



VLV Series

Features

- 12.5 ϕ ~ 16 ϕ , 105°C, 5,000 hours assured
- Suitable for automotive application
- Peak acceleration: 50G / 30G
- RoHS Compliance

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 南京南山半导体有限公司

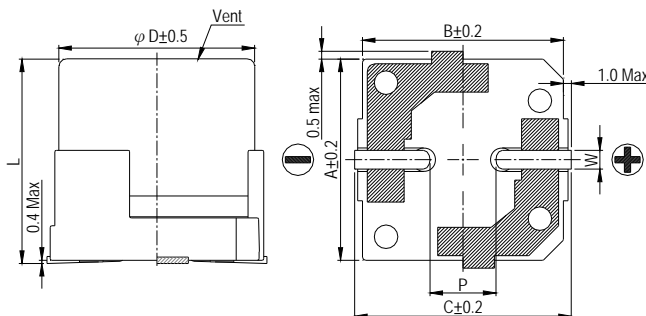


Marking color: Black

Specifications

Items	Performance																														
Category Temperature Range	-55 ~ +105°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"> <tr> <th>Rated Voltage</th> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <th>Tanδ (max)</th> <td>0.30</td> <td>0.26</td> <td>0.22</td> <td>0.16</td> <td>0.13</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> <td>0.07</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	63	80	100	Tanδ (max)	0.30	0.26	0.22	0.16	0.13	0.10	0.08	0.08	0.07										
Rated Voltage	6.3	10	16	25	35	50	63	80	100																						
Tanδ (max)	0.30	0.26	0.22	0.16	0.13	0.10	0.08	0.08	0.07																						
Low Temperature Characteristics (at 120Hz)	<p>Impedance ratio shall not exceed the values given in the table below.</p> <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> <td>63</td> <td>80</td> <td>100</td> </tr> <tr> <th>Impedance Ratio</th> <td>Z(-25°C)/Z(+20°C)</td> <td>4</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td></td> <td>Z(-55°C)/Z(+20°C)</td> <td>8</td> <td>5</td> <td>4</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> </table>	Rated Voltage	6.3	10	16	25	35	50	63	80	100	Impedance Ratio	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	2		Z(-55°C)/Z(+20°C)	8	5	4	3	3	3	3	3
Rated Voltage	6.3	10	16	25	35	50	63	80	100																						
Impedance Ratio	Z(-25°C)/Z(+20°C)	4	3	2	2	2	2	2	2																						
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Endurance	<table border="1"> <tr> <th>Test Time</th> <td>5,000 Hrs</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±30% of initial value</td> </tr> <tr> <th>Dissipation Factor</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 5,000 hours at 105°C.</p>	Test Time	5,000 Hrs	Capacitance Change	Within ±30% of initial value	Dissipation Factor	Less than 300% of specified value	Leakage Current	Within specified value																						
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Shelf Life Test	<table border="1"> <tr> <th>Test Time</th> <td>1,000 Hrs</td> </tr> <tr> <th>Capacitance Change</th> <td>Within ±30% of initial value</td> </tr> <tr> <th>Dissipation Factor</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 exposing them for 1,000 hours at 105°C without voltage applied.</p>	Test Time	1,000 Hrs	Capacitance Change	Within ±30% of initial value	Dissipation Factor	Less than 300% of specified value	Leakage Current	Within specified value																						
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Ripple Current & Frequency Multipliers	<table border="1"> <tr> <th>Frequency(Hz)</th> <td>50, 60</td> <td>120</td> <td>1k</td> <td>10k up</td> </tr> <tr> <th>Multiplier</th> <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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Vibration	Peak acceleration: 50G Peak to peak amplitude: 1.5mm Frequency: 5 to 2,000 Hz reciprocation for 20 min. Direction and duration of vibration: 3 orthogonal directions mutually each for 4 Hrs.																														

Diagram of Dimensions

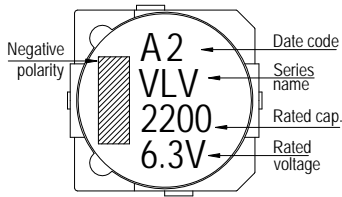


Lead Spacing and Diameter							Unit: mm
φ D	L	A	B	C	W	P ± 0.2	
12.5	13.5 ± 0.5	13.0	13.5	14.5	1.1 ~ 1.4	4.4	
12.5	16 ± 0.5	13.0	13.5	14.5	1.1 ~ 1.4	4.4	
16	16.5 ± 0.5	16.5	17.0	18.2	1.1 ~ 1.4	6.4	



Marking

$\phi D \geq 12.5\text{mm}$



Dimension: $\phi D \times L(\text{mm})$

Ripple Current: mA/rms at 100k Hz, 105°C

Impedance: Ω / at 100k Hz, 20°C

Dimension & Permissible Ripple Current

V. DC	μF	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	
330	331															12.5×13.5	0.066	850	12.5×13.5	0.11	700
470	471															12.5×16	0.058	950	16×16.5	0.070	1,100
680	681										12.5×13.5	0.066	850	12.5×16	0.058	950	16×16.5	0.070	1,100		
1,000	102							12.5×13.5	0.066	850	12.5×16	0.058	950	16×16.5	0.052	1,300					
1,500	152				12.5×13.5	0.066	850	12.5×16	0.058	950	16×16.5	0.052	1,300								
2,200	222	12.5×13.5	0.066	850	12.5×16	0.058	950	16×16.5	0.052	1,300	16×16.5	0.052	1,300								
3,300	332	12.5×16	0.058	950	16×16.5	0.052	1,300	16×16.5	0.052	1,300											
4,700	472	16×16.5	0.052	1,300	16×16.5	0.052	1,300														

V. DC	μF	Contents	63V (1J)			80V (1K)			100V (2A)		
			$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA	$\phi D \times L$	Imp.	mA
100	101							12.5×13.5	0.32	450	
150	151	12.5×13.5	0.140	700	12.5×13.5	0.32	450	12.5×16	0.26	550	
220	221	12.5×13.5	0.140	700	12.5×16	0.26	550	16×16.5	0.17	650	
330	331	16×16.5	0.080	900	16×16.5	0.17	650				
470	471	16×16.5	0.080	900							