ORX Series

Features
- 105℃, 2,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS compliance

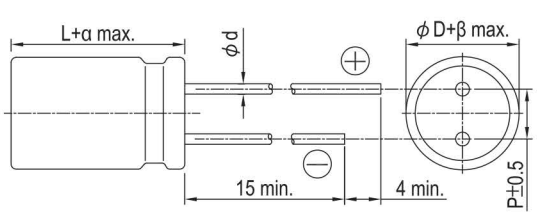
Marking color: Blue

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: 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℃ after the rated voltage applied for specified hours at 125℃.
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 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 ℃.

Diagram of Dimensions

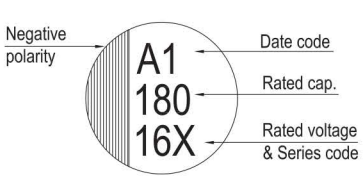


Lead Spacing and Diameter Unit: mm

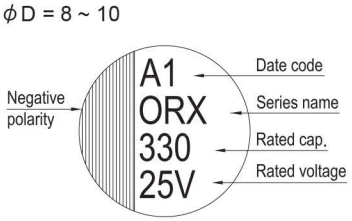
φD	5	5.5	6.3	8	10
L	8	9	11	12	12
P	2.0	2.5	2.5	3.5	5.0
φd	0.5			0.6	
α	1.0				
β	0.5				

Marking

φD = 5 ~ 6.3



φD = 8 ~ 10



Dimension: φD×L(mm)

Standard Ratings

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

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℃)
16V (1C)	18.0	180	5 × 8	0.12	576	20	2,450
		270	5.5 × 9		864	20	2,750
		470	6.3 × 11		1,504	15	3,100
		680	8 × 12		2,176	11	3,400
		1,200	10 × 12		3,840	11	4,200
20V (1D)	23.0	100	5 × 8	0.12	400	40	2,200
		150	5.5 × 9		600	30	2,200
		330	6.3 × 11		1,320	20	2,100
		470	8 × 12		1,880		2,400
		820	10 × 12		3,280		3,100
25V (1C)	29.0	82	5 × 8	0.12	410	40	1,900
		220	6.3 × 11		1,100	20	2,400
		330	8 × 12		1,650		2,800
		680	10 × 12		3,400		2,800
35V (1V)	40.0	39	5 × 8	0.12	273	50	2,050
		180	6.3 × 11		1,260	40	2,600
		220	8 × 12		1,540	40	2,800
		330	10 × 12		2,310	30	3,100
50V (1H)	58.0	15	5 × 8	0.12	150	70	1,660
		68	6.3 × 11		680	30	2,200
		100	8 × 12		1,000		2,300
		180	10 × 12		1,800		2,600
63V (1J)	73.0	180	6.3 × 11	0.12	592	30	1,900
		220	8 × 12		857		2,000
		330	10 × 12		1,260		2,200

Part Numbering System

ORX Series	470μF	±20%	16V	Bulk Package	Gas Type	6.3φ×11L	Pb-free and PET coating case
ORX	**471**	**M**	**1C**	**BK**	**-**	**0611**	**S**
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.