	10x10.5	300	12.5x13.5	580	--	--	--	--
470	471	10x10.5	310	--	--	--	--	--	--
680	681	12.5x13.5	580	--	--			Case size	Allowable ripple

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