

OVE Series

Features

- 105°C, 15,000 hours assured
- Ultra low ESR with large permissible ripple current
- RoHS Compliance



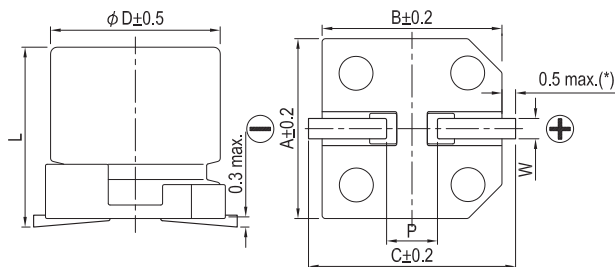
Marking color: Blue

Specifications

Items	Performance										
Category Temperature Range	-55°C ~ +105°C										
Capacitance Tolerance	±20% (at 120 Hz, 20°C)										
Leakage Current (at 20°C)*	Rated voltage applied, after 2 minutes at 20°C. See Standard Ratings										
Tanδ (at120 Hz, 20°C)	See Standard Ratings										
ESR (at 100k ~ 300k Hz, 20°C)	See Standard Ratings										
Endurance	<table border="1"> <tr><td>Test Time</td><td>15,000 Hrs</td></tr> <tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr> <tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr> <tr><td>ESR</td><td>Less than 150% of specified value</td></tr> <tr><td>Leakage Current</td><td>Within specified value</td></tr> </table>	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
	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°C after the rated voltage applied for 15,000 hours at 105°C.											
Moisture Resistance	<table border="1"> <tr><td>Test Time</td><td>1,000 Hrs</td></tr> <tr><td>Capacitance Change</td><td>Within ±20% of initial value</td></tr> <tr><td>Tanδ</td><td>Less than 150% of specified value</td></tr> <tr><td>ESR</td><td>Less than 150% of specified value</td></tr> <tr><td>Leakage Current</td><td>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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	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°C after subjecting them at 60°C, 90 ~ 95% RH for 1,000 hours. Leakage current should be tested after voltage treatment*.											
Resistance to Soldering Heat * (Please refer to page 26 for reflow soldering conditions)	<table border="1"> <tr><td>Capacitance Change</td><td>Within ±10% of initial value</td></tr> <tr><td>Tanδ</td><td>Within specified value</td></tr> <tr><td>ESR</td><td>Within specified value</td></tr> <tr><td>Leakage Current</td><td>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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	ESR	Within specified value									
Leakage Current	Within specified value										
Ripple Current and Frequency Multipliers	<table border="1"> <tr> <th>Frequency (Hz)</th> <th>120 ≤ f < 1k</th> <th>1k ≤ f < 10k</th> <th>10k ≤ f < 100k</th> <th>100k ≤ f < 500k</th> </tr> <tr> <th>Multiplier</th> <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
	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



Lead Spacing and Diameter

Unit: mm

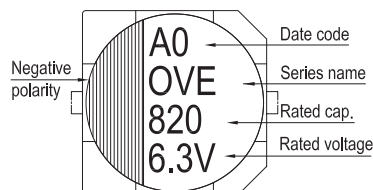
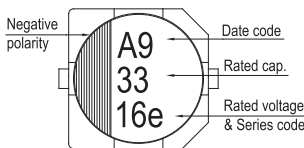
φD	L	A	B	C	W	P ± 0.2
5	5.8 ± 0.3	5.3	5.3	5.9	0.5 ~ 0.8	1.5
6.3	5.8 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
6.3	7.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
8	6.7 ± 0.3	8.3	8.3	9.0	0.7 ~ 1.1	3.1
8	7.7 ± 0.3	8.3	8.3	9.0	0.7 ~ 1.1	3.1
8	10.0 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1
8	12.0 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1
10	7.7 ± 0.3	10.3	10.3	11.0	0.7 ~ 1.3	4.7
10	10.0 ± 0.5	10.3	10.3	11.0	0.7 ~ 1.3	4.7
10	12.6 +0.1/-0.4	10.3	10.3	11.0	0.7 ~ 1.3	4.7

(*): For 5 ~ 6.3φ is 0.4 max.

Marking

φD = 5 ~ 6.3

φD = 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 (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)	
2.5V (0E)	2.9	180	5 × 5.8	0.12	90	21	2,670	
		390	6.3 × 5.8		195	15	3,160	
		470	6.3 × 7.7		235	13	3,600	
		560	6.3 × 7.7		280		3,600	
		680	8 × 6.7		280		4,100	
			8 × 6.7		340		4,100	
		820	8 × 7.7		410		12	4,260
			8 × 12		410		9	5,400
		1,200	10 × 7.7		600	13	4,450	
		1,500	8 × 10		750	10	5,220	
			8 × 12		750	9	5,400	
		2,200	10 × 10		1,100	10	5,500	
		2,700	10 × 12.6		1,350	9	5,600	
		4V (0G)	4.6		100	5 × 5.8	0.12	80
150	5 × 5.8			120	22	2,610		
270	6.3 × 5.8			216	15	3,160		
330	6.3 × 5.8			264	15	3,160		
390	6.3 × 7.7			312	14	3,470		
470	8 × 6.7			376		3,950		
	8 × 6.7			448				
680	8 × 7.7			544	13	5,220		
1,000	8 × 10			800	10			
	10 × 7.7			800	14	4,300		
1,200	8 × 12			960	9	5,400		
	1,500			10 × 10	960	10		5,500
1,200								
1,440								
1,800	10 × 12.6			1,440	9	5,600		
6.3V (0J)	7.2			100	5 × 5.8	0.12		126
		120	5 × 5.8	151	24		2,500	
		220	6.3 × 5.8	277	15		3,160	
		270	6.3 × 7.7	340	14		3,470	
		330	6.3 × 7.7	415			3,470	
			8 × 6.7	415				
		390	8 × 6.7	491	3,950			
		470	8 × 7.7	592			13	
			820	8 × 10	1,033		12	4,770
		8 × 12		10			5,150	
		10 × 7.7		14			4,300	
		1,200	10 × 10	1,510	12		5,025	
		1,500	10 × 10	1,890	12		5,025	
			10 × 12.6	1,890	10		5,500	

OP-CAP

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 (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)
10V (1A)	12.0	47	5 × 5.8	0.12	94	28	2,310
		56			112		
		68			136		
		120	6.3 × 5.8		240	25	2,530
		150	6.3 × 7.7		300	21	2,880
		220	8 × 6.7		440		3,220
		270	8 × 6.7		540		3,220
		390	8 × 10		780		4,000
		470	10 × 7.7		940	19	3,800
		680	10 × 10		1,360	13	4,820
16V (1C)	18.0	33	5 × 5.8	0.12	105	35	2,070
		39	5 × 5.8		124	35	2,070
		68	6.3 × 5.8		217	28	2,390
		82	6.3 × 7.7		262	24	2,700
		100	6.3 × 7.7		320		2,700
			8 × 6.7		320		3,010
		120	8 × 6.7		384		3,010
		150	8 × 7.7		480	22	3,150
		180	8 × 10		576	18	3,890
		220	8 × 10		704	18	3,890
			10 × 7.7		704	22	3,450
		330	10 × 10		1,050	16	4,350

OP-CAP

Part Numbering System

OVE Series	820 μF	$\pm 20\%$	6.3V	Carrier Tape		8 $\phi \times 12L$	Pb-free and PET coating case
OVE	821	M	0J	TR	-	0812	
Series Name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size	Lead Wire and Coating Type

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 15.