

ORC Series

Features

- 105°C, 15,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS compliance



Marking color: Blue

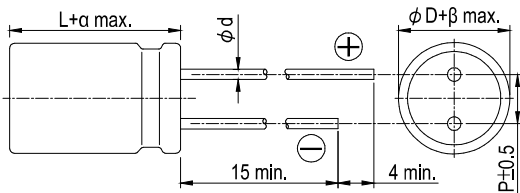
Specifications

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>15,000 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	15,000 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
	Test Time	15,000 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										
* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 15,000 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
	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										
* 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 11 for 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		
	Capacitance Change	Within ±10% of initial value									
	Tanδ	Within specified value									
	ESR	Within specified value									
Leakage Current	Within specified value										
* 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.											
Ripple Current and 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: DC rated voltage is applied to the capacitors for 2 hours at 105°C.

Diagram of Dimensions

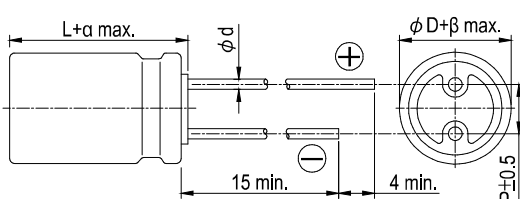
8 φ × 8L



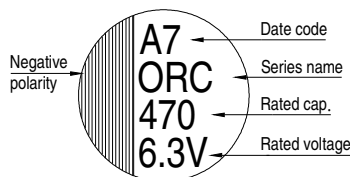
Lead Spacing and Diameter Unit: mm

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

8 φ × 11.5L and 10 φ × 12L



Marking





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

Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance (μF)	Size ϕ D×L (mm)	Tan δ (120 Hz, 20°C)	LC (μA)	ESR (mΩ/at 100k ~ 300k Hz, 20°C max.)	Rated R. C. (mA/rms at 100k Hz, 105°C)
2.5V (0E)	2.9	560	8 × 8	0.10	500	7	6,100
		820					
		1,000	8 × 11.5				
		1,500	8 × 11.5				
		2,700	10 × 12		1,350		
4V (0G)	4.6	560	8 × 8	0.10	448	7	6,100
		680	8 × 11.5		544	7	6,100
		1,000	10 × 12		800	6	6,640
6.3V(0J)	7.2	470	8 × 8	0.10	592	8	5,700
		560	8 × 8		706	8	5,700
		820	10 × 12		1,033	7	6,640
		1,500	10 × 12		1,890	10	5,560
10V (1A)	12.0	390	8 × 11.5	0.10	780	9	5,650
		680	10 × 12		1,360	7	6,100
16V (1C)	18.0	270	8 × 11.5	0.10	864	11	5,080
		330	10 × 12		1,056	10	6,100
		470	10 × 12		1,504	10	6,100

Part Numbering System

ORC Series 470μF ±20% 6.3V Bulk Package Gas Type 8 ϕ × 8L Pb-free and Coated Case
ORC **471** **M** **0J** **BK** - **0808**
 Series Name Capacitance Capacitance Tolerance Rated Voltage Lead Configuration and Package Rubber Type Case Size Lead Wire and Case Type

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