

CVJ Series



Features

- 4 ϕ ~ 18 ϕ , 105°C, 2,000 hours assured
- Designed for surface mounting on high density PC board
- RoHS Compliance



Marking color: Black

Specifications

Items	Performance	
Category Temperature Range	6.3 ~ 100V	160 ~ 400V
	-55°C ~ +105°C	-40°C ~ +105°C
Capacitance Tolerance	$\pm 20\%$ (at 120Hz, 20°C)	
Leakage Current (at 20°C)	Rated voltage	6.3 ~ 100V
	Time	after 2 minutes
	Case size	4 ~ 10 ϕ
	Leakage Current	I = 0.01CV or 3 μ A, whichever is greater
	Leakage Current	I = 0.03CV or 4 μ A, whichever is greater
Tan δ (at 120Hz, 20°C)	Rated Voltage	6.3 10 16 25 35 50 63 100 160 ~ 250 400 ~ 450
	4 ~ 10 ϕ	0.45 0.35 0.28 0.18 0.16 0.14 0.12 0.12 - -
	12.5 ~ 18 ϕ	0.40 0.38 0.34 0.26 0.22 0.18 0.14 0.10 0.20 0.25
	When the capacitance exceeds 1,000 μ F, 0.02 shall be added every 1,000 μ F increase.	
	Impedance ratio shall not exceed the values given in the table below.	
Low Temperature Characteristics (at 120Hz)	Rated Voltage	6.3 10 16 25 35 50 63 100 160 ~ 250 400 ~ 450
	Z(-25°C)	$\phi D < 12.5$ 4 4 3 2 2 2 2 2 3 - -
	/Z(+20°C)	$\phi D \geq 12.5$ 5 4 3 2 2 2 2 2 3 6
	Z(-55/-40°C)	$\phi D < 12.5$ 12 8 6 4 3 3 3 3 4 - -
	/Z(+20°C)	$\phi D \geq 12.5$ 10 8 6 4 3 3 3 3 6 10
Endurance	Test Time	2,000 Hrs
	Capacitance Change	Within $\pm 25\%$ of initial value for $\phi D \leq 6.3\text{mm}$; Within $\pm 20\%$ of initial value for $\phi D \geq 8\text{mm}$
	Tan δ	Less than 300% of specified value for $\phi D \leq 6.3\text{mm}$; Less than 200% of specified value for $\phi D \geq 8\text{mm}$
	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.	
Shelf Life Test	Test time: 1,000 hours; other items are the same as those for the Endurance. The rated voltage shall be applied to the capacitors before the measurements for 160 ~ 450V (Refer to JIS C 5101-4 4.1).	
Ripple Current & Frequency Multipliers	Freq. (Hz)	50 120 1k 10k up
	Cap. (μ F)	Under 1,000 0.80 1.00 1.25 1.40
	1,000 < C $\leq$ 6,800	0.85 1.00 1.15 1.25

Diagram of Dimensions

Fig. 1

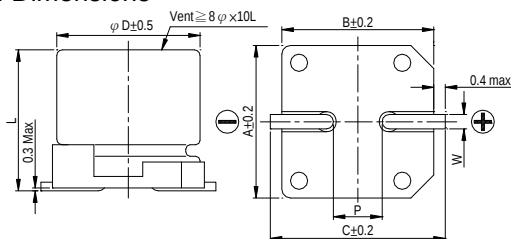
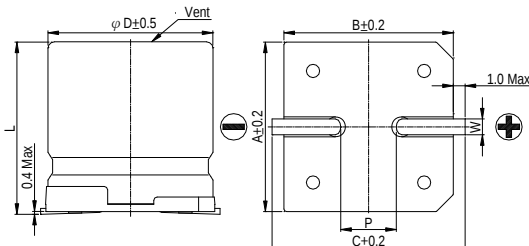


Fig. 2



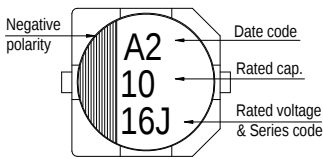
Lead Spacing and Diameter

Unit: mm

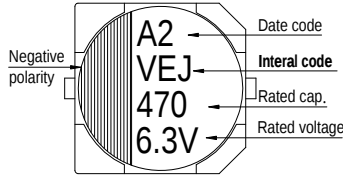
ϕD	L	A	B	C	W	P ± 0.2	Fig. No.
4	5.7 $\pm$ 0.3	4.3	4.3	5.1	0.5 ~ 0.8	1.0	1
5	5.7 $\pm$ 0.3	5.3	5.3	5.9	0.5 ~ 0.8	1.5	1
6.3	5.7 $\pm$ 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
6.3	7.7 $\pm$ 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
8	6.5 $\pm$ 0.3	8.4	8.4	9.0	0.5 ~ 0.8	2.3	1
8	10 $\pm$ 0.5	8.4	8.4	9.0	0.7 ~ 1.1	3.1	1
10	7.7 $\pm$ 0.3	10.4	10.4	11.0	0.7 ~ 1.3	4.7	1
10	10 $\pm$ 0.5	10.4	10.4	11.0	0.7 ~ 1.3	4.7	1
12.5	13.5 $\pm$ 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
12.5	16 $\pm$ 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
16	16.5 $\pm$ 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
16	21.5 $\pm$ 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
18	16.5 $\pm$ 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2
18	21.5 $\pm$ 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2

Marking

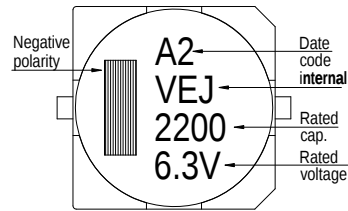
$\phi D \leq 6.3\text{mm}$



$\phi D = 8 \sim 10 \text{ mm}$



$\phi D \geq 12.5\text{mm}$



Dimension & Permissible Ripple Current

Dimension: $\phi D \times L(\text{mm})$

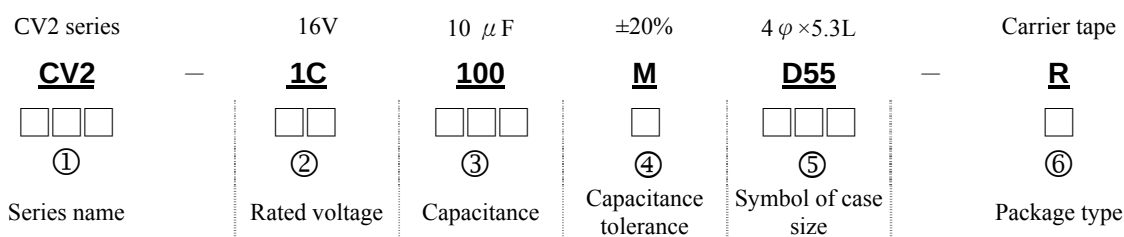
Ripple Current: mA/rms at 120 Hz, 105°C

V. DC	6.3V (0J)	10V (1A)	16V (1C)	25V (1E)	35V (1V)	50V (1H)	63V (1J)	100V (2A)
μF Contents	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA
1 010						4×5.7 8	4×5.7 8	
2.2 2R2						4×5.7 12	4×5.7 12	
3.3 3R3						4×5.7 14	5×5.7 17	
4.7 4R7				4×5.7 17	4×5.7 17	5×5.7 20	6.3×5.7 22	
10 100			4×5.7 20	4×5.7 20	5×5.7 27	6.3×5.7 32	6.3×5.7 32 8×6.5 51	
22 220	4×5.7 22	4×5.7 22	5×5.7 30	5×5.7 30	6.3×5.7 44	6.3×5.7 38 8×6.5 67	6.3×7.7 58	8×10 100
33 330	5×5.7 34	5×5.7 34	5×5.7 34	6.3×5.7 46	6.3×5.7 46 8×6.5 76	6.3×7.7 65	8×10 140	10×10 150
47 470	5×5.7 38	5×5.7 38	6.3×5.7 48	6.3×5.7 48 8×6.5 79	6.3×7.7 80	6.3×7.7 70	8×10 170	12.5×13.5 250
100 101	6.3×5.7 69	6.3×5.7 69 8×6.5 90	6.3×5.7 69	6.3×7.7 100	8×10 240	8×10 210	10×10 310	12.5×13.5 380
220 221	6.3×7.7 120 8×6.5 120	6.3×7.7 120	6.3×7.7 120	8×10 270 10×7.7 270	8×10 270	10×10 330	12.5×13.5 470	16×16.5 450
330 331	8×10 290	8×10 290	8×10 290 10×7.7 290	8×10 290	10×10 370	12.5×13.5 490	16×16.5 650	18×16.5 590 16×21.5 750
470 471	8×10 320	8×10 320 10×7.7 320	10×10 380	10×10 380	12.5×13.5 520	12.5×16 550	16×16.5 700	18×21.5 980
1,000 102	10×10 410	10×10 410	12.5×13.5 550	12.5×16 550	16×16.5 800	18×16.5 990		
2,200 222	12.5×13.5 680	12.5×13.5 680	16×16.5 900	16×16.5 900	18×16.5 1,050			
3,300 332	12.5×16 850	16×16.5 950	16×16.5 950	18×16.5 1,150 16×21.5 1,200				
4,700 472	16×16.5 1,000	16×16.5 1,000	18×16.5 1,225 16×21.5 1,275	18×21.5 1,300				
6,800 682	18×16.5 1,290 16×21.5 1,350	18×16.5 1,290 16×21.5 1,350						
8,200 822	18×21.5 1,450	18×21.5 1,450						

V. DC	160V (2C)	200V (2D)	250V (2E)	400V (2G)	450V (2W)
μF Contents	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA	$\phi D \times L$ mA
3.3 3R3			12.5×13.5 60		12.5×13.5 40
4.7 4R7			12.5×13.5 65	12.5×13.5 45	12.5×13.5 45
10 100		12.5×13.5 80	12.5×13.5 70	12.5×13.5 50	12.5×16 75
22 220		12.5×16 110	12.5×13.5 105	16×16.5 85	16×16.5 85
33 330	12.5×13.5 95	12.5×16 120	16×16.5 180	18×16.5 100	18×16.5 100
47 470	16×16.5 240	16×16.5 220	16×16.5 220	18×21.5 130	
100 101	16×16.5 250	18×16.5 280	18×16.5 260		

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 $\times$ L (mm)	Symbol	ϕ D $\times$ L (mm)	Symbol	ϕ D $\times$ L (mm)	Symbol	ϕ D $\times$ L (mm)	Symbol
3 $\times$ 5.3	B55	6.3 $\times$ 5.3	F55	8 $\times$ 6.5	G68	10 $\times$ 10.0	H10
4 $\times$ 5.3	D55	6.3 $\times$ 5.7	F60	8 $\times$ 7.0	G72	10 $\times$ 13.0	H13
4 $\times$ 5.7	D60	6.3 $\times$ 6.0	F62	8 $\times$ 10.0	G10	12.5 $\times$ 13.5	K14
5 $\times$ 5.3	E55	6.3 $\times$ 7.0	F72	8 $\times$ 12.0	G12	12.5 $\times$ 16.0	K16
5 $\times$ 5.7	E60	6.3 $\times$ 7.7	F80	10 $\times$ 8.0	H82	16 $\times$ 16.5	L17

⑥ Package type:

R = Tape and reel