

VLV Series

Features

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

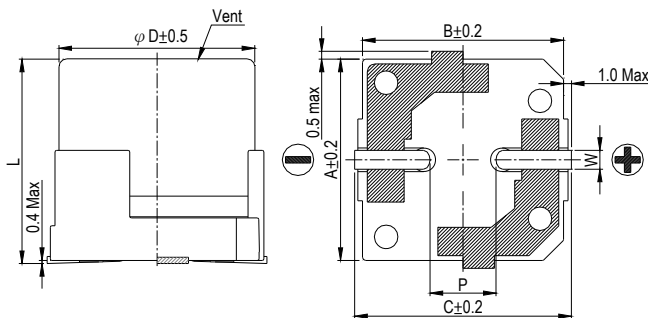


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Specifications

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																														
Tan δ (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>Tanδ (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 1,000μF, 0.02 shall be added every 1,000μF increase.</p>	Rated Voltage	6.3	10	16	25	35	50	63	80	100	Tan δ (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</td> <td>$Z(-25^\circ C)/Z(+20^\circ C)$</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>Ratio</td> <td>$Z(-55^\circ C)/Z(+20^\circ C)$</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	$Z(-25^\circ C)/Z(+20^\circ C)$	4	3	2	2	2	2	2	2	Ratio	$Z(-55^\circ C)/Z(+20^\circ C)$	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.																														

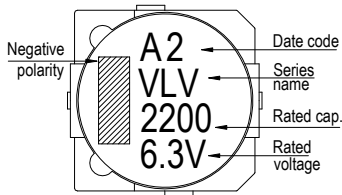
Diagram of Dimensions



Lead Spacing and Diameter							Unit: mm
ϕD	L	A	B	C	W	$P \pm 0.2$	
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															12.5×16	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							

Part Numbering System

VLV series	2200 μF	$\pm 20\%$	6.3V	Carrier Tape	Anti-vibration structure (30G)	12.5 $\phi \times 13.5\text{L}$	Pb-free and PET coating case
VLV	222	M	0J	TR	K	1313	
Series name	Capacitance	Capacitance Tolerance	Rated Voltage	Package Type	Terminal Type	Case size	Lead Wire and Coating Type

Note: For more details, please refer to "Part Numbering System (SMD Type)" on page 12.