



OCRZ Series

Features

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



Marking color: Blue

Specifications

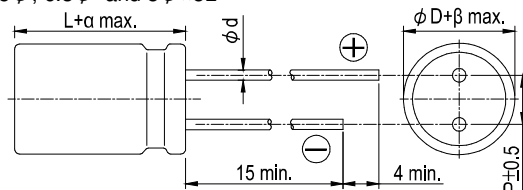
Items	Performance																													
Category Temperature Range	-55℃ ~ +105℃																													
Capacitance Tolerance	±20% (at 120 Hz, 20℃)																													
Leakage Current (at 20℃)*	Rated voltage applied, after 2 minutes at 20℃ . See Standard Ratings																													
Tanδ (at 120 Hz, 20℃)	See Standard Ratings																													
ESR (at 100k ~ 300k Hz, 20℃)	See Standard Ratings																													
Endurance	<table><tr><td>Test Time</td><td colspan="4">2,000 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	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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* The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2000 hours at 105℃.																														
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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	Leakage Current	Within specified value																												
* The above specifications shall be satisfied when the capacitors are restored to 20℃ after subjecting them at 60℃, 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><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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	Leakage Current	Within specified value																												
Ripple Current and Frequency Multipliers	<table><tr><td>Frequency (Hz)</td><td>120 ≤ f < 1k</td><td>1k ≤ f < 10k</td><td>10k ≤ f < 100k</td><td>100k ≤ f < 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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	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.

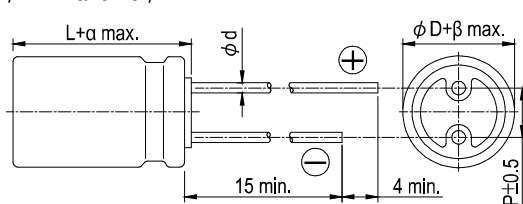
Voltage treatment: DC rated voltage is applied to the capacitors for 2 hours at 105 °C.

Diagram of Dimensions

5 φ, 6.3 φ and 8 φ × 8L



8 φ × 12L and 10 φ × 12L



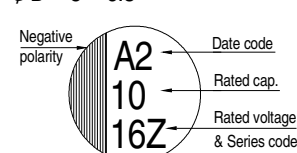
Lead Spacing and Diameter

Unit: mm

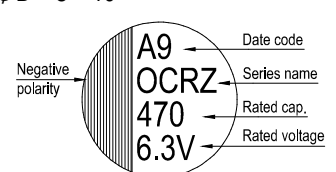
φ D	5	6.3	6.3	8	8	10
L	8	6	8	8	12	12
P	2.0	2.5		3.5		5.0
φ d	0.5	0.45		0.6		
α	1.0					
β	0.5					

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 ϕ D×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	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				
			8 × 8	6,200				
		820	6.3 × 8	0.10	500	5,600		
			8 × 8	0.10	410	6,200		
			8 × 12	410				
		1,000	8 × 8	0.12	500			
			8 × 12					
			10 × 12					
		1,200	6.3 × 8	0.10	600	7	5,600	
			8 × 8	600	6,200			
		1,500	8 × 12	750	6,200			
			10 × 12	750	6,500			
		1,800	8 × 8	900	6,200			
		2,200	8 × 12	1,100	6,200			
		2,700	10 × 12	1,350	7,200			
		3,900	10 × 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			
		1,000			800			
		1,200	8 × 12	0.12	960			
			10 × 12		1,200			
		1,500			1,760	8		7,200
		2,700			2,160	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	
			8 × 12				6,200	
		560	6.3 × 8	0.10	706		5,600	
			8 × 8	0.10			6,200	
			8 × 12	0.12			6,200	
		680	6.3 × 8	0.10	857		5,600	
		820	6.3 × 8		1,033		5,600	
			8 × 8				6,200	
			8 × 12			8	5,500	
			10 × 12	0.12		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: ϕ D×L(mm)

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

Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance (μF)	Size φ D×L(mm)	Tanδ (120 Hz, 20°C)	L C (μA)	E S R (mΩ/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 × 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 × 12	0.12	540	8	5,000
		390	8 × 12		780		5,000
		470	10 × 12		940		6,000
		560	8 × 8		1,120	9	5,600
			10 × 12		1,120	8	6,000
		820	8 × 12		1,640		5,000
			10 × 12		1,640		6,000
		1,200	10 × 12		2,400		6,000
16V (1C)	18.0	100	6.3 × 6*	0.10	320	24	2,490
			6.3 × 8		500	10	4,680
		180	6.3 × 8		576		4,680
			8 × 8		576		5,000
		270	6.3 × 8	0.12	864		8
			8 × 8				
			8 × 12	0.10	1,056	10	6,000
		330	8 × 8	0.12	1,056	8	4,000
			10 × 12		1,504	10	5,400
		470	8 × 8		8	6,000	
			8 × 12		10	6,100	
		820	10 × 12	0.10	2,624	10	6,100
		1,000		0.10	3,200	10	6,100
20V (1D)	23.0	330	8 × 8	0.12	1,320	17	3,880
		390	8 × 12		1,560	14	4,970
		680	10 × 12		2,720	12	5,400
25V (1E)	29.0	180	8 × 8	0.12	900	18	3,770
		220	8 × 12		1,100	16	4,650
		390	10 × 12		1,950	14	5,000
35V (1V)	40.0	47	8 × 12	0.12	329	24	3,600
		82	8 × 12		574	20	4,000
		120	10 × 12		840	18	4,400
		150	10 × 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 μ F	±20%	6.3V	Bulk Package	Gas Type	6.3 ϕ × 8L	Pb-free and Coated 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 Case Type

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

Mouser Electronics

Authorized Distributor

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ORZ101M1CBK-0608	ORZ122M0GBK-1012	ORZ152M0GBK-1012	ORZ152M0JBK-1012	ORZ221M0JBK-0808
ORZ331M1CBK-1012	ORZ471M0JBK-0808	ORZ471M1ABK-1012	ORZ471M1CBK-0812	ORZ471M1CBK-1012
ORZ561M0EBK-0608	ORZ561M0GBK-0808	ORZ561M0GBK-0812	ORZ561M0JBK-0608	ORZ561M0JBK-0808
ORZ821M0EBK-0808	ORZ821M0EBK-0812	ORZ821M0GBK-0808	ORZ821M0JBK-0808	ORZ821M0JBK-0812
ORZ152M0JBKF0812	ORZ271M0JBKF0507	ORZ271M1CBK-0611	ORZ331M0JSAF0606	ORZ561M0JBKF0608
ORZ681M0JBK-0608	ORZ271M1CBK-0808	ORZ681M1DBK-1012	ORZ471M1ABK-0611	ORZ271M0JBK-0507
ORZ471M1ABK-0808	ORZ102M1CBK-1012			