

## VLV Series

### Features

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

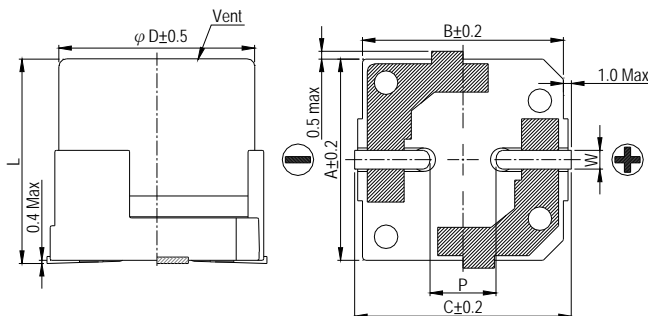


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### Specifications

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 ( $\mu A$ ) whichever is greater (after 2 minutes) Where, C = rated capacitance in $\mu F$ V = rated DC working voltage in V																														
Dissipation Factor (Tan $\delta$ at 120Hz, 20°C)	<table border="1"> <thead> <tr> <th>Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Tan<math>\delta</math> (max)</td> <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> </tbody> </table> <p>When the capacitance exceeds 1,000<math>\mu F</math>, 0.02 shall be added every 1,000<math>\mu F</math> increase.</p>	Rated Voltage	6.3	10	16	25	35	50	63	80	100	Tan $\delta$ (max)	0.30	0.26	0.22	0.16	0.13	0.10	0.08	0.08	0.07										
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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>Rated Voltage</th> <th>6.3</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> </thead> <tbody> <tr> <td>Impedance Ratio</td> <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> </tbody> </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
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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.																														

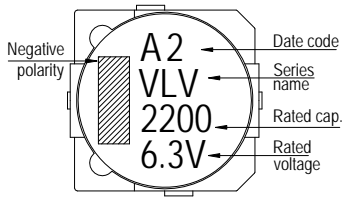
### Diagram of Dimensions



Lead Spacing and Diameter						Unit: mm
$\phi D$	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:  $\Omega$  at 100k Hz, 20°C

## Dimension & Permissible Ripple Current

$\mu\text{F}$	V. DC 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															12.5×16	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														

$\mu\text{F}$	V. DC 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						