

# VLL

Surface mount type

series

- Super low ESR, High ripple current
- Large capacitance, Small size
- Load life of 5,000h at 105°C



## SPECIFICATIONS

Items	Characteristics	
Temperature range	-55 to +105°C	
Rated voltage range	2.5 to 16Vdc	
Capacitance range	39 to 2,700µF	
Capacitance tolerance	±20% [M] (at 20°C, 120Hz)	
Tangent of loss angle	Less than or equal to the value of Standard Ratings (at 20°C, 120Hz)	
Leakage current	Less than or equal to the value of Standard Ratings (at 20°C, after 2 minutes)	
ESR	Less than or equal to the value of Standard Ratings	
Characteristics of impedance	Z <sub>+105°C</sub> /Z <sub>+20°C</sub> ≤ 1.25, Z <sub>-55°C</sub> /Z <sub>+20°C</sub> ≤ 1.25 at 100kHz	
Endurance	105°C, 5,000 hrs at rated voltage	
	Appearance	No significant damage
	Capacitance change	Within±20% of the initial value
	Tangent of loss angle (tanδ)	≤150% of the initial specified value
	ESR(mΩ)	≤150% of the initial specified value
	Leakage current	≤The initial specified value
Damp Heat (Steady State)	60°C, 90 to 95% RH, 1,000 hrs, No-applied Voltage	
	Appearance	No significant damage
	Capacitance change	Within±20% of the initial value
	Tangent of loss angle (tanδ)	≤150% of the initial specified value
	ESR(mΩ)	≤150% of the initial specified value
	Leakage current	≤The initial specified value
Resistance to soldering heat	VPS (230°C, 75s)	
	Appearance	No significant damage
	Capacitance change	Within±10% of the initial value
	Tangent of loss angle (tanδ)	≤130% of the initial specified value
	ESR(mΩ)	≤130% of the initial specified value
	Leakage current	≤The initial specified value

\*In case of some problems for measured values, measure after applying rated voltage for 120 minutes at 105°C

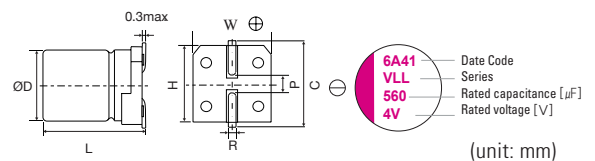
## SIZE LIST

(unit: mm)

µF	RV(SV)	2.5 (3.3)	4 (5.2)	6.3 (8.2)	10 (11.5)	16 (18.4)
39						5 x 5.9
68					5 x 5.9	6.3 x 5.9
82						6.3 x 5.9
100				5 x 5.9		6.3 x 5.9
120				5 x 5.9	6.3 x 5.9	8 x 6.9
150			5 x 5.9		6.3 x 5.9	8 x 6.9
180	5 x 5.9					
220				6.3 x 5.9		
270					8 x 6.9	8 x 11.9
330			6.3 x 5.9	6.3 x 5.9		8 x 11.9
390	6.3 x 5.9			8 x 6.9		
560	6.3 x 5.9		8 x 6.9 8 x 11.9			
680	8 x 6.9					
820	8 x 11.9			8 x 11.9		
1000	8 x 11.9					
1200			8 x 11.9			
1500	8 x 11.9		8 x 11.9			
2700	10 x 12.6					

\*RV : Rated Voltage [V] SV : Surge Voltage [V] (at room temperature)

## MARKING AND DIMENSIONS



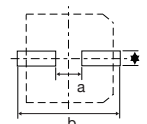
(unit: mm)

Size	φ D±0.5	L	W±0.2	H±0.2	C±0.2	R	P±0.2
5 x 5.9	5.0	5.9	5.3	5.3	6.0	0.6 to 0.8	1.4
6.3 x 5.9	6.3	5.9	6.6	6.6	7.3	0.6 to 0.8	2.1
8 x 6.9	8.0	6.9	8.3	8.3	9.0	0.6 to 0.8	3.2
8 x 11.9	8.0	11.9	8.3	8.3	9.0	0.8 to 1.1	3.2
10 x 12.6	10.0	12.6	10.3	10.3	11.0	0.8 to 1.1	4.6

## RECOMMENDED LAND PATTERN DIMENSION OF PCB

(unit: mm)

Size	a	b	c
5 x 5.9	1.4	7.4	1.6
6.3 x 5.9	2.1	9.1	1.6
8 x 6.9	2.8	11.1	1.9
8 x 11.9	2.8	11.1	1.9
10 x 12.6	4.3	13.1	1.9



# Conductive Polymer Aluminum Capacitors

## STANDARD RATINGS

Rated Voltage [Vdc]	Rated Capacitance [ $\mu$ F]	Size $\Phi$ D x L [mm]	ESR (20°C, 100kHz) [m $\Omega$ ] [max.]	Rated Ripple Current (105°C, 100kHz) [mA <sub>rms</sub> ]	Tangent of Loss Angel [max.]	Leakage Current [ $\mu$ A, max.]	Part Number
2.5	180	5 x 5.9	19	2800	0.10	300	2VLL180MB6
	390	6.3 x 5.9	15	3160	0.10	300	2VLL390MC6
	560	6.3 x 5.9	16	3500	0.10	300	2VLL560MC6
	680	8 x 6.9	20	3370	0.10	500	2VLL680MD7
	820	8 x 11.9	9	5380	0.10	500	2VLL820MD12
	1000	8 x 11.9	10	5380	0.10	500	2VLL1000MD12
	1500	8 x 11.9	10	5150	0.10	750	2VLL1500MD12
	2700	10 x 12.6	12	5070	0.10	1350	2VLL2700ME12
4	150	5 x 5.9	20	2730	0.10	300	4VLL150MB6
	330	6.3 x 5.9	15	3160	0.10	300	4VLL330MC6
	560	8 x 6.9	22	3220	0.10	500	4VLL560MD7
	560	8 x 11.9	9	5380	0.10	500	4VLL560MD12
	1200	8 x 11.9	12	4700	0.10	960	4VLL1200MD12
	1500	8 x 11.9	12	4700	0.10	1200	4VLL1500MD12
6.3	100	5 x 5.9	25	2150	0.10	300	6VLL100MB6
	120	5 x 5.9	21	2660	0.10	300	6VLL120MB6
	220	6.3 x 5.9	15	3160	0.10	300	6VLL220MC6
	330	6.3 x 5.9	17	3390	0.10	415	6VLL330MC6
	390	8 x 6.9	22	3220	0.10	491	6VLL390MD7
	820	8 x 11.9	12	4700	0.10	1033	6VLL820MD12
10	68	5 x 5.9	23	2540	0.10	300	10VLL68MB6
	120	6.3 x 5.9	22	2600	0.10	300	10VLL120MC6
	150	6.3 x 5.9	22	2600	0.10	300	10VLL150MC6
	270	8 x 6.9	22	3220	0.10	500	10VLL270MD7
16	39	5 x 5.9	27	2350	0.10	300	16VLL39MB6
	68	6.3 x 5.9	25	2440	0.10	300	16VLL68MC6
	82	6.3 x 5.9	25	2490	0.10	300	16VLL82MC6
	100	6.3 x 5.9	24	2490	0.10	300	16VLL100MC6
	120	8 x 6.9	27	2900	0.10	500	16VLL120MD7
	150	8 x 6.9	22	3220	0.10	500	16VLL150MD7
	270	8 x 11.9	16	4070	0.10	864	16VLL270MD12
	330	8 x 11.9	16	4070	0.10	1056	16VLL330MD12

