

## OCVU Series

### Features

- 125°C, 1,000 ~ 2,000 hours assured
- Ultra low ESR, solid capacitors of SMD type
- RoHS Compliance

AEC-Q200 Qualified Parts Available: Use "LS" or "KS" Suffix



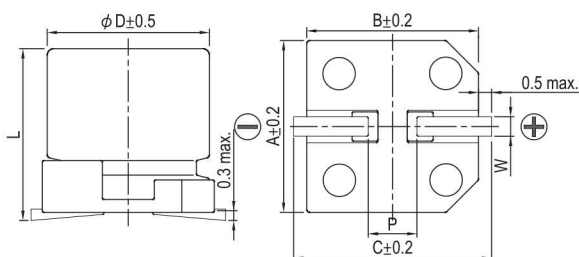
Marking color: Blue

### Specifications

Items	Performance										
Category Temperature Range	-55°C ~ +125°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>1,000 Hrs for 2.5 ~ 4V; 2,000 Hrs for 6.3 ~ 16V</td> </tr> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Tanδ</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>ESR</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </table>	Test Time	1,000 Hrs for 2.5 ~ 4V; 2,000 Hrs for 6.3 ~ 16V	Capacitance Change	Within ±20% of initial value	Tanδ	Less than 200% of specified value	ESR	Less than 200% of specified value	Leakage Current	Within specified value
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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 specified hours at 125°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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	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 reflow soldering 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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	Tanδ	Within specified value									
	ESR	Within specified value									
Leakage Current	Within specified value										
Ripple Current and Frequency Multipliers											
	<table border="1"> <tr> <th>Frequency (Hz)</th> <th>120 ≤ f &lt; 1k</th> <th>1k ≤ f &lt; 10k</th> <th>10k ≤ f &lt; 100k</th> <th>100k ≤ f &lt; 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
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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

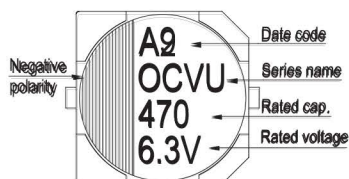


### Lead Spacing and Diameter

Unit: mm

φD	L	A	B	C	W	P ± 0.2
8	12.0 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1
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

### Marking



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

Ripple Current: mA/rms at 100k Hz

### Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance ( $\mu$ F)	Size $\phi D \times L$ (mm)	Tan $\delta$ (120 Hz, 20°C)	L C ( $\mu$ A)	ESR (m $\Omega$ /at 100k ~ 300k Hz, 20°C max.)	Rated R. C.(mA/rms at 100k Hz)	
							T $\leq$ 105°C	105°C < T $\leq$ 125°C
2.5V (0E)	2.9	680	8 × 12	0.18	340	13	4,520	1,430
		1,000	10 × 9.9	0.18	500	13	5,200	1,645
		1,500	10 × 12.6	0.18	750	13	5,440	1,721
4V (0G)	4.6	560	8 × 12	0.18	448	13	4,520	1,430
		820	10 × 9.9	0.18	656	13	5,200	1,645
		1,200	10 × 12.6	0.18	960	12	5,440	1,721
6.3V (0J)	7.2	470	8 × 12	0.15	592	15	4,210	1,332
		560	10 × 9.9	0.15	706	16	4,700	1,487
		820	10 × 12.6	0.15	1,033	12	5,440	1,721
10V (1A)	12.0	330	8 × 12	0.15	660	17	3,950	1,250
		470	10 × 9.9	0.15	940	18	4,400	1,392
		560	10 × 12.6	0.15	1,120	13	5,230	1,655
16V (1C)	18.0	180	8 × 12	0.15	576	20	3,640	1,151
		220	10 × 9.9	0.15	704	20	4,200	1,330
		330	10 × 12.6	0.15	1,056	16	4,720	1,493

OP-CAP

### Part Numbering System

OCVU Series	470 $\mu$ F	$\pm$ 20%	6.3V	Carrier Tape	8 $\phi$ × 12L	Pb-free and PET coating case
<b>OVU</b>	<b>471</b>	<b>M</b>	<b>0J</b>	<b>TR</b>	<b>-</b>	<b>S</b>
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size
						Lead Wire and Coating Type

For automotive application, please replace "S" suffix with an "LS" or "KS" suffix, for non-safety critical and safety critical applications respectively

Note: For more details, please refer to "Part Numbering System (Radial Type)" on page 13.