

VEB Series

Features

- 4 ϕ ~ 6.3 ϕ , 85°C, 2,000 hours assured
- Vertical chip type miniaturized
- Non-polar capacitors for 5.5 mm high capacitors
- Designed for surface mounting on high density PC board
- RoHS Compliance

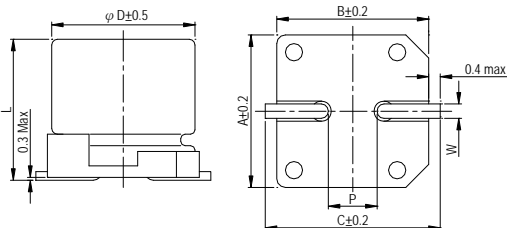


Marking color: Black

Specifications

Items	Performance																							
Category Temperature Range	-40°C ~ +85°C																							
Capacitance Tolerance	±20% (at 120Hz, 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																							
Dissipation Factor (Tanδ at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th colspan="2">Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Tanδ (max)</td> <td>4 ϕ</td> <td>0.35</td> <td>0.30</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> </tr> <tr> <td>5 ~ 6.3 ϕ</td> <td>0.30</td> <td>0.25</td> <td>0.20</td> <td>0.15</td> <td>0.15</td> <td>0.15</td> </tr> </tbody> </table>	Rated Voltage		6.3	10	16	25	35	50	Tanδ (max)	4 ϕ	0.35	0.30	0.25	0.25	0.25	0.25	5 ~ 6.3 ϕ	0.30	0.25	0.20	0.15	0.15	0.15
Rated Voltage		6.3	10	16	25	35	50																	
Tanδ (max)	4 ϕ	0.35	0.30	0.25	0.25	0.25	0.25																	
	5 ~ 6.3 ϕ	0.30	0.25	0.20	0.15	0.15	0.15																	
Low Temperature Characteristics (at 120Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <table border="1"> <thead> <tr> <th colspan="2">Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Impedance Ratio</td> <td>Z(-25°C)/Z(+20°C)</td> <td>3</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>Z(-40°C)/Z(+20°C)</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> </tr> </tbody> </table>	Rated Voltage		6.3	10	16	25	35	50	Impedance Ratio	Z(-25°C)/Z(+20°C)	3	3	2	2	2	2	Z(-40°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)	3	3	2	2	2	2																	
	Z(-40°C)/Z(+20°C)	8	5	4	3	3	3																	
Endurance (with the polarity inverted every 250 hours)	<table border="1"> <thead> <tr> <th>Test Time</th> <th>2,000 Hrs</th> </tr> </thead> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </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 85°C.</p>	Test Time	2,000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 200% of specified value	Leakage Current	Within specified value															
Test Time	2,000 Hrs																							
Capacitance Change	Within ±20% of initial value																							
Dissipation Factor	Less than 200% of specified value																							
Leakage Current	Within specified value																							
Shelf Life Test	<table border="1"> <thead> <tr> <th>Test Time</th> <th>1,000 Hrs</th> </tr> </thead> <tbody> <tr> <td>Capacitance Change</td> <td>Within ±20% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>Less than 200% of specified value</td> </tr> <tr> <td>Leakage Current</td> <td>Within specified value</td> </tr> </tbody> </table> <p>* The above Specifications shall be satisfied when the capacitors are restored to 20°C after exposing them for 1,000 hours at 85°C without voltage applied.</p>	Test Time	1,000 Hrs	Capacitance Change	Within ±20% of initial value	Dissipation Factor	Less than 200% of specified value	Leakage Current	Within specified value															
Test Time	1,000 Hrs																							
Capacitance Change	Within ±20% of initial value																							
Dissipation Factor	Less than 200% of specified value																							
Leakage Current	Within specified value																							
Ripple Current & Frequency Multipliers	<table border="1"> <thead> <tr> <th>Frequency (Hz)</th> <th>50</th> <th>120</th> <th>1k</th> <th>10k up</th> </tr> </thead> <tbody> <tr> <td>Multiplier</td> <td>0.7</td> <td>1.0</td> <td>1.3</td> <td>1.4</td> </tr> </tbody> </table>	Frequency (Hz)	50	120	1k	10k up	Multiplier	0.7	1.0	1.3	1.4													
Frequency (Hz)	50	120	1k	10k up																				
Multiplier	0.7	1.0	1.3	1.4																				

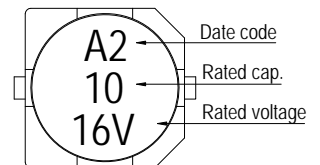
Diagram of dimensions



Lead Spacing and Diameter

ϕ D	L	A	B	C	W	P ± 0.2
4	5.3 ± 0.2	4.3	4.3	5.1	0.5 ~ 0.8	1.0
5	5.3 ± 0.2	5.3	5.3	5.9	0.5 ~ 0.8	1.5
6.3	5.3 ± 0.2	6.6	6.6	7.2	0.5 ~ 0.8	2.0

Marking



Dimension: ϕ D × L(mm)

Dimension & Permissible Ripple Current

Ripple Current: mA/rms at 120 Hz, 85°C

μF	Contents	6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)	
		ϕ D×L	mA	ϕ D×L	mA	ϕ D×L	mA	ϕ D×L	mA	ϕ D×L	mA	ϕ D×L	mA
0.33	R33											4×5.3	4.1
0.47	R47											4×5.3	4.9
1	010											4×5.3	7.2
2.2	2R2									4×5.3	10	5×5.3	14
3.3	3R3							4×5.3	13	5×5.3	17	5×5.3	17
4.7	4R7					4×5.3	14	5×5.3	20	5×5.3	21	6.3×5.3	24
10	100			4×5.3	18	5×5.3	26	6.3×5.3	35	6.3×5.3	35		
22	220	5×5.3	27	6.3×5.3	40	6.3×5.3	45						
33	330	6.3×5.3	45	6.3×5.3	50	6.3×5.3	55						
47	470	6.3×5.3	54										