

SMD ALUMINUM ELECTROLYTIC CAPACITORS

- CV2 SERIES -

FEATURES

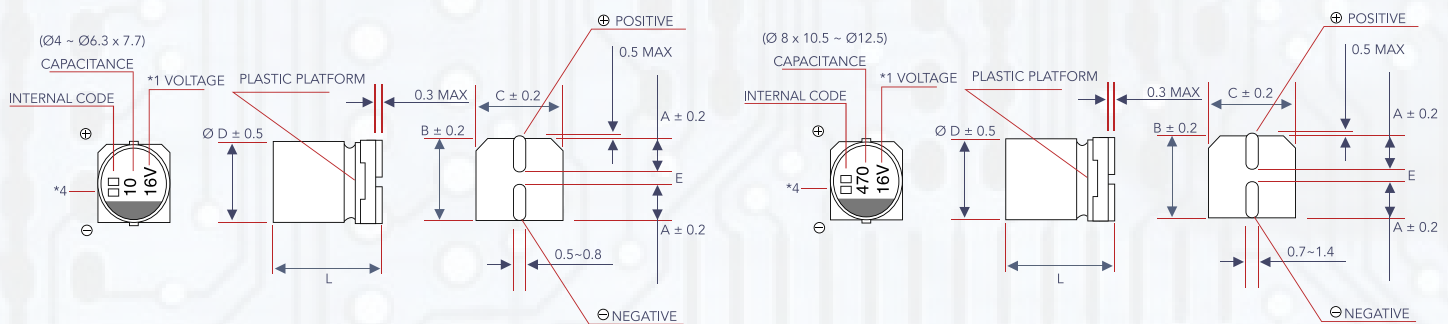
- Designed for surface mounting on high density circuit board
- Emboss carrier tape packing system is available for automatic insertion.



SPECIFICATIONS

ITEM	SPECIFICATION																																																					
Operating Temperature Range	-40°C ~ +85°C																																																					
Voltage Range	4V ~ 100 VDC																																																					
Capacitance Range	1 ~ 10000 μF																																																					
Capacitance Tolerance	±20% (at 120Hz, 20°C)																																																					
Leakage Current (at 20°C)	Leakage current (∅4 ~ ∅10) ≤0.01CV or 3 μA, whichever is greater (after 2 minutes application of rated voltage) Leakage current (∅12.5) ≤0.03 CV or 4 μA, whichever is greater (after 1 minute application of rated voltage)																																																					
Dissipation Factor Tan δ at 120Hz, 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">∅4-∅10</td> <td>Z (-25°C) / Z (+20°C)</td> <td>0.35</td> <td>0.32</td> <td>0.26</td> <td>0.20</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.14</td> <td>0.14</td> </tr> <tr> <td>TAN δ (MAX)</td> <td>0.42</td> <td>0.42</td> <td>0.38</td> <td>0.30</td> <td>0.28</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.16</td> </tr> <tr> <td rowspan="2">∅12.5</td> <td>Z (-25°C) / Z (+20°C)</td> <td>0.35</td> <td>0.32</td> <td>0.26</td> <td>0.20</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.14</td> <td>0.14</td> </tr> <tr> <td>TAN δ (MAX)</td> <td>0.42</td> <td>0.42</td> <td>0.38</td> <td>0.30</td> <td>0.28</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	∅4-∅10	Z (-25°C) / Z (+20°C)	0.35	0.32	0.26	0.20	0.18	0.16	0.14	0.14	0.14	TAN δ (MAX)	0.42	0.42	0.38	0.30	0.28	0.22	0.18	0.16	0.16	∅12.5	Z (-25°C) / Z (+20°C)	0.35	0.32	0.26	0.20	0.18	0.16	0.14	0.14	0.14	TAN δ (MAX)	0.42	0.42	0.38	0.30	0.28	0.22	0.18	0.16	0.16
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Load Life Test	After 2000 hours application of rated voltage at 85°C Capacitors meet the characteristics requirements listed below. <table border="1"> <tbody> <tr> <td>CAPACITANCE CHANGE</td> <td>Within ±20% of initial value (within ± 30% of initial value for 4V)</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 (within ± 30% of initial value for 4V)	DISSIPATION FACTOR	200% or less of initial specified value	LEAKAGE CURRENT	Initial specified value or less																																															
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Shelf Life Test	After leaving capacitors under no load at 85°C for 1000 hours The meet the specified value for load life characteristics listed above.																																																					
Ripple Current & Frequency Multipliers	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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DIMENSIONS



∅D 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
A	1.8	2.1	2.4	2.4	3.3	2.9	3.2	3.2	4.7
B	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0
C	4.3	5.3	6.6	6.6	8.3	8.3	10.3	10.3	13.0
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
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

PART NUMBER

CV2	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 471 - 470µF 102 - 1000µF	M: -20% ~+20%	D55-4x5.4 G68-8x6.5 E55-5x5.4 G10-8x10.5 F55-6.3x5.4H10-10x10.5 F80-6.3x7.7H13-10x13.5 K14-12.5x13.5	R - Taping polarity with reel package in 380mm

FREQUENCY COEFFICIENT OF ALLOWABLE RIPPLE CURRENT

COEFFICIENT	FREQUENCY	50Hz	120Hz	1KHz	10KHz~
	≤1000 µF	0.70	1.00	1.20	1.30
	>1000 µF	0.80	1.00	1.10	1.20

STANDARD SIZE

- Allowable Ripple (mA ms) at 85°C 120Hz

WV	CAP (µF)	4V		6.3V		10V		16V		25V	
		(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
4.7	4R7	--	--	--	--	--	--	--	--	4 x 5.4	13
10	100	--	--	--	--	--	--	4 x 5.4	18	4 x 5.4 5 x 5.4	14 20
15	150	--	--	--	--	--	--	4 x 5.4	25	5 x 5.4	27
22	220	--	--	4 x 5.4	20	4 x 5.4 5 x 5.4	20 25	4 x 5.4 5 x 5.4	20 27	5 x 5.4 6.3 x 5.4	25 36
33	330	4 x 5.4	18	4 x 5.4 5 x 5.4	22 27	4 x 5.4 5 x 5.4	22 30	5 x 5.4 6.3 x 5.4	28 31	5 x 5.4 6.3 x 5.4	29 44
47	470	4 x 5.4	24	4 x 5.4 5 x 5.4	23 30	5 x 5.4 6.3 x 5.4	30 49	5 x 5.4 6.3 x 5.4	30 48	6.3 x 5.4 8 x 6.5	48 80
56	560	4 x 5.4	27	5 x 5.4	32	6.3 x 5.4	40	6.3 x 5.4	52	6.3 x 5.4	48
68	680	5 x 5.4	31	5 x 5.4 6.3 x 5.4	41 43	6.3 x 5.4	50	6.3 x 5.4	56	6.3 x 5.4	50
100	101	5 x 5.4	39	5 x 5.4 6.3 x 5.4	40 50	5 x 5.4 6.3 x 5.4	40 53	6.3 x 5.4 6.3 x 7.7	60 109	6.3 x 5.4 6.3 x 7.7 8 x 6.5	80 91 100
150	151	6.3 x 5.4	52	6.3 x 5.4	55	6.3 x 5.4	62	6.3 x 7.7 8 x 6.5	80 120	6.3 x 7.7 8 x 10.5	100 140
220	221	6.3 x 5.4	57	6.3 x 5.4 6.3 x 7.7	67 105	6.3 x 5.4 6.3 x 7.7	67 88	6.3 x 7.7 8 x 6.5	86 105	8 x 10.5 10 x 7.7	175 160
330	331	6.3 x 7.7	100	6.3 x 7.7 8 x 6.5	105 105	6.3 x 7.7 8 x 10.5	135 195	8 x 10.5 10 x 7.7	195 175	8 x 10.5 10 x 10.5	220 220
470	471	6.3 x 7.7	105	6.3 x 7.7 8 x 10.5	120 230	6.3 x 7.7 8 x 10.5 10 x 10.5	120 210 232	8 x 10.5 10 x 10.5	270 280	10 x 10.5	280
680	681	8 x 10.5	210	8 x 10.5	230	8 x 10.5 10 x 10.5	230 270	10 x 10.5	315	10 x 13.5	400
1000	102	8 x 10.5	230	8 x 10.5 10 x 10.5	290 315	10 x 10.5	315	10 x 10.5 10 x 13.5 12.5 x 13.5	315 390 500	12.5 x 13.5	580
1500	152	10 x 10.5	315	10 x 10.5	410	12.5 x 13.5	458	12.5 x 13.5	550	---	---
2200	222	--	--	12.5 x 13.5	620	12.5 x 13.5	680	---	---	---	---





STANDARD SIZE

- Allowable Ripple (mA ms) at 85°C 120Hz

WV		35		50		63		100	
		1V		1H		1J		2A	
CAP (µF)		CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT	CASE SIZE	RIPPLE CURRENT
1	010	--	--	4 x 5.4	8	4 x 5.4	8	4 x 5.4	8
1.5	1R5	--	--	4 x 5.4	9	4 x 5.4	9	6.3 x 5.4	12
2.2	2R2	--	--	4 x 5.4	11	4 x 5.4	11	6.3 x 5.4	14
3.3	3R3	--	--	4 x 5.4	12	5 x 5.4	12	6.3 x 5.4	23
						6.3 x 5.4	30	6.3 x 7.7	41
4.7	4R7	4 x 5.4	15	4 x 5.4	14	5 x 5.4	18	5 x 5.4	15
				5 x 5.4	19	6.3 x 5.4	23	6.3 x 5.4	21
10	100	4 x 5.4	18	5 x 5.4	20	6.3 x 5.4	24	6.3 x 5.4	25
						6.3 x 7.7	39	6.3 x 7.7	35
22	220	5 x 5.4	34	6.3 x 5.4	42	8 x 6.5	25	8 x 6.5	50
						6.3 x 7.7	48	8 x 10.5	90
33	330	6.3 x 5.4	46	6.3 x 5.4	60	8 x 6.5	55	8 x 10.5	84
						8 x 6.5	70	6.3 x 7.7	49
47	470	6.3 x 5.4	55	6.3 x 7.7	63	8 x 6.5	70	8 x 10.5	120
						8 x 10.5	119	8 x 10.5	119
56	560	6.3 x 5.4	85	10 x 10.5	170	10 x 10.5	160	10 x 13.5	160
						8 x 6.5	85	12.5 x 13.5	250
68	680	6.3 x 7.7	65	6.3 x 7.7	90	10 x 10.5	210	--	--
						8 x 6.5	70	10 x 13.5	180
100	101	6.3 x 7.7	69	8 x 10.5	110	10 x 10.5	140	12.5 x 13.5	300
						8 x 10.5	145	10 x 13.5	210
150	151	8 x 10.5	175	10 x 10.5	200	10 x 7.7	160	12.5 x 13.5	380
						10 x 10.5	175	12.5 x 13.5	270
220	221	10 x 7.7	160	10 x 10.5	175	--	--	--	--
						8 x 10.5	185	10 x 10.5	200
330	331	10 x 10.5	300	10 x 13.5	280	12.5 x 13.5	470	--	--
						10 x 10.5	250	--	--
470	471	10 x 10.5	324	10 x 13.5	295	--	--	--	--
						10 x 13.5	375	--	--
680	681	12.5 x 13.5	520	12.5 x 13.5	420	--	--	--	--
						12.5 x 13.5	530	--	--