

# SMD ALUMINUM ELECTROLYTIC CAPACITORS

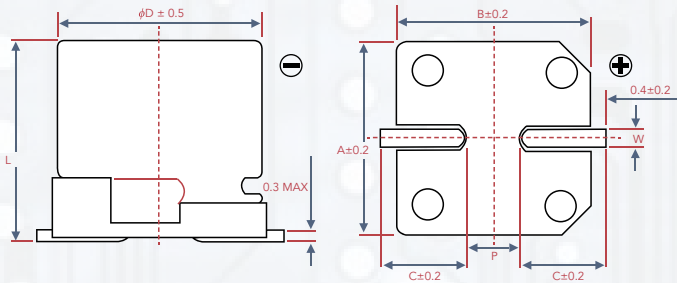
## - CVB SERIES -

### FEATURES

- $4\phi \sim 6.3\phi$ , 85°C, 2,000 hours assured
- Vertical chip type miniaturized
- Non-polar capacitors
- Designed for surface mounting on high density PC board
- RoHS Compliance



### CONSTRUCTION AND DIMENSIONS



### LEAD SPACING AND DIAMETER

UNIT : MM

φD	L	A	B	C	W	P
4	5.3±0.2	4.3	4.3	2.0	0.5 to 0.8	1.0
5	5.3±0.2	5.3	5.3	2.3	0.5 to 0.8	1.5
6.3	5.3±0.2	6.6	6.6	2.7	0.5 to 0.8	2.0

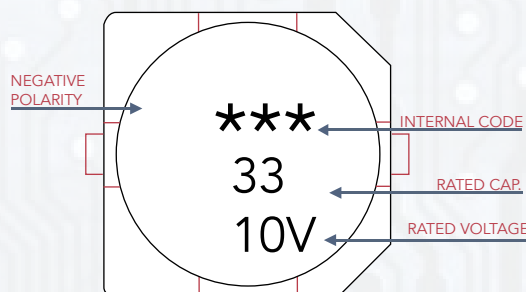
### SPECIFICATIONS

ITEMS	PERFORMANCE																					
Operating Temperature Range	-40°C ~ +85°C																					
Capacitance Tolerance	±20% (at 120Hz, 20°C)																					
Leakage Current (at 20°C)	I=0.01CV or 3 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V= rated DC working voltage in V																					
Dissipation Factor (Tan δ at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>RATED VOLTAGE</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>TAN δ (MAX)</td> <td>4Ø</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> </tr> <tr> <td></td> <td>5~6.3Ø</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> </tr> </tbody> </table>	RATED VOLTAGE	6.3	10	16	25	35	50	TAN δ (MAX)	4Ø	0.35	0.30	0.25	0.25	0.25		5~6.3Ø	0.30	0.25	0.20	0.15	0.15
RATED VOLTAGE	6.3	10	16	25	35	50																
TAN δ (MAX)	4Ø	0.35	0.30	0.25	0.25	0.25																
	5~6.3Ø	0.30	0.25	0.20	0.15	0.15																
Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below. <table border="1"> <thead> <tr> <th>RATED VOLTAGE</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td>IMPEDANCE RATIO</td> <td>Z(-25°C) / Z(+20°C)</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td></td> <td>Z(-40°C) / Z(+20°C)</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	RATED VOLTAGE	6.3	10	16	25	35	50	IMPEDANCE RATIO	Z(-25°C) / Z(+20°C)	3	3	2	2	2		Z(-40°C) / Z(+20°C)	8	5	4	3	3
RATED VOLTAGE	6.3	10	16	25	35	50																
IMPEDANCE RATIO	Z(-25°C) / Z(+20°C)	3	3	2	2	2																
	Z(-40°C) / Z(+20°C)	8	5	4	3	3																
Load Life Test (with the polarity inverted every 250 hours)	<table border="1"> <tbody> <tr> <td>TEST TIME</td> <td>2,000 Hrs</td> </tr> <tr> <td>CAPACITANCE CHANGE</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>DISSIPATION FACTOR</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>LEAKAGE CURRENT</td> <td>Within specified value</td> </tr> </tbody> </table> <p>*The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hrs at 85°C.</p>	TEST TIME	2,000 Hrs	CAPACITANCE CHANGE	Within ±20% of initial value	DISSIPATION FACTOR	Less than 200% of specified value	LEAKAGE CURRENT	Within specified value													
TEST TIME	2,000 Hrs																					
CAPACITANCE CHANGE	Within ±20% of initial value																					
DISSIPATION FACTOR	Less than 200% of specified value																					
LEAKAGE CURRENT	Within specified value																					
Shelf Life Test	Test time; 1,000 hrs; other items are the same as those for the load life test																					
Ripple Current & Frequency Multipliers	<table border="1"> <thead> <tr> <th>FREQUENCY (Hz)</th> <th>50</th> <th>120</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td>Under 16</td> <td>0.8</td> <td>1.0</td> <td>1.15</td> <td>1.25</td> </tr> <tr> <td>25~35</td> <td>0.8</td> <td>1.0</td> <td>1.25</td> <td>1.40</td> </tr> <tr> <td>50</td> <td>0.8</td> <td>1.0</td> <td>1.35</td> <td>1.50</td> </tr> </tbody> </table>	FREQUENCY (Hz)	50	120	1K	10K up	Under 16	0.8	1.0	1.15	1.25	25~35	0.8	1.0	1.25	1.40	50	0.8	1.0	1.35	1.50	
FREQUENCY (Hz)	50	120	1K	10K up																		
Under 16	0.8	1.0	1.15	1.25																		
25~35	0.8	1.0	1.25	1.40																		
50	0.8	1.0	1.35	1.50																		
Other Standards	JIS C 5101-1, -18																					

## PART NUMBERS

CVB	1C	100	M	E55	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 1K - 80V 2A - 100V 2C - 160V 2D - 200V 2E - 250V 2G - 400V 2W - 450V	4R7 - 4.7 $\mu$ F 100 - 10 $\mu$ F 471 - 470 $\mu$ F 102 - 1000 $\mu$ F	M: -20% ~ +20% K: -10% ~ +10% J: -5% ~ +5%	B55 - 3x5.3 D55 - 4x5.3 D60 - 4x5.7 E55 - 5x5.3 E60 - 5x5.7 F55 - 6.3x5.3 F60 - 6.3x5.7 F62 - 6.3x6.0 F72 - 6.3x7.0 F80 - 6.3x7.7 G68 - 8x6.5 G72 - 8x7.0 G10 - 8x10.0 G12 - 8x12.0 H82 - 10x8.0 H10 - 10x10.0 H13 - 10x13.0 K14 - 12.5x13.5 K16 - 12.5x16.0 L17 - 16x16.5	R - Taping polarity with reel package in 380mm

## MARKING



## DIMENSION & PERMISSIBLE RIPPLE CURRENT

VDC	CONTENTS	6.3V (OJ)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)	
		$\phi$ DxL	mA	$\phi$ DxL	mA	$\phi$ DxL	mA	$\phi$ DxL	mA	$\phi$ DxL	mA	$\phi$ DxL	mA
0.1	0R1											4x5.3	10
0.22	R22											5x5.3	15
0.33	R33											5x5.3	18
.47	R47											6.3x5.3	20
1	1R0											6.3x5.3	25
2.2	2R2									4x5.3	8.4	6.3x7.7	35
3.3	3R3							4x5.3	10	5x5.3	16		
4.7	4R7					4x5.3	12	5x5.3	16	5x5.3	18		
10	100			4x5.3	17	5x5.3	23	6x5.3	28	6.3x5.3	27		
22	220	5x5.3	27	5x5.3	28	6.3x5.3	37	6.3x5.3	35	6.3x5.3	30		
33	330	6.3x5.3	37	6.3x5.3	33	6.3x5.3	49	6.3x7.7	50	6.3x7.7	35		
47	470	6.3x5.3	45	6.3x7.7	41	6.3x7.7	55						

