

## OCRU Series

### Features

- 125°C, 1000 ~ 2,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS compliant



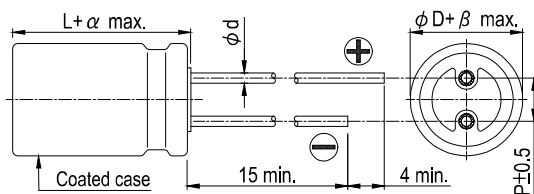
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### Specifications

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><tr><td>Test Time</td><td colspan="4">1,000 Hrs for 2.5 ~ 4V; 2,000 Hrs for 6.3~ 20V</td></tr><tr><td>Capacitance Change</td><td colspan="4">Within ± 20% of initial value</td></tr><tr><td>Tanδ</td><td colspan="4">Less than 200% of specified value</td></tr><tr><td>ESR</td><td colspan="4">Less than 200% of specified value</td></tr><tr><td>Leakage Current</td><td colspan="4">Within specified value</td></tr></table>					Test Time	1,000 Hrs for 2.5 ~ 4V; 2,000 Hrs for 6.3~ 20V				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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* 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><tr><td>Test Time</td><td colspan="4">1,000 Hrs</td></tr><tr><td>Capacitance Change</td><td colspan="4">Within ± 20% of initial value</td></tr><tr><td>Tanδ</td><td colspan="4">Less than 150% of specified value</td></tr><tr><td>ESR</td><td colspan="4">Less than 150% of specified value</td></tr><tr><td>Leakage Current</td><td colspan="4">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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* 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 voltage treatment*.																														
Resistance to Soldering Heat * (Please refer to page 18 for soldering conditions)	<table><tr><td>Capacitance Change</td><td colspan="4">Within ± 10% of initial value</td></tr><tr><td>Tanδ</td><td colspan="4">Within specified value</td></tr><tr><td>ESR</td><td colspan="4">Within specified value</td></tr><tr><td>Leakage Current</td><td colspan="4">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><tr><td>Frequency (Hz)</td><td>120 ≤ f &lt; 1k</td><td>1k ≤ f &lt; 10k</td><td>10k ≤ f &lt; 100k</td><td>100k ≤ f &lt; 500k</td></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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\* 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

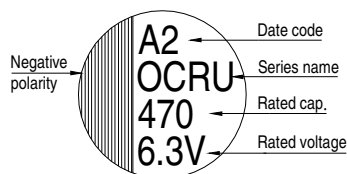


### Lead Spacing and Diameter

Unit: mm

φ D	8	10
L	11.5	12
P	3.5	5.0
φ d	0.6	
α	1.0	
β	0.5	

### Marking



Dimension:  $\phi$  D×L(mm)

Ripple Current: mA/rms at 100k Hz

## Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance ( $\mu$ F)	Size $\phi$ D×L(mm)	Tan $\delta$ (120 Hz, 20°C)	L C ( $\mu$ A)	E S R (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 × 11.5	0.18	340	13	4,520	1,430
		1,200	10 × 12	0.18	600	13	5,440	1,721
4V (0G)	4.6	560	8 × 11.5	0.18	448	13	4,520	1,430
		1,200	10 × 12	0.18	960	12	5,440	1,721
6.3V (0J)	7.2	470	8 × 11.5	0.15	592	15	4,210	1,332
		820	10 × 12	0.15	1,033	12	5,440	1,721
10V (1A)	12.0	330	8 × 11.5	0.12	660	16	3,950	1,250
		560	10 × 12	0.12	1,120	13	5,230	1,655
16V (1C)	18.0	180	8 × 11.5	0.12	576	18	3,640	1,151
		330	10 × 12	0.12	1,056	16	4,720	1,493
20V (1D)	23.0	100	8 × 11.5	0.15	400	24	3,320	1,050
		150	10 × 12	0.15	600	20	4,320	1,367

## Part Numbering System

OCRU Series	470 $\mu$ F	$\pm$ 20%	6.3V	Bulk Package	Gas Type	8 $\phi$ × 11.5L	General Purpose
<b>ORU</b>	<b>471</b>	<b>M</b>	<b>0J</b>	<b>BK</b>	-	<b>0811</b>	
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Lead Configuration and Package	Rubber Type	Case Size	Application

Note: For more details, please refer to "Part Numbering System" on page 20.