

# SMD ALUMINUM ELECTROLYTIC CAPACITORS

## - CVJ SERIES -

### 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.



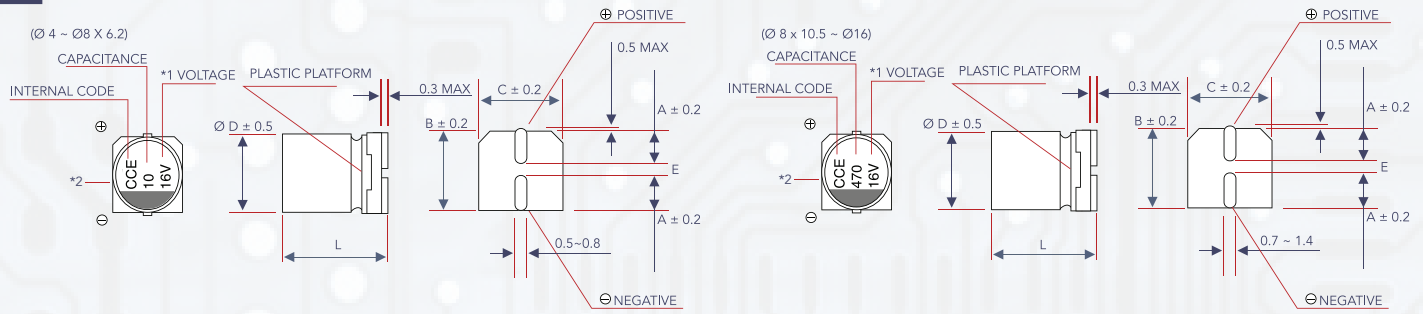
### SPECIFICATIONS

ITEM	SPECIFICATION																																																	
Operating Temperature Range	-40°C ~ + 105°C																																																	
Voltage Range	4V ~ 100 VDC																																																	
Capacitance Range	1 ~ 10000 μF																																																	
Capacitance Tolerance	±20% at 120Hz, 20°C																																																	
Leakage Current	Leakage current (ø4~ø10) ≤ 0.01CV or 3μA, whichever is greater. (after 2 minutes application of rated voltage) Leakage current (ø12.5~ø16) ≤ 0.03CV or 4μA, whichever is greater. (After 1 minutes application of rated voltage)																																																	
Dissipation Factor	Measurement: 120Hz Temperature: 20°C <table border="1"> <thead> <tr> <th colspan="2">RATED VOLTAGE (V)</th> <th>4</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> </tr> </thead> <tbody> <tr> <td rowspan="2">TAN δ (MAX)</td> <td>ø4 ~ ø10</td> <td>0.35</td> <td>0.37</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.14</td> <td>0.14</td> </tr> <tr> <td>ø12.5 ~ ø16</td> <td>0.42</td> <td>0.42</td> <td>0.38</td> <td>0.32</td> <td>0.30</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.16</td> </tr> </tbody> </table>	RATED VOLTAGE (V)		4	6.3	10	16	25	35	50	63	100	TAN δ (MAX)	ø4 ~ ø10	0.35	0.37	0.26	0.22	0.18	0.16	0.14	0.14	0.14	ø12.5 ~ ø16	0.42	0.42	0.38	0.32	0.30	0.22	0.18	0.16	0.16																	
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Load Life	After 2000 hours (1000hrs. for ø4 ~ ø6.3x5.8) application of rated voltage at 105°C, They meet the characteristics listed below. <table border="1"> <tbody> <tr> <td>CAPACITANCE CHANGE</td> <td>within ±20% of initial value for capacitors of 10V or more (within ±30% of initial value for capacitors of 4V &amp; 6.3V)</td> </tr> <tr> <td>DISSIPATION FACTOR</td> <td>200% or less of initial specified value</td> </tr> <tr> <td>LEAKAGE CURRENT</td> <td>Initial specified value or less</td> </tr> </tbody> </table>	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																																											
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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. <table border="1"> <tbody> <tr> <td>CAPACITANCE CHANGE</td> <td>within ±10% of initial value</td> </tr> <tr> <td>DISSIPATION FACTOR</td> <td>Initial specified value or less</td> </tr> <tr> <td>LEAKAGE CURRENT</td> <td>Initial specified value or less</td> </tr> </tbody> </table>	CAPACITANCE CHANGE	within ±10% of initial value	DISSIPATION FACTOR	Initial specified value or less	LEAKAGE CURRENT	Initial specified value or less																																											
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### PART NUMBER

CVJ	1C	100	M	D55	R
SERIES NAME	RATED VOLTAGE	CAPACITANCE	TOLERANCE	CASE SIZE	PACKAGE TYPE
Series is represented by a three/four digit code	OG - 4V OJ - 6.3V 1A - 10V 1C - 16V 1E - 25V 1V - 35V 1H - 50V 1J - 63V 2A - 100V	4R7 - 4.7μF 100 - 10μF 470 - 47μF 101 - 100μF 471 - 470μF 102 - 1000μF	M: -20% ~ +20%	D55-4x5.4 E55-5x5.4 F55-6.3x5.4 F80-6.3x7.7 G68-8x6.5 G10-8x10.5 H13-10x13.5 K14-12.5x13.5 K16-12.5x16 L17-16x16.5 L22-16x21.5	R - Taping polarity with reel package in 380mm

## DIMENSIONS



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

ØD x L	4 x 5.4	5 x 5.4	6.3 x 5.4	6.3 x 7.7	8 x 6.5	8 x 10.5	10 x 10.5	10 x 13.5	12.5 x 13.5	12.5 x 16	16 x 16.5	16 x 21.5
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	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	1kHz	10kHz≤
COEFFICIENT	≤1000µF	0.70	1.00	1.20	1.30
	>1000µF	0.80	1.00	1.10	1.20

## STANDARD SIZE

WV/V		4		6.3		10		16		25	
CAP (µF)		OG		OJ		1A		1C		1E	
		CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT
4R7	4.7	--	--	--	--	--	--	--	--	4 x 5.4	14
100	10	--	--	--	--	--	--	4 x 5.4	19	4 x 5.4	14
										5 x 5.4	14
220	22	--	--	4 x 5.4	20	4 x 5.4	21	4 x 5.4	22	5 x 5.4	25
										6.3 x 5.4	36
										5 x 5.4	29
330	33	4 x 5.4	22	4 x 5.4	22	4 x 5.4	23	5 x 5.4	28	5 x 5.4	29
		5 x 5.4	27	5 x 5.4	27	5 x 5.4	34	6.3 x 5.4	40	6.3 x 5.4	44
470	47	4 x 5.4	25	4 x 5.4	25	5 x 5.4	30	5 x 5.4	31	6.4 x 5.4	48
		5 x 5.4	37	5 x 5.4	37	6.3 x 5.4	41	6.3 x 5.4	55	8 x 6.5	79
										6.3 x 7.7	91
101	100	5 x 5.4	39	5 x 5.4	39	5 x 5.4	41	6.3 x 5.4	70	8 x 6.5	100
		6.3 x 5.4	57	6.3 x 5.4	57	6.3 x 5.4	53	8 x 6.5	120	8 x 10.5	150
										6.3 x 7.7	92
										8 x 10.5	140
151	150	6.3 x 5.4	61	6.3 x 5.4	55	6.3 x 5.4	55	6.3 x 7.7	80	8 x 10.5	175
				6.3 x 5.4	95	6.3 x 5.4	80	6.3 x 7.7	89	8 x 10.5	180
				6.3 x 7.7	69	6.3 x 7.7	67	8 x 6.5	105	10 x 7.7	180
				6.3 x 7.7	105	6.3 x 7.7	125	8 x 10.5	195	8 x 10.5	205
331	330	6.3 x 7.7	100	8 x 6.5	105	8 x 10.5	195	10 x 7.7	185	10 x 10.5	220
				8 x 10.5	230	8 x 10.5	210	8 x 10.5	250		
471	470	6.3 x 7.7	105	6.3 x 7.7	120	10 x 10.5	295	10 x 10.5	280	10 x 10.5	280
				8 x 10.5	230	10 x 7.7	290	10 x 10.5	315		
681	680	8 x 10.5	210	8 x 10.5	230	10 x 10.5	270	10 x 10.5	315	--	--
				8 x 10.5	290	10 x 10.5	315	10 x 10.5	390	12.5 x 13.5	580
102	1000	8 x 10.5	230	10 x 10.5	315			12.5 x 13.5	500		
152	1500	10 x 10.5	315	10 x 10.5	410	12.5 x 13.5	458	12.5 x 13.5	550	--	--
222	2200	--	--	12.5 x 13.5	620	12.5 x 13.5	680	--	--	--	--





# STANDARD SIZE

WV/V		35		50		63		100	
CAP (µF)		1V		1H		1J		2A	
		CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT
1R0	1	--	--	4 x 5.4	8	4 x 5.4	8	4 x 5.4	7
2R2	2.2	--	--	4 x 5.4	11	4 x 5.4	11	6.3 x 5.4	13
3R3	3.3	--	--	4 x 5.4	13	5 x 5.4	14	6.3 x 5.4	18
4R7	4.7	4 x 5.4	15	4 x 5.4	14	5 x 5.4	15	5 x 5.4	15
				5 x 5.4	18	6.3 x 5.4	18	6.3 x 5.4	19
100	10	4 x 5.4	17	5 x 5.4	20	6.4 x 5.4	24	6.3 x 7.7	34
		5 x 5.4	24	6.3 x 5.4	28	6.3 x 7.7	39	8 x 10.5	77
220	22	5 x 5.4	30	6.3 x 5.4	38	6.3 x 7.7	48	8 x 10.5	82
		6.3 x 5.4	40	6.3 x 7.7	42	8 x 6.5	55	10 x 10.5	122
330	33	6.3 x 5.4	46	6.3 x 7.7	60	6.3 x 7.7	49	10 x 10.5	130
		8 x 6.5	76	8 x 6.5	70	8 x 10.5	112	10 x 10.5	140
470	47	6.3 x 5.4	50	6.3 x 7.7	63	8 x 10.5	117	10 x 13.5	160
		6.3 x 7.7	57	8 x 6.5	85	10 x 10.5	160	12.5 x 13.5	250
101	100	8 x 6.5	80	8 x 10.5	100	10 x 10.5	196	12.5 x 13.5	380
		6.3 x 7.7	80	8 x 10.5	145	10 x 10.5	210		
151	150	8 x 10.5	150	10 x 10.5	160	10 x 13.5	270		
		10 x 7.7	160	10 x 7.7	160	12.5 x 13.5	270		
221	220	8 x 10.5	185	10 x 10.5	200	10 x 13.5	225	--	--
		10 x 10.5	185	10 x 10.5	220	12.5 x 13.5	470	--	--
331	330	10 x 10.5	250	10 x 13.5	280				
		10 x 10.5	300	12.5 x 13.5	420	--	--	--	--
471	470	10 x 13.5	330						
		10 x 10.5	310						
681	680	10 x 13.5	375	--	--	--	--	--	--
		12.5 x 13.5	356						
681	680	12.5 x 13.5	530	--	--	--	--	--	--

Allowable Ripple (mA ms) at 105°C 120Hz