

CCV Series



Features

- 105°C, 2,000 hours assured
- Ultra low ESR, solid capacitors of SMD type
- RoHS Compliance



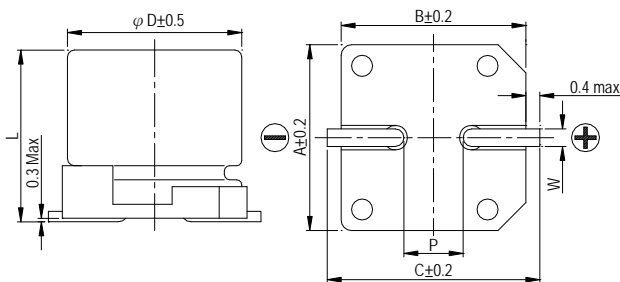
Marking color: Blue

Specifications

Items	Performance										
Category Temperature Range	-55°C ~ +105°C										
Capacitance Tolerance	±20% (at 120Hz, 20°C)										
Leakage Current (at 20°C)*	Rated voltage applied, after 2 minutes at 20°C. See Standard Ratings										
Tanδ (at 120Hz, 20°C)	See Standard Ratings										
ESR (at 100k ~ 300k Hz, 20°C)	See Standard Ratings										
Endurance	<table border="1"> <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>Tanδ</td><td>Less than 150% of specified value</td></tr> <tr><td>ESR</td><td>Less than 150% of specified value</td></tr> <tr><td>Leakage Current</td><td>Within specified value</td></tr> </table>	Test Time	2,000 Hrs	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 150% of specified value	ESR	Less than 150% of specified value	Leakage Current	Within specified value
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	ESR	Less than 150% of specified value									
Leakage Current	Within specified value										
* The above Specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hours at 105°C.											
Moisture Resistance	<table border="1"> <tr><td>Test Time</td><td>1,000 Hrs</td></tr> <tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr> <tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr> <tr><td>ESR</td><td>Less than 150% of specified value</td></tr> <tr><td>Leakage Current</td><td>Within specified value</td></tr> </table>	Test Time	1,000 Hrs	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 150% of specified value	ESR	Less than 150% of specified value	Leakage Current	Within specified value
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	ESR	Less than 150% of specified value									
Leakage Current	Within specified value										
* The above Specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 to 95% RH for 1,000 hours. Leakage current should be tested after voltage treatment*.											
Resistance to Soldering Heat * (Please refer to page 22 for reflowsoldering conditions)	<table border="1"> <tr><td>Capacitance Change</td><td>Within ±10% of initial value</td></tr> <tr><td>Tanδ</td><td>Less than 130% of specified value</td></tr> <tr><td>ESR</td><td>Less than 130% of specified value</td></tr> <tr><td>Leakage Current</td><td>Within specified value</td></tr> </table>	Capacitance Change	Within ±10% of initial value	Tanδ	Less than 130% of specified value	ESR	Less than 130% of specified value	Leakage Current	Within specified value		
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	Leakage Current	Within specified value									
Ripple Current & Frequency Multipliers	<table border="1"> <tr> <th>Frequency (Hz)</th> <th>120 ≤ f < 1k</th> <th>1k ≤ f < 10k</th> <th>10k ≤ f < 100k</th> <th>100k ≤ f < 500k</th> </tr> <tr> <td>Multiplier</td> <td>0.05</td> <td>0.3</td> <td>0.7</td> <td>1.0</td> </tr> </table>	Frequency (Hz)	120 ≤ f < 1k	1k ≤ f < 10k	10k ≤ f < 100k	100k ≤ f < 500k	Multiplier	0.05	0.3	0.7	1.0
	Frequency (Hz)	120 ≤ f < 1k	1k ≤ f < 10k	10k ≤ f < 100k	100k ≤ f < 500k						
Multiplier	0.05	0.3	0.7	1.0							

* For any doubt about measured values, measure the leakage current again after the following voltage treatment.
Voltage treatment: Applying DC rated voltage to the capacitors for 2 hours at 105 °C.

Diagram of Dimensions



Lead Spacing and Diameter

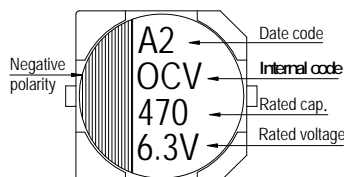
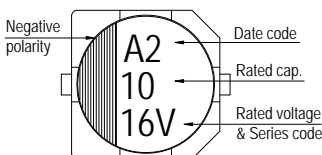
Unit: mm

φ D	L	A	B	C	W	P ± 0.2
5	5.7 ± 0.3	5.3	5.3	5.9	0.5 ~ 0.8	1.5
6.3	5.9 +0.1/-0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
6.3	7.0 ± 0.2	6.6	6.6	7.2	0.5 ~ 0.8	2.0
8	6.7 ± 0.3	8.4	8.4	9.0	0.7 ~ 1.1	3.1
8	12.0 ± 0.5	8.4	8.4	9.0	0.7 ~ 1.1	3.1
10	7.7 ± 0.3	10.4	10.4	11.0	0.7 ~ 1.3	4.7
10	9.9 +0.1/-0.3	10.4	10.4	11.0	0.7 ~ 1.3	4.7
10	12.7 ± 0.5	10.4	10.4	11.0	0.7 ~ 1.3	4.7

Marking

φ D = 5 ~ 6.3

φ D = 8 ~ 10



Dimension: ϕ D×L(mm)
Ripple Current: mA/rms at 100k Hz, 105°C

Standard Ratings

W. V. (V)	Surge Voltage (V)	Capacitance (μF)	Size ϕ D×L(mm)	Tanδ (120Hz, 20°C)	L C (μA)	E S R (mΩ/at 100k ~ 300k Hz, 20°C Max)	Rated R. C. (mA/rms at 100k Hz, 105°C)
2.5V (0E)	2.8	220	6.3 × 5.9	0.12	110	25	2,500
		560	8 × 6.7	0.12	280	23	3,100
		680	8 × 12	0.18	340	12	4,770
		1,000	10 × 7.7	0.12	500	19	4,240
		1,200	10 × 9.9	0.18	750	13	5,200
		1,500	10 × 12.7	0.18	750	10	5,500
4V (0G)	4.6	150	5 × 5.7	0.12	120	30	1,490
		150	6.3 × 5.9	0.12	120	26	2,450
		220	8 × 6.7	0.12	176	25	3,020
		330	8 × 6.7	0.12	264	25	3,020
		470	10 × 7.7	0.12	376	20	4,130
		560	8 × 12	0.18	448	12	4,770
		680	10 × 7.7	0.12	544	20	4,130
		1,200	10 × 9.9	0.18	960	13	5,200
6.3V (0J)	7.2	82	6.3 × 5.9	0.12	103	27	2,400
		100	5 × 5.7	0.12	126	35	1,380
			6.3 × 5.9	0.12	126	27	2,400
		120	6.3 × 7	0.12	151	30	2,010
		150	6.3 × 7	0.12	189	30	2,250
			8 × 6.7	0.12	189	25	3,020
		220	6.3 × 7	0.12	277	30	2,250
			8 × 6.7	0.12	277	25	3,020
		330	10 × 7.7	0.12	416	20	4,130
		470	8 × 12	0.15	592	12	4,770
		560	10 × 9.9	0.15	706	16	4,700
820	10 × 12.7	0.15	1,033	10	5,500		
10V (1A)	11.5	47	5 × 5.7	0.12	94	40	1,270
		56	6.3 × 5.9	0.10	112	31	2,250
		150	8 × 6.7	0.10	300	27	2,800
		330	8 × 12	0.15	660	14	4,420
			10 × 7.7	0.10	660	24	3,770
		470	10 × 9.9	0.15	940	18	4,400
		560	10 × 12.7	0.15	1,120	12	5,300
16V (1C)	18.4	22	5 × 5.7	0.12	70	45	1,210
		47	6.3 × 5.9	0.10	150	50	1,650
		82	8 × 6.7	0.10	262	30	2,700
		180	8 × 12	0.15	576	16	4,360
			10 × 7.7	0.10	576	26	3,430
		220	10 × 9.9	0.15	704	20	4,200
		330	10 × 12.7	0.15	792	14	5,050
		820	10 × 12.7	0.12	2,624	18	4,200

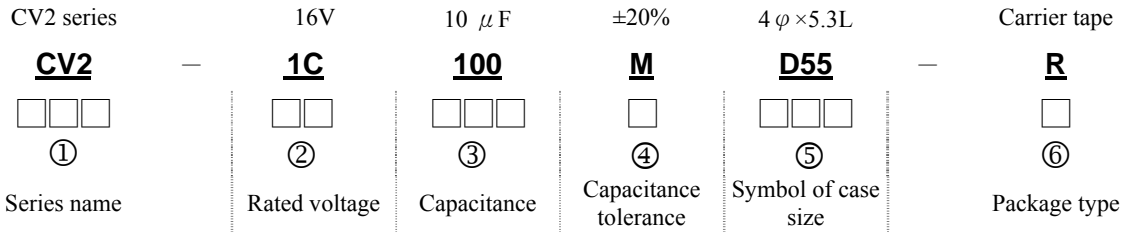
Dimension: ϕ D×L(mm)
Ripple Current: mA/rms at 100k Hz, 105°C

Standard Ratings

W. V. (V)	Surge Voltage (V)	Capacitance (μF)	Size ϕ D×L(mm)	Tanδ (120Hz, 20°C)	L C (μA)	E S R (mΩ/at 100k ~ 300k Hz, 20°C Max)	Rated R. C. (mA/rms at 100k Hz, 105°C)
20V (1D)	23.0	22	6.3 × 5.9	0.10	88	50	1,650
		47	8 × 6.7	0.10	188	45	2,000
		82	10 × 7.7	0.10	328	40	2,500
		100	8 × 12	0.15	400	24	3,320
			10 × 9.9	0.15	400	25	3,700
		150	10 × 12.7	0.15	600	20	4,320
330	10 × 12.7	0.12	1,320	26	2,700		
25V (1E)	28.7	6.8	6.3 × 5.9	0.10	170	80	1,200
		10	8 × 6.7	0.10	125	60	1,500
		22	10 × 7.7	0.10	275	50	2,000
		33	8 × 12	0.12	413	30	2,980
		56	10 × 12.7	0.12	700	28	3,800
		270	10 × 12.7	0.12	1,350	27	2,700
35V (1V)	40.0	39	8 × 12	0.12	273	31	2,100
		68	10 × 12.7	0.12	476	28	2,700

Part Numbering System for the SMD Type

When you place an order for electrolytic/Os-con capacitors, please refer to our part number as shown below.



① Series:

Series is represented by a three/four digit code.

② Rated Voltage: Voltage on volts (V) is represented by two digit code showing the real working voltage: OE=2.5V, 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 and 2W=450V

③ Capacitance:

Rated capacitance in μ F is represented by a three digit number. The first two digits are the significant figures of the nominal capacitance and the third digit indicates the number of zeros following these figures. The decimal point is represent by the capital letter R. Please refer to the following example:

μ F	0.1	0.47	1	4.7	10	47	100	470	1000
Part number	0R1	R47	010	4R7	100	470	101	471	102

④ Tolerance:

Symbol of W, T, Q, V, M, K and J show special capacitance tolerance which are listed as follows:

W = -10% ~ +100%	M = -20% ~ +20%
T = -10% ~ +50%	K = -10% ~ +10%
Q = -10% ~ +30%	J = -5% ~ +5%
V = -10% ~ +20%	

⑤ Case Size: Symbol of case size are listed as follows:

ϕ D×L (mm)	Symbol	ϕ D×L (mm)	Symbol	ϕ D×L (mm)	Symbol	ϕ D×L (mm)	Symbol
3×5.3	B55	6.3×5.3	F55	8×6.7	G68	10×10.0	H10
4×5.3	D55	6.3×5.7	F60	8×7.0	G72	10×13.0	H13
4×5.7	D60	6.3×6.0	F62	8×10.0	G10	12.5×13.5	K14
5×5.3	E55	6.3×7.0	F72	8×12.0	G12	12.5×16.0	K16
5×5.7	E60	6.3×7.7	F80	10×8.0	H82	16×16.5	L17

⑥ Package type:

R = Tape and reel