VLV Series

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

Marking color: Black

Specifications

Items	Performance
Category Temperature Range	-55 ~ +105℃
Capacitance Tolerance	±20% (at 120Hz, 20℃)
Leakage Current (at 20℃)	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℃)

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

When the capacitance exceeds 1,000μF, 0.02 shall be added every 1,000μF increase.

Low Temperature Characteristics (at 120Hz)

Impedance ratio shall not exceed the values given in the table below.

Rated Voltage		6.3	10	16	25	35	50	63	80	100
Impedance Ratio	Z(-25℃)/Z(+20℃)	4	3	2	2	2	2	2	2	2
	Z(-55℃)/Z(+20℃)	8	5	4	3	3	3	3	3	3

Endurance

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

* The above Specifications shall be satisfied when the capacitors are restored to 20℃ after the rated voltage applied for 5,000 hours at 105℃.

Shelf Life Test

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

* The above Specifications shall be satisfied when the capacitors are restored to 20℃ after exposing them for 1,000 hours at 105℃ without voltage applied.

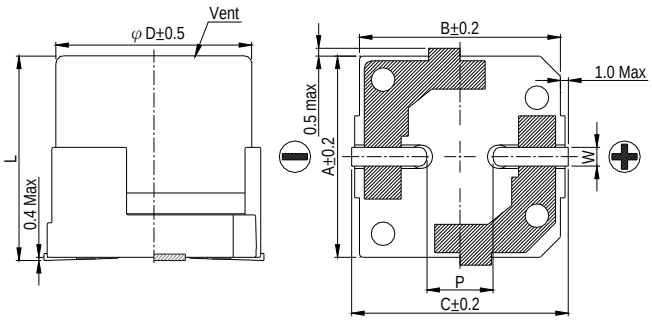
Ripple Current & Frequency Multipliers

Frequency(Hz)	50, 60	120	1k	10k up
Multiplier	0.60	0.70	0.85	1.0

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

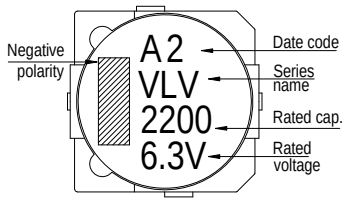


Lead Spacing and Diameter Unit: mm

ϕD	L	A	B	C	W	P ± 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

ϕD ≧ 12.5mm



Dimension: ϕD × L(mm)
Ripple Current: mA/rms at 100k Hz, 105℃
Impedance: Ω/ at 100k Hz, 20℃

Dimension & Permissible Ripple Current

V. DC / μF	Contents	6.3V (0J)			10V (1A)			16V (1C)			25V (1E)			35V (1V)			50V (1H)		
		ϕD×L	Imp.	mA	ϕD×L	Imp.	mA	ϕD×L	Imp.	mA	ϕD×L	Imp.	mA	ϕD×L	Imp.	mA	ϕD×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)		
		ϕD×L	Imp.	mA	ϕD×L	Imp.	mA	ϕD×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						