

OCRZ Series

Features

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



Marking color: Blue

Specifications

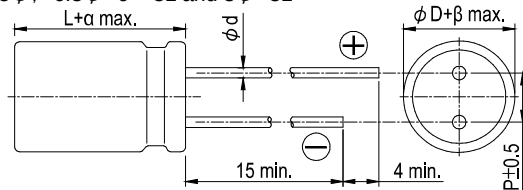
Items	Performance																													
Category Temperature Range	-55℃ ~ +105℃																													
Capacitance Tolerance	±20% (at 120Hz, 20℃)																													
Leakage Current (at 20℃)*	Rated voltage applied, after 2 minutes at 20℃ . See Standard Ratings																													
Tanδ (at 120Hz, 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 to 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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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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* For any doubt about measured values, measure the leakage current again after the following voltage treatment.

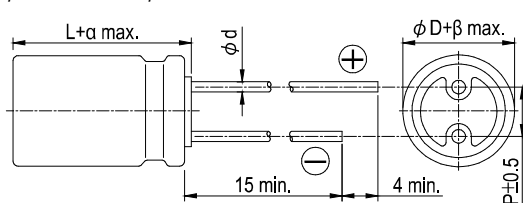
Voltage treatment: DC rated voltage is applied to the capacitors for 2 hours at 105 °C.

Diagram of Dimensions

5 φ, 6.3 φ × 6 ~ 8L and 8 φ × 8L



8 φ × 12L and 10 φ × 12L



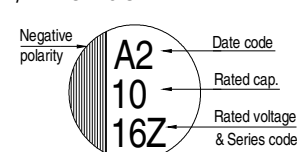
Lead Spacing and Diameter

Unit: mm

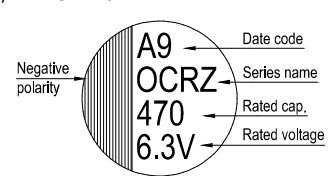
φ D	5	6.3	6.3	8	8	10
L	8	6	8	8	12	12
P	2.0	2.5	3.5	5.0		
φ d	0.5	0.45	0.6			
α		1.0				
β		0.5				

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 (μF)	Size $\phi D \times L$ (mm)	Tan δ (120Hz, 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 $\times$ 8	0.10	500	7	5,600
		390	6.3 $\times$ 6*	0.10	500	10	3,900
		470	5 $\times$ 8	0.10	500	7	4,200
			8 $\times$ 8	0.10	235	7	5,000
		560	5 $\times$ 8	0.10	500	7	4,200
			6.3 $\times$ 6*	0.10	500	10	4,000
			6.3 $\times$ 8	0.10	500	7	5,600
			8 $\times$ 8	0.12	280	7	6,200
		820	6.3 $\times$ 8	0.10	500	7	5,600
			8 $\times$ 8	0.10	410	7	6,200
			8 $\times$ 12	0.12	410	7	6,200
		1,000	8 $\times$ 8	0.12	500	7	6,200
			8 $\times$ 12	0.12	500	7	6,200
4V (0G)	4.6	560	6.3 $\times$ 8	0.10	500	7	5,600
			8 $\times$ 8	0.10	448	7	6,200
			8 $\times$ 12	0.12	448	7	6,200
		820	8 $\times$ 8	0.10	656	7	6,200
		1,000	8 $\times$ 8	0.10	800	7	6,200
		1,200	8 $\times$ 12	0.12	960	7	6,200
			10 $\times$ 12	0.12	960	7	6,200
		1,500	10 $\times$ 12	0.12	1,200	7	6,500
6.3V (0J)	7.2	270	5 $\times$ 8	0.10	680	8	3,900
		470	6.3 $\times$ 8	0.10	592	7	5,600
			8 $\times$ 8	0.12	592	7	6,200
			8 $\times$ 12	0.12	592	7	6,200
		560	6.3 $\times$ 8	0.10	706	7	5,600
			8 $\times$ 8	0.10	706	7	6,200
			8 $\times$ 12	0.12	706	7	6,200
		820	8 $\times$ 8	0.10	1,033	7	6,200
			8 $\times$ 12	0.10	1,033	8	5,500
			10 $\times$ 12	0.12	1,033	7	6,200
		1,000	8 $\times$ 8	0.10	1,260	7	6,200
			8 $\times$ 12	0.12	1,260	8	5,500
		1,500	10 $\times$ 12	0.12	1,890	7	6,200

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 (μ F)	Size $\phi D \times L$ (mm)	Tan δ (120Hz, 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)
10V (1A)	12.0	390	8 $\times$ 12	0.12	780	8	5,000
		470	10 $\times$ 12	0.12	940	8	6,000
		560	10 $\times$ 12	0.12	1,120	8	6,000
		820	10 $\times$ 12	0.12	1,640	8	6,000
16V (1C)	18.0	100	6.3 $\times$ 6*	0.10	320	24	2,490
			6.3 $\times$ 8	0.10	500	10	4,680
		180	6.3 $\times$ 8	0.10	576	10	4,680
			8 $\times$ 8	0.10	576	10	5,000
		270	8 $\times$ 8	0.10	864	10	5,000
			8 $\times$ 12	0.12	864	8	5,000
		330	8 $\times$ 8	0.10	1,056	10	5,000
			10 $\times$ 12	0.12	1,056	8	6,000
		470	8 $\times$ 12	0.12	1,504	10	5,400
			10 $\times$ 12	0.12	1,504	8	6,000
		820	10 $\times$ 12	0.10	2,624	10	6,100
		1,000	10 $\times$ 12	0.10	3,200	10	6,100
20V (1D)	23.0	330	8 $\times$ 8	0.12	1,320	17	3,880
		390	8 $\times$ 12	0.12	1,560	14	4,970
		680	10 $\times$ 12	0.12	2,720	12	5,400
25V (1E)	29.0	180	8 $\times$ 8	0.12	900	18	3,770
		220	8 $\times$ 12	0.12	1,100	16	4,650
		390	10 $\times$ 12	0.12	1,950	14	5,000

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

Part Numbering System

OCRZ Series 470 μ F $\pm 20\%$

6.3V

Bulk Package

Gas
Type6.3 ϕ $\times$ 8LPb-free and PET
coating case**ORZ****471****M****0J****BK****-****0608**

Series Name

Capacitance

Capacitance
ToleranceRated
VoltageLead Configuration
& PackageRubber
Type

Case Size

Lead Wire and
Coating Type

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