

FeaturesU

- 4 ϕ ~ 10 ϕ , 105°C, 2,000 ~ 5,000 hours assured
- Capacitance more than VZS series
- Designed for surface mounting on high density PC board
- RoHS compliance
- AEC-Q200 qualified

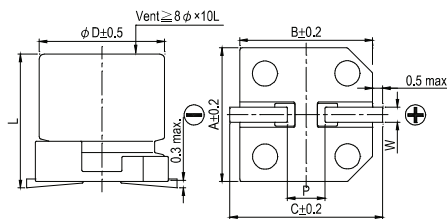


Marking color: Black

Specifications

Items	Performance																							
Category Temperature Range	-55°C ~ +105°C																							
Capacitance Tolerance	±20% (at 120 Hz, 20°C)																							
Leakage Current (at 20°C)	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 120 Hz, 20°C)	<table border="1"> <tr> <th>Rated Voltage</th> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <th>Tanδ (max)</th> <td>0.26</td> <td>0.19</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> </tr> </table> <p>When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.</p>	Rated Voltage	6.3	10	16	25	35	50	Tanδ (max)	0.26	0.19	0.16	0.14	0.12	0.10									
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Tanδ (max)	0.26	0.19	0.16	0.14	0.12	0.10																		
Low Temperature Characteristics (at 120 Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <tr> <th colspan="2">Rated Voltage</th> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <th rowspan="2">Impedance Ratio</th> <th>Z(-25°C)/Z(+20°C)</th> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <th>Z(-55°C)/Z(+20°C)</th> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Rated Voltage		6.3	10	16	25	35	50	Impedance Ratio	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	Z(-55°C)/Z(+20°C)	8	5	4	3	3	3
Rated Voltage		6.3	10	16	25	35	50																	
Impedance Ratio	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2																	
	Z(-55°C)/Z(+20°C)	8	5	4	3	3	3																	
Endurance of VZT Series	<table border="1"> <tr> <th>Test Time</th> <td>2,000 Hrs</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±30% of initial value</td> </tr> <tr> <th>Tanδ</th> <td>Less than 200% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 hours at 105°C.</p>	Test Time	2,000 Hrs	Capacitance Change	Within ±30% of initial value	Tanδ	Less than 200% of specified value	Leakage Current	Within specified value															
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Endurance of VZU Series	<table border="1"> <tr> <th>Test Time</th> <td>3,000 Hrs for voltage = 6.3 V 5,000 Hrs for voltage ≥ 10 V</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±35% of initial value</td> </tr> <tr> <th>Tanδ</th> <td>Less than 300% of specified value</td> </tr> <tr> <th>Leakage Current</th> <td>Within specified value</td> </tr> </table> <p>* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 3,000 ~ 5,000 hours at 105°C.</p>	Test Time	3,000 Hrs for voltage = 6.3 V 5,000 Hrs for voltage ≥ 10 V	Capacitance Change	Within ±35% 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 border="1"> <tr> <th rowspan="2">Cap. (μF)</th> <th colspan="5">Frequency (Hz)</th> </tr> <tr> <th>50, 60</th> <th>120</th> <th>1k</th> <th>10k up</th> </tr> <tr> <td>≤ 470</td> <td>0.50</td> <td>0.65</td> <td>0.85</td> <td>1.00</td> </tr> <tr> <td>470 < C ≤ 2,200</td> <td>0.55</td> <td>0.70</td> <td>0.90</td> <td>1.00</td> </tr> </table>	Cap. (μF)	Frequency (Hz)					50, 60	120	1k	10k up	≤ 470	0.50	0.65	0.85	1.00	470 < C ≤ 2,200	0.55	0.70	0.90	1.00			
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	50, 60	120	1k	10k up																				
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Diagram of Dimensions



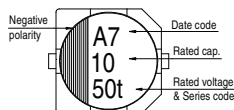
Lead Spacing and Diameter

Unit: mm

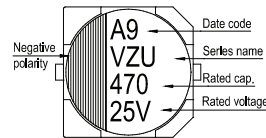
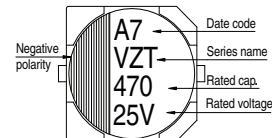
φ D	L	A	B	C	W	P ± 0.2
4	5.8 ± 0.3	4.3	4.3	5.1	0.5 ~ 0.8	1.0
5	5.8 ± 0.3	5.3	5.3	5.9	0.5 ~ 0.8	1.5
6.3	5.8 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
6.3	7.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0
8	10 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1
10	10 ± 0.5	10.3	10.3	11	0.7 ~ 1.3	4.7

Marking

φ D ≤ 6.3 mm



φ D = 8 ~ 10 mm



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

Dimension and Permissible Ripple Current

Cap. (μ F)	Contents	6.3V (0J)			10V (1A)			16V (1C)			25V (1E)			35V (1V)			50V (1H)					
		$\phi D \times L$	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	$\phi D \times L$	Imp.	mA			
10	100																4x5.8	2.30	85			
																	5x5.8	0.88	165			
22	220											4x5.8	0.85	160	4x5.8	0.85	160	5x5.8	0.88	165		
33	330											4x5.8	0.85	160	5x5.8	0.36	240					
47	470											4x5.8	0.85	160	5x5.8	0.36	240	6.3x5.8	0.68	195		
68	680				4x5.8	0.85	160	5x5.8	0.36	240	5x5.8	0.36	240	6.3x5.8	0.26	300						
100	101	4x5.8	0.85	160				5x5.8	0.36	240	6.3x5.8	0.26	300	6.3x5.8	0.26	300	6.3x7.7	0.34	350			
150	151				5x5.8	0.36	240	6.3x5.8	0.26	300	6.3x7.7	0.16	600	6.3x7.7	0.16	600						
220	221	5x5.8	0.36	240	6.3x5.8	0.26	300	6.3x5.8	0.26	300	6.3x7.7	0.16	600						8x10*	0.18	670	
330	331	6.3x5.8	0.26	300	6.3x7.7	0.16	600	6.3x7.7	0.16	600							8x10*	0.08	850	10x10*	0.12	900
470	471	6.3x7.7	0.16	600	6.3x7.7	0.16	600						8x10*	0.08	850							
560	561																10x10*	0.06	1,190			
680	681	6.3x7.7	0.16	600				8x10*	0.08	850												
820	821												10x10*	0.06	1,190							
1,000	102				8x10*	0.08	850	10x10*	0.06	1,190												
1,500	152	8x10*	0.08	850	10x10*	0.06	1,190															
2,200	222	10x10*	0.06	1,190																		

Note: For the case sizes with the mark of " * ", the endurance requirements of VZU series are available.

Part Numbering System

VZT Series 1500 μ F $\pm 20\%$ 6.3V Carrier Tape $8\phi \times 10L$

VZT **152** **M** **0J** **TR** - **0810** **XX**

Series Name Capacitance Capacitance Tolerance Rated Voltage Package Type Terminal Type Case Size

Note: 1. If the life time of product was required 5,000 hours, the series name is VZU.

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