



**HESTORE.HU**

elektronikai alkatrész áruház

**EN:** This Datasheet is presented by the manufacturer.

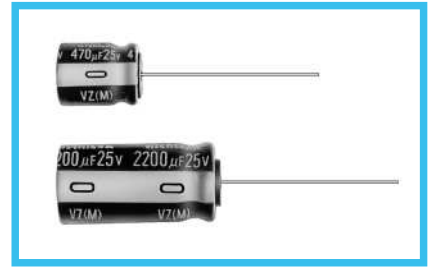
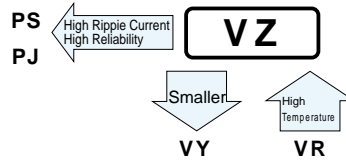
Please visit our website for pricing and availability at [www.hestore.hu](http://www.hestore.hu).

## VZ series Wide Temperature Range



Anti-Solvent Feature  
(Through 100V only)

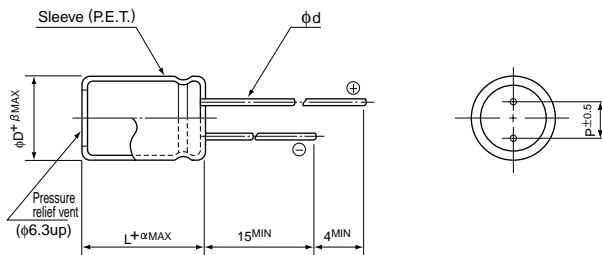
- Small case sizes as same as VR series, but operating over wide temperature range of  $-55$  to  $+105^{\circ}\text{C}$ .
- Compliant to the RoHS directive (2002/95/EC).



### Specifications

Item	Performance Characteristics																																																									
Category Temperature Range	$-55$ to $+105^{\circ}\text{C}$ (6.3 to 100V), $-40$ to $+105^{\circ}\text{C}$ (160 to 400V), $-25$ to $+105^{\circ}\text{C}$ (450V)																																																									
Rated Voltage Range	6.3 to 450V																																																									
Rated Capacitance Range	0.1 to 33000µF																																																									
Capacitance Tolerance	$\pm 20\%$ at 120Hz, $20^{\circ}\text{C}$																																																									
Leakage Current	<table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3 to 100</th> <th>160 to 450</th> </tr> </thead> <tbody> <tr> <td>After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (µA), whichever is greater.</td> <td></td> <td>After 1 minute's application of rated voltage, <math>\text{CV} \leq 1000</math>: <math>I = 0.1\text{CV} + 40</math> (µA) or less</td> </tr> <tr> <td>After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (µA), whichever is greater.</td> <td></td> <td>After 1 minute's application of rated voltage, <math>\text{CV} &gt; 1000</math>: <math>I = 0.04\text{CV} + 100</math> (µA) or less</td> </tr> </tbody> </table>	Rated voltage (V)	6.3 to 100	160 to 450	After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (µA), whichever is greater.		After 1 minute's application of rated voltage, $\text{CV} \leq 1000$ : $I = 0.1\text{CV} + 40$ (µA) or less	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (µA), whichever is greater.		After 1 minute's application of rated voltage, $\text{CV} > 1000$ : $I = 0.04\text{CV} + 100$ (µA) or less																																																
	Rated voltage (V)	6.3 to 100	160 to 450																																																							
After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (µA), whichever is greater.		After 1 minute's application of rated voltage, $\text{CV} \leq 1000$ : $I = 0.1\text{CV} + 40$ (µA) or less																																																								
After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3 (µA), whichever is greater.		After 1 minute's application of rated voltage, $\text{CV} > 1000$ : $I = 0.04\text{CV} + 100$ (µA) or less																																																								
Tangent of loss angle (tan $\delta$ )	For capacitance of more than 1000µF, add 0.02 for every increase of 1000µF. Measurement frequency : 120Hz at $20^{\circ}\text{C}$ <table border="1"> <thead> <tr> <th>Rated voltage (V)</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160 to 315</th> <th>350 to 450</th> </tr> </thead> <tbody> <tr> <td>tan <math>\delta</math> (MAX.)</td> <td>0.28</td> <td>0.24</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.08</td> <td>0.20</td> <td>0.25</td> </tr> </tbody> </table>	Rated voltage (V)	6.3	10	16	25	35	50	63	100	160 to 315	350 to 450	tan $\delta$ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.25																																			
Rated voltage (V)	6.3	10	16	25	35	50	63	100	160 to 315	350 to 450																																																
tan $\delta$ (MAX.)	0.28	0.24	0.20	0.16	0.14	0.12	0.10	0.08	0.20	0.25																																																
Stability at Low Temperature	<table border="1"> <thead> <tr> <th rowspan="2">Rated voltage (V)</th> <th colspan="11">Measurement frequency : 120Hz</th> </tr> <tr> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>100</th> <th>160 to 200</th> <th>250 to 350</th> <th>400</th> <th>450</th> </tr> </thead> <tbody> <tr> <td>Impedance ratio <math>Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}</math></td> <td>5</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>3</td> <td>4</td> <td>6</td> <td>15</td> </tr> <tr> <td><math>Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}</math> (MAX.)</td> <td>10</td> <td>8</td> <td>6</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>4</td> <td>8</td> <td>10</td> <td>—</td> </tr> </tbody> </table>	Rated voltage (V)	Measurement frequency : 120Hz											6.3	10	16	25	35	50	63	100	160 to 200	250 to 350	400	450	Impedance ratio $Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	5	4	3	2	2	2	2	2	3	4	6	15	$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$ (MAX.)	10	8	6	4	3	3	3	3	4	8	10	—	<table border="1"> <tbody> <tr> <td>Capacitance change</td> <td>Within <math>\pm 20\%</math> of the initial capacitance value</td> </tr> <tr> <td>tan <math>\delta</math></td> <td>200% or less than the initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Less than or equal to the initial specified value</td> </tr> </tbody> </table>	Capacitance change	Within $\pm 20\%$ of the initial capacitance value	tan $\delta$	200% or less than the initial specified value	Leakage current	Less than or equal to the initial specified value
	Rated voltage (V)		Measurement frequency : 120Hz																																																							
6.3		10	16	25	35	50	63	100	160 to 200	250 to 350	400	450																																														
Impedance ratio $Z_{-25^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$	5	4	3	2	2	2	2	2	3	4	6	15																																														
$Z_{-40^{\circ}\text{C}} / Z_{+20^{\circ}\text{C}}$ (MAX.)	10	8	6	4	3	3	3	3	4	8	10	—																																														
Capacitance change	Within $\pm 20\%$ of the initial capacitance value																																																									
tan $\delta$	200% or less than the initial specified value																																																									
Leakage current	Less than or equal to the initial specified value																																																									
Endurance	The specifications listed at right shall be met when the capacitors are restored to $20^{\circ}\text{C}$ after the rated voltage is applied for 1000 hours at $105^{\circ}\text{C}$ .																																																									
Shelf Life	After storing the capacitors under no load at $105^{\circ}\text{C}$ for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at $20^{\circ}\text{C}$ , they shall meet the specified values for the endurance characteristics listed above.																																																									
Marking	Printed with white color letter on black sleeve.																																																									

### Radial Lead Type

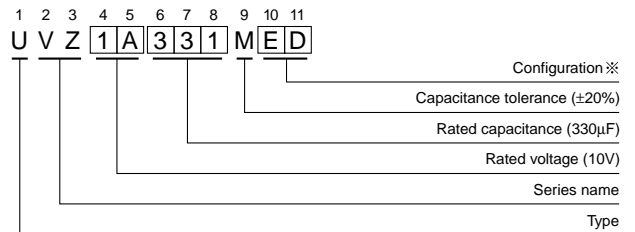


	(mm)									
φD	5	6.3	8	10	12.5	16	18	20	22	25
P	2.0	2.5	3.5	5.0	5.0	7.5	7.5	10.0	10.0	12.5
φd	0.5	0.5	0.6	0.6	0.6	0.8	0.8	1.0	1.0	1.0
β	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	1.0	1.0

α	(L < 20) 1.5
	(L ≥ 20) 2.0

- Please refer to page 20 about the end seal configuration.

### Type numbering system (Example : 10V 330µF)



#### ※ Configuration

φ D	Pb-free leadwire Pb-free PET sleeve
5	DD
6.3	ED
8 - 10	PD
12.5 to 18	HD
20 to 25	RD

Please refer to page 20, 21, 22 about the formed or taped product spec.  
Please refer to page 4 for the minimum order quantity.

● Dimension table in next page.



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

## Nichicon:

[UVZ0J101MDD](#) [UVZ0J101MDH](#) [UVZ0J102MPD](#) [UVZ0J102MPD1TD](#) [UVZ0J102MPH](#) [UVZ0J102MPH1TD](#)  
[UVZ0J103MHD](#) [UVZ0J472MHD](#) [UVZ0J472MHH](#) [UVZ0J682MHD](#) [UVZ0J682MHH](#) [UVZ1A101MDD](#)  
[UVZ1A101MDD1TA](#) [UVZ1A101MDD1TD](#) [UVZ1A101MDH](#) [UVZ1A101MDH1TA](#) [UVZ1A101MDH1TD](#) [UVZ1A102MPD](#)  
[UVZ1A102MPD1TD](#) [UVZ1A102MPH](#) [UVZ1A102MPH1TD](#) [UVZ0J222MPH](#) [UVZ0J223MHD](#) [UVZ0J223MHH](#)  
[UVZ0J330MDD](#) [UVZ0J331MED](#) [UVZ0J331MEH](#) [UVZ0J103MHH](#) [UVZ0J153MHD](#) [UVZ0J153MHH](#) [UVZ0J220MDD](#)  
[UVZ0J221MDD](#) [UVZ0J221MDH](#) [UVZ0J222MPD](#) [UVZ1A103MHD](#) [UVZ1A103MHH](#) [UVZ1A153MHD](#) [UVZ1A153MHH](#)  
[UVZ1A220MDD](#) [UVZ1A221MED](#) [UVZ1A221MEH](#) [UVZ1A472MHD](#) [UVZ1A472MHH](#) [UVZ1A682MHD](#)  
[UVZ1A682MHH](#) [UVZ1C100MDD](#) [UVZ1C100MDD1TA](#) [UVZ1C100MDD1TD](#) [UVZ1C100MDH](#) [UVZ1C100MDH1TA](#)  
[UVZ1C100MDH1TD](#) [UVZ1C101MDD](#) [UVZ1C101MDD1TA](#) [UVZ1C101MDH](#) [UVZ1C470MDH1TD](#) [UVZ1C471MPD](#)  
[UVZ1C471MPD1TA](#) [UVZ1C471MPH](#) [UVZ1C471MPH1TA](#) [UVZ1C472MHD](#) [UVZ1C472MHH](#) [UVZ1C682MHD](#)  
[UVZ1C682MHH](#) [UVZ1E100MDD](#) [UVZ1E100MDD1TA](#) [UVZ1E100MDD1TD](#) [UVZ1E100MDH](#) [UVZ1E470MDH1TA](#)  
[UVZ1E470MDH1TD](#) [UVZ1E471MPD](#) [UVZ1E471MPD1AA](#) [UVZ1E471MPD1CM](#) [UVZ1E471MPD1TD](#) [UVZ1E471MPH](#)  
[UVZ1E471MPH1AA](#) [UVZ1E471MPH1CM](#) [UVZ1E471MPH1TD](#) [UVZ1E472MHD](#) [UVZ1E472MHH](#) [UVZ1E4R7MDD](#)  
[UVZ1E682MHD](#) [UVZ1E682MHH](#) [UVZ1H331MPD1TD](#) [UVZ1H331MPH](#) [UVZ1H331MPH1AA](#) [UVZ1H331MPH1TD](#)  
[UVZ1H332MHD](#) [UVZ1H332MHH](#) [UVZ1H3R3MDD](#) [UVZ1H3R3MDD1TD](#) [UVZ1H3R3MDH](#) [UVZ1H3R3MDH1TD](#)  
[UVZ1H470MED](#) [UVZ1H470MED1TA](#) [UVZ1H470MED1TD](#) [UVZ1H470MEH](#) [UVZ1H470MEH1TA](#) [UVZ1H470MEH1TD](#)  
[UVZ0J332MPD](#) [UVZ0J332MPH](#)