

OCV Series

Features

- 105°C, 2,000 hours assured
- Ultra low ESR, solid capacitors of SMD type
- RoHS compliance
- AEC-Q200 Parts Available: Replace “S” Suffix with “KS” or “LS” Suffix



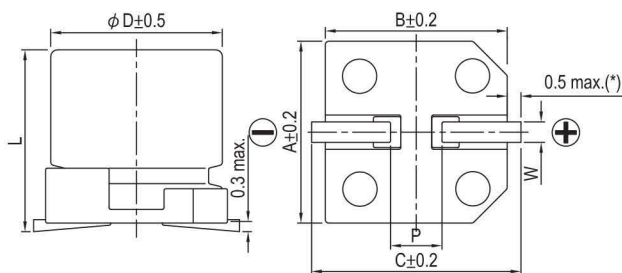
Marking color: Blue

Specifications

Items	Performance										
Category Temperature Range	-55°C ~ +105°C										
Capacitance Tolerance	±20% (at 120 Hz, 20°C)										
Leakage Current (at 20°C)*	Rated voltage applied, after 2 minutes at 20°C. See Standard Ratings										
Tanδ (at 120 Hz, 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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	Tanδ	Less than 150% of specified value									
	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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	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										
* The above specifications shall be satisfied when the capacitors are restored to 20°C after subjecting them at 60°C, 90 ~ 95% RH for 1,000 hours. Leakage current should be tested after voltage treatment*.											
Resistance to Soldering Heat * (Please refer to page 26 for reflowsoldering conditions)	<table border="1"> <tr> <td>Capacitance Change</td> <td>Within ±10% of initial value</td> </tr> <tr> <td>Tanδ</td> <td>Within specified value</td> </tr> <tr> <td>ESR</td> <td>Within specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </table>	Capacitance Change	Within ±10% of initial value	Tanδ	Within specified value	ESR	Within specified value	Leakage Current	Within specified value		
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Ripple Current and Frequency Multipliers											
	<table border="1"> <thead> <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> </thead> <tbody> <tr> <td>Multiplier</td> <td>0.05</td> <td>0.3</td> <td>0.7</td> <td>1.0</td> </tr> </tbody> </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: DC rated voltage is applied to the capacitors for 2 hours at 105 °C.

Diagram of Dimensions



Lead Spacing and Diameter

Unit: mm

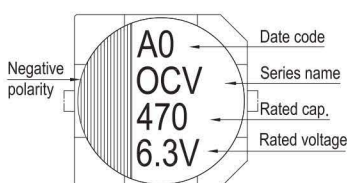
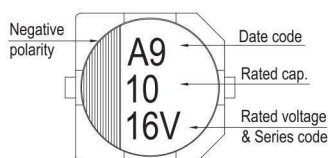
φ D	L	A	B	C	W	P ± 0.2
5	5.7 ± 0.3	5.3	5.3	5.9	0.5 ~ 0.8	1.5
6.3	5.9 +0.1/-0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
6.3	7.0 ± 0.2	6.6	6.6	7.2	0.5 ~ 0.8	2.0
8	6.7 ± 0.3	8.3	8.3	9.0	0.7 ~ 1.1	3.1
8	12.0 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1
10	7.7 ± 0.3	10.3	10.3	11.0	0.7 ~ 1.3	4.7
10	9.9 +0.1/-0.3	10.3	10.3	11.0	0.7 ~ 1.3	4.7
10	12.6 +0.1/-0.4	10.3	10.3	11.0	0.7 ~ 1.3	4.7

(*): For 5 ~ 6.3 φ is 0.4 max.

Marking

φ D = 5 ~ 6.3

φ D = 8 ~ 10



Dimension: $\phi D \times L$ (mm)

Ripple Current: mA/rms at 100k Hz, 105°C

Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance (μ F)	Size $\phi D \times L$ (mm)	Tan δ (120 Hz, 20°C)	L C (μ A)	E S R (m Ω /at 100k ~ 300k Hz, 20°C max.)	Rated R. C. (mA/rms at 100k Hz, 105°C)
2.5V (0E)	2.9	220	6.3 \times 5.9	0.12	110	25	2,500
		560	8 \times 6.7	0.12	280	23	3,100
		680	8 \times 12	0.18	340	12	4,770
		1,000	10 \times 7.7	0.12	500	19	4,240
		1,200	10 \times 9.9	0.18	750	13	5,200
		1,500	10 \times 12.6	0.18	750	10	5,500
4V (0G)	4.6	150	5 \times 5.7	0.12	120	30	1,490
			6.3 \times 5.9		120	26	2,450
		220	8 \times 6.7		176	25	3,020
		330	8 \times 6.7		264	25	3,020
		470	10 \times 7.7	376	20	4,130	
		560	8 \times 12	0.18	448	12	4,770
		680	10 \times 7.7	0.12	544	20	4,130
		820	10 \times 9.9	0.18	656	13	5,200
		1,200	10 \times 12.6	0.18	960	10	5,500
6.3V (0J)	7.2	82	6.3 \times 5.9	0.12	103	27	2,400
		100	5 \times 5.7		126	35	1,380
			6.3 \times 5.9		126	27	2,400
		120	6.3 \times 7		151	30	2,010
		150	6.3 \times 7	189	30	2,250	
			8 \times 6.7	189	25	3,020	
		220	6.3 \times 7	277	30	2,250	
			8 \times 6.7	277	25	3,020	
		330	10 \times 7.7	416	20	4,130	
		470	8 \times 12	0.15	592	12	4,770
560	10 \times 9.9	706	16	4,700			
820	10 \times 12.6	1,033	10	5,500			
10V (1A)	12.0	47	5 \times 5.7	0.12	94	40	1,270
		56	6.3 \times 5.9	0.10	112	31	2,250
		150	8 \times 6.7	0.10	300	27	2,800
		330	8 \times 12	0.15	660	14	4,420
			10 \times 7.7	0.10	660	24	3,770
		470	10 \times 9.9	0.15	940	18	4,400
560	10 \times 12.6	0.15	1,120	12	5,300		
16V (1C)	18.0	22	5 \times 5.7	0.12	70	45	1,210
		47	6.3 \times 5.9	0.10	150	50	1,650
		82	8 \times 6.7	0.10	262	30	2,700
		180	8 \times 12	0.15	576	16	4,360
			10 \times 7.7	0.10	576	26	3,430
		220	10 \times 9.9	0.15	704	20	4,200
		330	10 \times 12.6	0.15	792	14	5,050
		820	10 \times 12.6	0.12	2,624	18	4,200

OP-CAP

Dimension: $\phi D \times L$ (mm)

Ripple Current: mA/rms at 100k Hz, 105°C

Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance (μ F)	Size $\phi D \times L$ (mm)	Tan δ (120 Hz, 20°C)	L C (μ A)	E S R (m Ω /at 100k ~ 300k Hz, 20°C max.)	Rated R. C. (mA/rms at 100k Hz, 105°C)	
20V (1D)	23.0	22	6.3 \times 5.9	0.10	88	50	1,650	
		47	8 \times 6.7		188	45	2,000	
		82	10 \times 7.7		328	40	2,500	
		100	8 \times 12	10 \times 9.9	0.15	400	24	3,320
						400	25	3,700
			150	10 \times 12.6		600	20	4,320
			330	10 \times 12.6		1,320	26	2,700
25V (1E)	29.0	6.8	6.3 \times 5.9	0.10	170	80	1,200	
		10	8 \times 6.7		125	60	1,500	
		22	10 \times 7.7		275	50	2,000	
		33	8 \times 12	0.12	413	30	2,980	
		56	10 \times 12.6		700	28	3,800	
		270	10 \times 12.6		1,350	27	2,700	
35V (1V)	40.0	39	8 \times 12	0.12	273	31	2,100	
		68	10 \times 12.6	0.12	476	28	2,700	

Part Numbering System

OCV Series	470 μ F	\pm 20%	6.3V	Carrier Tape		8 ϕ \times 12L	
OCV	471	M	0J	TR	-	0812	S
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size	Regional Code

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 15.