

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

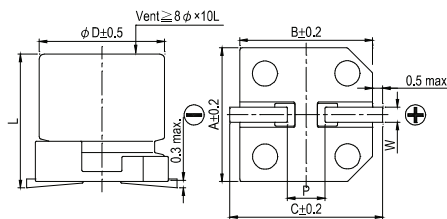


Marking color: Black

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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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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Diagram of Dimensions



Lead Spacing and Diameter

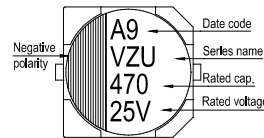
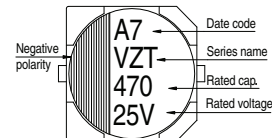
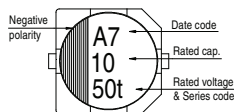
Unit: mm

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																4×5.8	2.30	85	5×5.8	0.88	165
22	220										4×5.8	0.85	160	4×5.8	0.85	160	5×5.8	0.88	165			
33	330										4×5.8	0.85	160	5×5.8	0.36	240						
47	470							4×5.8	0.85	160	5×5.8	0.36	240	5×5.8	0.36	240	6.3×5.8	0.68	195			
68	680				4×5.8	0.85	160	5×5.8	0.36	240	5×5.8	0.36	240	6.3×5.8	0.26	300						
100	101	4×5.8	0.85	160				5×5.8	0.36	240	6.3×5.8	0.26	300	6.3×5.8	0.26	300	6.3×7.7	0.34	350			
150	151				5×5.8	0.36	240	6.3×5.8	0.26	300	6.3×7.7	0.16	600	6.3×7.7	0.16	600						
220	221	5×5.8	0.36	240	6.3×5.8	0.26	300	6.3×5.8	0.26	300	6.3×7.7	0.16	600							8×10*	0.18	670
330	331	6.3×5.8	0.26	300	6.3×7.7	0.16	600	6.3×7.7	0.16	600							8×10*	0.08	850	10×10*	0.12	900
470	471	6.3×7.7	0.16	600	6.3×7.7	0.16	600				8×10*	0.08	850									
560	561													10×10*	0.06	1,190						
680	681	6.3×7.7	0.16	600				8×10*	0.08	850												
820	821										10×10*	0.06	1,190									
1,000	102				8×10*	0.08	850	10×10*	0.06	1,190												
1,500	152	8×10*	0.08	850	10×10*	0.06	1,190															
2,200	222	10×10*	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