

VZS Series

Features

- $5\phi \sim 10\phi$, 105°C, 2,000 hours assured
- Low impedance 30 ~ 50% less than VZH series
- Large capacitance with ultra low impedance capacitors
- Designed for surface mounting on high density PC board
- RoHS Compliance

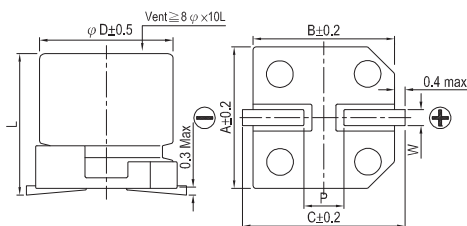


Marking color: Black

Specifications

Items	Performance																									
Category Temperature Range	-55℃ ~ +105℃																									
Capacitance Tolerance	±20% (at 120Hz, 20℃)																									
Leakage Current (at 20℃)	I = 0.01CV or 3 (μA) whichever is greater (after 2 minutes) Where, C = rated capacitance in μF, V = rated DC working voltage in V																									
Tanδ (at 120Hz, 20℃)	<table><tr><td>Rated Voltage</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td></tr><tr><td>Tanδ (max)</td><td>0.30</td><td>0.26</td><td>0.22</td><td>0.16</td><td>0.13</td></tr></table>						Rated Voltage	6.3	10	16	25	35	Tanδ (max)	0.30	0.26	0.22	0.16	0.13								
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Low Temperature Characteristics (at 120Hz)	Impedance ratio shall not exceed the values given in the table below. <table><tr><td colspan="2">Rated Voltage</td><td>6.3</td><td>10</td><td>16</td><td>25</td><td>35</td></tr><tr><td rowspan="2">Impedance Ratio</td><td>Z(-25℃)/Z(+20℃)</td><td>4</td><td>3</td><td>2</td><td>2</td><td>2</td></tr><tr><td>Z(-55℃)/Z(+20℃)</td><td>8</td><td>5</td><td>4</td><td>3</td><td>3</td></tr></table>						Rated Voltage		6.3	10	16	25	35	Impedance Ratio	Z(-25℃)/Z(+20℃)	4	3	2	2	2	Z(-55℃)/Z(+20℃)	8	5	4	3	3
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Endurance	<table><tr><td>Test Time</td><td>2,000 Hrs</td></tr><tr><td>Capacitance Change</td><td>Within ±30% of initial value</td></tr><tr><td>Tanδ</td><td>Less than 300% of specified value</td></tr><tr><td>Leakage Current</td><td>Within specified value</td></tr></table> * The above specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 2,000 hours at 105℃.						Test Time	2,000 Hrs	Capacitance Change	Within ±30% of initial value	Tanδ	Less than 300% of specified value	Leakage Current	Within specified value												
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Leakage Current	Within specified value																									
Shelf Life Test	Test time: 1,000 hours; other items are the same as those for the Endurance.																									
Ripple Current and Frequency Multipliers	<table><tr><td>Frequency(Hz)</td><td>50, 60</td><td>120</td><td>1k</td><td>10k up</td></tr><tr><td>Multiplier</td><td>0.60</td><td>0.70</td><td>0.85</td><td>1.0</td></tr></table>						Frequency(Hz)	50, 60	120	1k	10k up	Multiplier	0.60	0.70	0.85	1.0										
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Diagram of Dimensions



Lead Spacing and Diameter

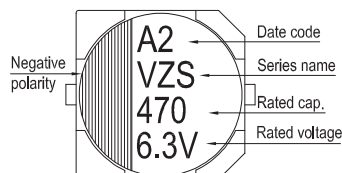
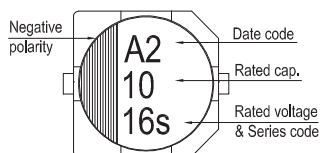
Unit: mm

φ D	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
8	10 ± 0.5	8.4	8.4	9.0	0.7 ~ 1.1	3.1
10	10 ± 0.5	10.4	10.4	11	0.7 ~ 1.3	4.7

Marking

φ D ≤ 6.3mm

φ D = 8 ~ 10 mm





Dimension: $\phi D \times L(\text{mm})$
 Ripple Current: mA/rms at 100k Hz, 105°C
 Impedance: $\Omega/$ at 100k Hz, 20°C

Dimension and Permissible Ripple Current

V, DC		6.3V (0J)			10V (1A)			16V (1C)			25V (1E)			35V (1V)		
μF	Contents	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA
22	220							5×5.8	0.36	240	5×5.8	0.36	240	5×5.8	0.36	240
33	330				5×5.8	0.36	240				5×5.8	0.36	240	5×5.8	0.36	240
47	470	5×5.8	0.36	240				5×5.8	0.36	240	6.3×5.8	0.26	300	6.3×5.8	0.26	300
68	680							6.3×5.8	0.26	300	6.3×5.8	0.26	300			
100	101	5×5.8	0.36	240	5×5.8	0.36	240	6.3×5.8	0.26	300	6.3×5.8	0.26	300	8×10	0.08	850
150	151				6.3×5.8	0.26	300				8×10	0.08	850	8×10	0.08	850
220	221	6.3×5.8	0.26	300	6.3×5.8	0.26	300	8×10	0.08	850	8×10	0.08	850			
330	331				8×10	0.08	850	8×10	0.08	850				10×10	0.06	1,190
470	471	8×10	0.08	850	8×10	0.08	850	8×10	0.08	850	10×10	0.06	1,190			
680	681	8×10	0.08	850	8×10	0.08	850	10×10	0.06	1,190						
1,000	102				10×10	0.06	1,190	10×10	0.06	1,190						
1,500	152	10×10	0.06	1,190												

Part Numbering System

VZS Series	470 μF	$\pm 20\%$	6.3V	Carrier Tape		8 $\phi \times 10\text{L}$	Pb-free and PET coating case
VZS	471	M	0J	TR	-	0810	
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.