

ORF Series

Features

- 105°C, 20,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS compliance



Marking color: Blue

Specifications

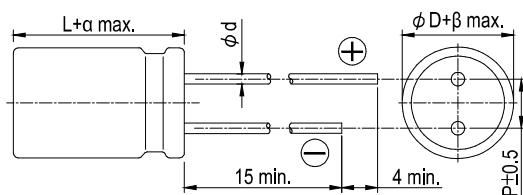
Items	Performance																													
Category Temperature Range	-55℃ ~ +105℃																													
Capacitance Tolerance	±20% (at 120 Hz, 20℃)																													
Leakage Current (at 20℃)*	Rated voltage applied, after 2 minutes at 20℃. See Standard Ratings																													
Tanδ (at120 Hz, 20℃)	See Standard Ratings																													
ESR (at 100k ~ 300k Hz, 20℃)	See Standard Ratings																													
Endurance	<table><tr><td>Test Time</td><td colspan="4">20,000 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	20,000 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 20,000 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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* 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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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.

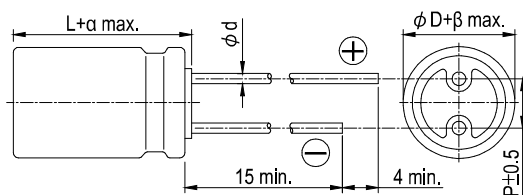
Voltage treatment: DC rated voltage is applied to the capacitors for 2 hours at 105°C.

Diagram of Dimensions

6.3φ and 8φ × 8L



8φ × 11.5L and 10φ × 12L



Lead Spacing and Diameter

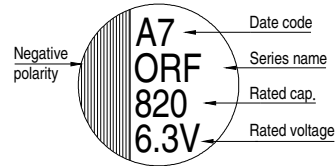
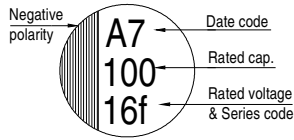
Unit: mm

ϕD	6.3			8		10
L	5.5	8	11	8	11.5	12
P	2.5			3.5		5.0
ϕd	0.45	0.6	0.5	0.6		
α	0.5	1.0				
β	0.5					

Marking

$\phi D = 6.3$

$\phi D = 8 \sim 10$



Standard Ratings

Dimension: $\phi D \times L$ (mm)

Ripple Current: mA/rms at 100k Hz

Rated Volt. (V)	Surge Voltage (V)	Capacitance (μF)	Size $\phi D \times L$ (mm)	Tan δ (120 Hz, 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)
2V (0D)	2.3	1,000	6.3 $\times$ 8	0.12	500	5	5,900
2.5V (0E)	2.9	330	6.3 $\times$ 8	0.10	500	5	5,900
		470					
		560					
		820					
		1,200	8 $\times$ 8	0.12	1,200	5	6,100
		1,600		0.12	800		
4V (0G)	4.6	470	6.3 $\times$ 8	0.10	500	7	5,600
		560	6.3 $\times$ 8	0.10	500	7	5,600
6.3V (0J)	7.2	820	6.3 $\times$ 8	0.10	1,030	8	4,700
16V (1C)	18.0	100	6.3 $\times$ 5.5	0.10	500	24	2,490
			6.3 $\times$ 11		500	25	2,890
		270	8 $\times$ 8		864	10	5,000
			8 $\times$ 11.5		864	11	5,080
		330	8 $\times$ 8		1,050	13	4,700
			8 $\times$ 11.5		1,500	11	5,400
		470	8 $\times$ 11.5		1,500	10	6,100
			10 $\times$ 12		1,500	10	6,100

Part Numbering System

ORF Series	270 μF	$\pm 20\%$	16V	Bulk Package	Gas Type	8 $\phi \times 11.5L$	Pb-free and Coated Case
ORF	271	M	1C	BK	-	0811	
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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[ORF271M1CBK-0811](#) [ORF271M1CBKF0808](#) [ORF331M0EBKF0608](#)