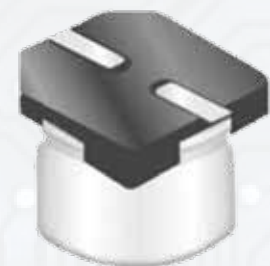


# SMD ALUMINUM ELECTROLYTIC CAPACITORS

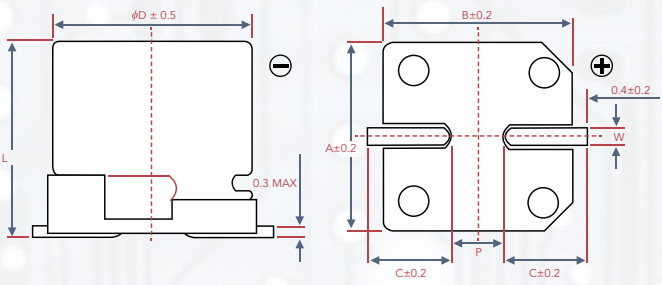
## - CVK SERIES -

### FEATURES

- 4 ~ 10 Ø , 105°C, 2,000 - 5,000 hours assured
- Designed for surface mounting on high density PC board
- RoHS Compliance



### CONSTRUCTION AND DIMENSIONS



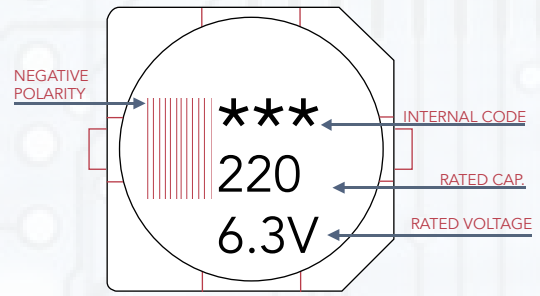
### LEAD SPACING AND DIAMETER

ØD	L	A	B	C	W	P±0.2	UNIT : MM
4	5.7 ± 0.3	4.3	4.3	2.0	0.5-0.8	1.0	
5	5.7 ± 0.3	5.3	5.3	2.3	0.5-0.8	1.5	
6.3	5.7 ± 0.3	6.3	6.3	2.7	0.5-0.8	2.0	
8	10 ± 0.5	8.4	8.4	3.0	0.7-1.1	3.1	
10	10 ± 0.5	10.4	10.4	3.3	0.7-1.1	4.7	

### PART NUMBER

CVK	1C	100	M	D60	R
<b>SERIES NAME</b>	<b>RATED VOLTAGE</b>	<b>CAPACITANCE</b>	<b>TOLERANCE</b>	<b>CASE SIZE</b>	<b>PACKAGE TYPE</b>
Series is represented by a two or three digit code.	OG - 4V OJ - 6.3V 1A - 10V 1C - 16V 1E - 25V 1V - 35V 1H - 50V 1J - 63V 1K - 80V 2A - 100V	OR1 - 0.1uF R47 - 0.47uF 010 - 4R7 - 4.7uF 100 - 47 - 470uF 101 - 100uF 471 - 470uF 102 - 1000uF	W: -10% ~ +100% T: -10% ~ +50% Q: -10% ~ +30% V: -10% ~ +20% 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  M - Taping polarity symbol with reel package in 450mm  T - Tray

### MARKING



## ■ SPECIFICATIONS

ITEMS	PERFORMANCE																									
Category Temperature Range	-55°C ~ +105°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																									
Tan δ at 120Hz, 20°C	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="color: red;">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 style="color: red;">4~6.3 Ø</td> <td>0.32</td> <td>0.28</td> <td>0.24</td> <td>0.18</td> <td>0.15</td> <td>0.14</td> </tr> <tr> <td style="color: red;">8~10 Ø</td> <td>0.30</td> <td>0.26</td> <td>0.22</td> <td>0.16</td> <td>0.13</td> <td>0.12</td> </tr> </tbody> </table>	RATED VOLTAGE	6.3	10	16	25	35	50	4~6.3 Ø	0.32	0.28	0.24	0.18	0.15	0.14	8~10 Ø	0.30	0.26	0.22	0.16	0.13	0.12				
RATED VOLTAGE	6.3	10	16	25	35	50																				
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Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below. <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2" style="color: red;">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 rowspan="2" style="color: red;">IMPEDANCE RATIO</td> <td>Z(-25°C) / Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-55°C) / Z(+20°C)</td> <td>8</td> <td>5</td> <td>4</td> <td>3</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)	4	3	2	2	2	2	Z(-55°C) / Z(+20°C)	8	5	4	3	3	3		
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Endurance	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th colspan="2" style="color: red;">TEST TIME</th> <th>2,000 Hrs (4~6.3Ø)</th> <th>5,000 Hrs (8~10Ø)</th> </tr> </thead> <tbody> <tr> <td rowspan="3" style="color: red;">CAPACITANCE CHANGE</td> <td>6.3V</td> <td>Within ±30% of initial value</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>10 ~ 16V</td> <td>Within ±25% of initial value</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>25 ~ 50V</td> <td>Within ±20% of initial value</td> <td>Within ±300% of initial value</td> </tr> <tr> <td rowspan="2" style="color: red;">DISSIPATION FACTOR</td> <td>6.3 ~ 16V</td> <td>Less than 300% of specified value</td> <td>Less than 300% of specified value</td> </tr> <tr> <td>25 ~ 50V</td> <td>Less than 200% of specified value</td> <td>Less than 300% of specified value</td> </tr> <tr> <td colspan="2" style="color: red;">LEAKAGE CURRENT</td> <td>Within specified value</td> <td>Within specified value</td> </tr> </tbody> </table> <p style="font-size: small;">*The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000/5,000 hrs at 105°C.</p>	TEST TIME		2,000 Hrs (4~6.3Ø)	5,000 Hrs (8~10Ø)	CAPACITANCE CHANGE	6.3V	Within ±30% of initial value	Within ±30% of initial value	10 ~ 16V	Within ±25% of initial value	Within ±30% of initial value	25 ~ 50V	Within ±20% of initial value	Within ±300% of initial value	DISSIPATION FACTOR	6.3 ~ 16V	Less than 300% of specified value	Less than 300% of specified value	25 ~ 50V	Less than 200% of specified value	Less than 300% of specified value	LEAKAGE CURRENT		Within specified value	Within specified value
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LEAKAGE CURRENT		Within specified value	Within specified value																							
Shelf Life Test	Test time: 1,000 hours; other items are the same as those for the Endurance																									
Ripple Current & Frequency Multipliers	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="color: red;">FREQUENCY (Hz) \ V.DC (V)</th> <th>50, 60</th> <th>120</th> <th>1K</th> <th>10K up</th> </tr> </thead> <tbody> <tr> <td style="color: red;">UNDER 16</td> <td>0.8</td> <td>1.0</td> <td>1.15</td> <td>1.25</td> </tr> <tr> <td style="color: red;">25~35</td> <td>0.8</td> <td>1.0</td> <td>1.25</td> <td>1.40</td> </tr> <tr> <td style="color: red;">50~63</td> <td>0.8</td> <td>1.0</td> <td>1.35</td> <td>1.50</td> </tr> <tr> <td style="color: red;">100</td> <td>0.7</td> <td>1.0</td> <td>1.35</td> <td>1.50</td> </tr> </tbody> </table>	FREQUENCY (Hz) \ V.DC (V)	50, 60	120	1K	10K up	UNDER 16	0.8	1.0	1.15	1.25	25~35	0.8	1.0	1.25	1.40	50~63	0.8	1.0	1.35	1.50	100	0.7	1.0	1.35	1.50
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100	0.7	1.0	1.35	1.50																						

## ■ DIMENSION & PERMISSIBLE RIPPLE CURRENT

VDC \ CONTENTS		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)	
		ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA	ØDxL	mA
1	1R1											4x5.7	2
0.22	R22											4x5.7	3
0.33	R33											4x5.7	4
0.47	R47											4x5.7	5
1	1R0											4x5.7	10
2.2	2R2											4x5.7	16
3.3	3R3											4x5.7	18
4.7	4R7					4x5.7	13	4x5.7	13	4x5.7	13	5x5.7	22
10	100			4x5.7	13	4x5.7	16	5x5.7	23	5x5.7	25	6.3x5.7	30
22	220	4x5.7	13	5x5.7	30	5x5.7	30	6.3x5.7	38	6.3x5.7	50	8x10	178
33	330	5x5.7	30	5x5.7	30	6.3x5.7	40	6.3x5.7	48	8x10	178	8x10	178
47	470	5x5.7	36	6.3x5.7	43	6.3x5.7	50	8x10	178	8x10	178	8x10	178
100	101	6.3x5.7	61	8x10	178	8x10	178	8x10	178	10x10	324	10x10	160
220	221	8x10	178	8x10	178	8x10	178	8x10	240	10x10	324		
330	331	8x10	178	10x10	324	10x10	324	10x10	324	10x10	324		
470	471	10x10	324	10x10	324	10x10	324						

