

ORE Series

Features

- 105°C, 5,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS compliance



Marking color: Blue

Specifications

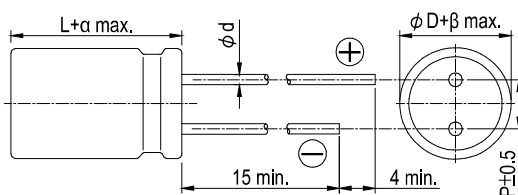
Items	Performance				
Category Temperature Range	-55℃ ~ +105℃				
Capacitance Tolerance	±20% (at 120 Hz, 20℃)				
Leakage Current (at 20℃)*	Rated voltage applied, after 2 minutes at 20℃. See Standard Ratings				
Tanδ (at 120 Hz, 20℃)	See Standard Ratings				
ESR (at 100k ~ 300k Hz, 20℃)	See Standard Ratings				
Endurance	Test Time		5,000 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℃ after the rated voltage applied for 5,000 hours at 105℃.					
Moisture Resistance	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℃ 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)	Capacitance Change		Within ±10% of initial value		
	Tanδ		Within specified value		
	ESR		Within specified value		
	Leakage Current		Within specified value		
Ripple Current and Frequency Multipliers	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

5 φ, 6.3 φ and 8 φ × 6.5 ~ 8L

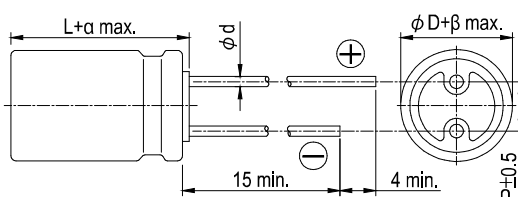


Lead Spacing and Diameter

Unit: mm

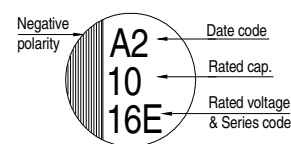
φ D	5	6.3	6.3	8	8	8	10
L	8	5.5	8	6.5	8	12	12
P	2.0	2.5		3.5			5.0
φ d	0.5	0.45		0.6			
α	1.0	0.5	1.0	0.5		1.0	
β				0.5			

8 φ × 12L and 10 φ × 12L

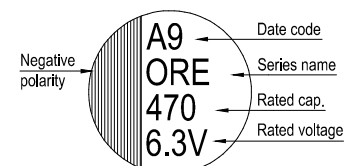


Marking

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 φ D×L(mm)	Tanδ (120 Hz, 20℃)	L C (μA)	E S R (mΩ/at 100k ~ 300k Hz, 20℃ max.)	Rated R. C. (mA/rms at 100k Hz, 105℃)
2.5V (0E)	2.9	100	5 × 8	0.10	500	7	4,180
		330	5 × 8			7	4,180
			6.3 × 8			5	5,900
		390	6.3 × 5.5	0.12		10	3,900
		470	5 × 8	0.10		7	4,180
			6.3 × 8			5	5,900
		560	5 × 8			7	4,180
			6.3 × 5.5	0.12		10	3,900
			6.3 × 8	0.10		5	5,900
			8 × 8		280	8	4,700
		820	6.3 × 8		500	5	5,900
			8 × 8			7	6,100
			8 × 12				
		1,000	8 × 8				
2,700	10 × 12	1,350	10	5,560			
4V(0G)	4.6	560	6.3 × 8	0.10	500	7	5,600
			8 × 8				6,100
			8 × 12				
		680	8 × 12		544		
		820	10 × 12		656	6,640	
6.3V (0J)	7.2	470	6.3 × 8	0.10	592	7	5,600
			8 × 8			8	5,700
			8 × 12			8	5,700
		560	6.3 × 8		706	7	5,600
			8 × 8		706		6,100
		680	10 × 12		857	6,640	
		1,500	10 × 12		1,890	10	5,560
10V(1A)	12.0	270	8 × 6.5	0.12	500	22	3,220
16V (1C)	18.0	100	6.3 × 5.5	0.10	320	24	2,490
			6.3 × 8		480	10	4,680
		150	6.3 × 5.5		500	24	2,490
			8 × 6.5	0.12	500	22	3,220
		180	8 × 8	0.10	576	10	5,000
			8 × 12		576	16	4,360
		220	8 × 6.5		500	13	4,150
			270		6.3 × 8	864	10
		8 × 6.5			13		4,150
		8 × 8			10		5,000
		8 × 12			11		5,000
		470	8 × 8	0.12	1,504	8	5,400
			10 × 12	0.10	1,504	10	6,100
		560	8 × 12	0.12	1,792	14	4,950
		1,000	10 × 12	0.12	3,200	12	5,400



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 (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)
20V(1D)	23.0	120	6.3 $\times$ 5.5	0.12	480	25	3,200
		180	8 $\times$ 6.5		720	25	3,200
		390	8 $\times$ 12		1,560	14	4,970
		560	10 $\times$ 12		2,240	12	5,600
25V(1E)	29.0	56	6.3 $\times$ 5.5	0.12	280	30	2,800
		82	8 $\times$ 6.5		410	28	3,000
		180	8 $\times$ 12		900	16	4,650
		220	8 $\times$ 12		1,100	16	4,650
		330	10 $\times$ 12		1,650	14	5,000
		390	10 $\times$ 12		1,950	14	5,000
35V(1V)	40.0	22	6.3 $\times$ 5.5	0.12	154	35	2,600
		39	8 $\times$ 6.5		273	30	2,800
		82	8 $\times$ 12		574	20	4,000
		120	10 $\times$ 12		840	18	4,400

Part Numbering System

ORE Series	470 μ F	$\pm 20\%$	2.5V	Bulk Package	Gas Type	6.3 $\phi \times 8$ L	Pb-free and Coated Case
ORE	471	M	0E	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.