ORA Series

Features

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

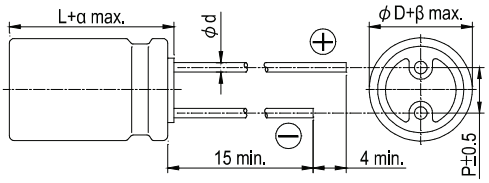
Marking color: Blue

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 (at120 Hz, 20℃)	See Standard Ratings
ESR (at 100k ~ 300k Hz, 20℃)	See Standard Ratings
Endurance	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℃ after the rated voltage applied for 15,000 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 18 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℃.

Diagram of Dimensions

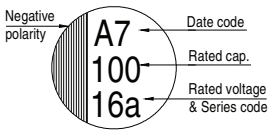


Lead Spacing and Diameter Unit: mm

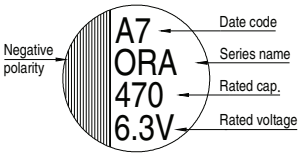
ϕD	6.3	8	10
L	11	11.5	12
P	2.5	3.5	5.0
ϕd	0.5	0.6	
α	1.0		
β	0.5		

Marking

ϕD = 6.3



ϕD = 8 ~ 10



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Dimension: ϕD×L(mm)
Ripple Current: mA/rms at 100k Hz, 105℃

Standard Ratings

Rated Volt. (V)	Surge Voltage (V)	Capacitance (μF)	Size ϕD×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	390	6.3 × 11	0.12	195	20	3,150
		680	8 × 11.5	0.08	340	7	5,580
		820	8 × 11.5		410	7	5,580
		1,000	10 × 12		500	6	5,860
		1,500	10 × 12		750	7	5,860
4V (0G)	4.6	270	6.3 × 11	0.12	216	20	3,160
		390	6.3 × 11	0.12	312	24	3,300
		560	8 × 11.5	0.08	448	7	5,580
		820	10 × 12	0.08	656	6	5,860
6.3V (0J)	7.2	220	6.3 × 11	0.12	277	20	3,160
		330	6.3 × 11	0.12	416	28	3,190
		390	8 × 11.5	0.08	491	8	5,080
		470	8 × 11.5		592	7	5,700
		680	10 × 12		857	7	5,860
10V (1A)	12.0	47	6.3 × 11	0.12	94	25	2,820
		68			136		
		100			200		
		150			300		
		270	8 × 11.5	0.08	540	9	4,710
		470	10 × 12	0.08	940	8	5,650
16V (1C)	18.0	100	6.3 × 11	0.12	320	25	2,820

Part Numbering System

ORA Series	470μF	±20%	6.3V	Bulk Package	Gas Type	8ϕ×11.5L	
ORA	**471**	**M**	**0J**	**BK**	**-**	**0811**	**XX**
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Lead Configuration and Package	Rubber Type	Case Size	

XX
S = Standard
KS = AEC-Q200 Qualified, Safety Critical Application
LS = AEC-Q200 Qualified, Non-Safety Critical Application

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