

OCRZ Series

Features

- 105°C, 2000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS compliance



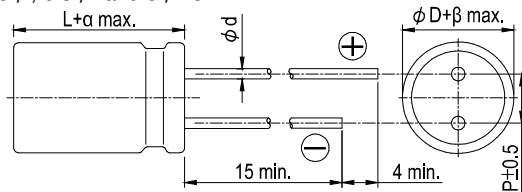
Marking color: Blue

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>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
	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										
* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2000 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							

Diagram of Dimensions

5 φ, 6.3 φ and 8 φ × 8L

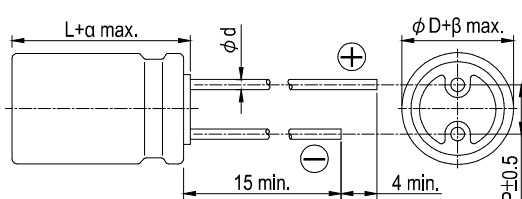


Lead Spacing and Diameter

Unit: mm

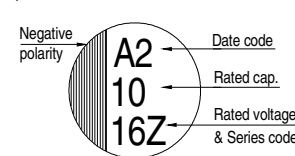
φ D	5	6.3	6.3	8	8	10
L	8	6	8	8	12	12
P	2.0	2.5		3.5		5.0
φ d	0.5	0.45	0.6			
α	1.0					
β	0.5					

8 φ × 12L and 10 φ × 12L

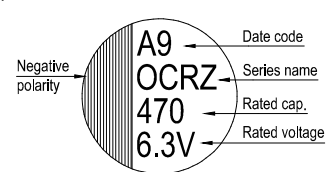


Marking

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 (μF)	Size $\phi D \times L$ (mm)	Tan δ (120 Hz, 20°C)	L C (μA)	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	330	6.3 × 8	0.10	500	7	5,600	
		390	6.3 × 6*			10	3,900	
		470	5 × 8		235	7	4,200	
			8 × 8				5,000	
		560	5 × 8	500	10	4,200		
			6.3 × 6*			4,000		
			6.3 × 8			5,600		
		820	8 × 8	0.12	280	6,200		
					500	5,600		
				0.10	410	6,200		
					410			
		1,000	8 × 8	0.12	500	7	6,200	
								8 × 12
								10 × 12
		1,200	6.3 × 8	0.10	600	5,600		
					8 × 8	6,200		
		1,500	8 × 12	0.12	600	6,200		
					750	6,200		
		1,800	8 × 8	0.12	750	6,500		
					900	6,200		
2,200	8 × 12	0.12	1,100	6,200				
2,700	10 × 12	0.12	1,350	7,200				
3,900	10 × 12	0.12	1,950	7,200				
4V (0G)	4.6	560	6.3 × 8	0.10	500	7	5,600	
			8 × 8	0.10	448		6,200	
			8 × 12	0.12	448			
		820	8 × 8	0.10	656		960	
		1,000			800			
		1,200	8 × 12	0.12	1,200		6,500	
		1,500	10 × 12	0.12	1,760		7,200	
2,200	2,160	8			7,200			
2,700	8	7,200						
6.3V (0J)	7.2	270	5 × 8	0.10	680	8	3,900	
		330	5 × 8		832	8	3,900	
		470	6.3 × 8	0.12	592	7	5,600	
			8 × 8				6,200	
		560	8 × 12	0.12	706	7	6,200	
			6.3 × 8				5,600	
			8 × 8				6,200	
		680	8 × 12	0.10	857	7	6,200	
			6.3 × 8				5,600	
		820	6.3 × 8	0.10	1,033	7	5,600	
			8 × 8				6,200	
			8 × 12				8	5,500
			10 × 12				7	6,200
1,000	8 × 8	0.10	1,260	7	6,200			
	8 × 12	0.12	1,260	8	5,500			

Remark: The case size with "*" of case length is 6.0 mm maximum.



Dimension: $\phi D \times L$ (mm)
Ripple Current: mA/rms at 100k Hz, 105°C

Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance (μF)	Size $\phi D \times L$ (mm)	Tan δ (120 Hz, 20°C)	L C (μA)	E S R (m Ω /at 100k ~ 300k Hz, 20°C max.)	Rated R. C. (mA/rms at 100k Hz, 105°C)	
6.3V (0J)	7.2	1,200	10 x 12	0.12	1,512	8	5,500	
		1,500			1,890	7	6,200	
		1,800			2,268			
		2,200			2,772			
10V (1A)	12.0	270	8 x 12	0.12	540	8	5,000	
		390	8 x 12		780		5,000	
		470	10 x 12		940		6,000	
		560	8 x 8		1,120	9	5,600	
			10 x 12		1,120	8	6,000	
		820	8 x 12		1,640		5,000	
			10 x 12		1,640		6,000	
		1,200	10 x 12		2,400	6,000		
16V (1C)	18.0	100	6.3 x 6*	0.10	320	24	2,490	
			6.3 x 8		500		10	4,680
		180	6.3 x 8		576	4,680		
			8 x 8		576	5,000		
		270	6.3 x 8		864	8		4,680
			8 x 8					5,000
		330	8 x 12	0.12	8	5,000		
			8 x 8	0.10	10	6,000		
		470	10 x 12	0.12	1,056	8	6,000	
			8 x 8		1,504	16	4,000	
			8 x 12		10	5,400		
					8	6,000		
820	10 x 12	0.10	2,624	10	6,100			
1,000		0.10	3,200	10	6,100			
20V (1D)	23.0	330	8 x 8	0.12	1,320	17	3,880	
		390	8 x 12		1,560	14	4,970	
		680	10 x 12		2,720	12	5,400	
25V (1E)	29.0	180	8 x 8	0.12	900	18	3,770	
		220	8 x 12		1,100	16	4,650	
		390	10 x 12		1,950	14	5,000	
35V (1V)	40.0	47	8 x 12	0.12	329	24	3,600	
		82	8 x 12		574	20	4,000	
		120	10 x 12		840	18	4,400	
		150	10 x 12		1,050	20	3,800	

Remark: The case size with "*" of case length is 6.0 mm maximum.

Part Numbering System

OCRZ Series 470 μF $\pm 20\%$ 6.3V Bulk Package Gas Type 6.3 ϕ x 8L Pb-free and PET coating case

ORZ **471** **M** **0J** **BK** - **0608**

Series Name Capacitance Capacitance Tolerance Rated Voltage Lead Configuration and Package Rubber Type Case Size Lead Wire and Coating Type

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