SMD Aluminum Electrolytic Capacitors VZH

Features

- 4 ~ 18 ϕ, 105℃, 2,000 ~ 5,000 hours assured
- Large capacitance with ultra low impedance capacitors
- Designed for surface mounting on high density PC board
- 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 (Tan δ at 120Hz, 20℃)

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

When the capacitance exceeds 1,000 μF, 0.002 shall be added every 1,000 μF 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	2,000 Hrs for ϕD ≦ 6.3mm & 10ϕ×7.7L; 5,000 Hrs for ϕD ≧ 8mm
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 2,000 ~ 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

DIAGRAM OF DIMENSIONS

Fig. 1

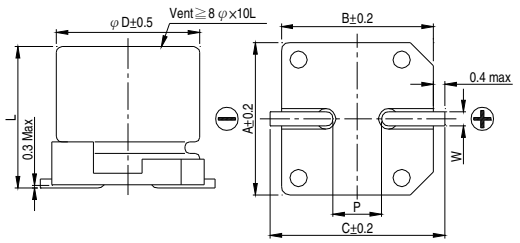
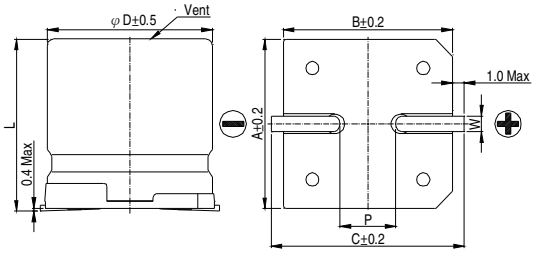


Fig. 2

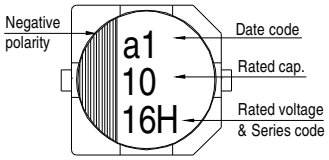


LEAD SPACING AND DIAMETER Unit: mm

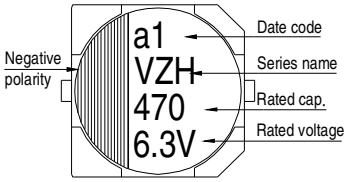
ϕD	L	A	B	C	W	P ± 0.2	Fig. No.
4	5.7 ± 0.3	4.3	4.3	5.1	0.5 ~ 0.8	1.0	1
5	5.7 ± 0.3	5.3	5.3	6.1	0.5 ~ 0.8	1.5	1
6.3	5.7 ± 0.3	6.6	6.6	7.4	0.5 ~ 0.8	2.0	1
6.3	7.7 ± 0.3	6.6	6.6	7.4	0.5 ~ 0.8	2.0	1
8	10 ± 0.5	8.4	8.4	9.2	0.7 ~ 1.1	3.1	1
8	10.3 ± 0.5	8.4	8.4	9.2	0.7 ~ 1.1	3.1	1
10	7.7 ± 0.3	10.4	10.4	11.2	0.7 ~ 1.1	4.7	1
10	10 ± 0.5	10.4	10.4	11.2	0.7 ~ 1.1	4.7	1
10	10.3 ± 0.5	10.4	10.4	11.2	0.7 ~ 1.1	4.7	1
12.5	13.5 ± 0.5	13.0	13.0	15.0	1.1 ~ 1.4	4.4	2
12.5	16 ± 0.5	13.0	13.0	15.0	1.1 ~ 1.4	4.4	2
16	16.5 ± 0.5	17.0	17.0	19.0	1.1 ~ 1.4	6.4	2
18	16.5 ± 0.5	19.0	19.0	21.0	1.1 ~ 1.4	6.4	2

MARKING

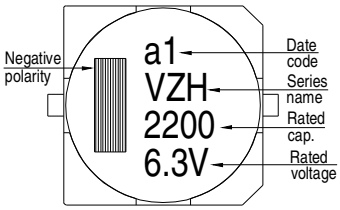
ϕD ≦ 6.3mm



ϕD = 8 ~ 10 mm



ϕD ≧ 12.5mm



Dimension: ϕD × L(mm)
Ripple Current: mA/rms at 100k Hz, 105°C
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
1	010																4×5.7	2.9	60
2.2	2R2																4×5.7	2.9	60
3.3	3R3																4×5.7	2.9	60
4.7	4R7													4×5.7	1.35	80	5×5.7	1.52	85
10	100							4×5.7	1.35	80	4×5.7	1.35	80	5×5.7	0.80	150	6.3×5.7	0.88	165
22	220	4×5.7	1.35	80	4×5.7	1.35	80	5×5.7	0.80	150	5×5.7	0.80	150	6.3×5.7	0.44	230	6.3×5.7	0.88	165
33	330	4×5.7	1.35	80	5×5.7	0.80	150	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×7.7	0.68	185
47	470	5×5.7	0.80	150	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×7.7	0.68	185
68	680																8×10	0.34	369
100	101	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×7.7	0.36	280	8×10	0.17	450	8×10 10×10	0.34 0.18	369 553
150	151	6.3×5.7	0.44	230	6.3×5.7	0.44	230	6.3×7.7	0.36	280	8×10	0.17	450	8×10 10×7.7	0.17 0.17	450 450	10×10.3	0.18	553
220	221	6.3×7.7	0.36	280	6.3×7.7	0.36	280	6.3×7.7	0.36	280	8×10 10×7.7	0.17 0.17	450 450	10×10	0.09	670	10×10.3	0.18	553
330	331	8×10	0.17	450	8×10 10×7.7	0.17 0.17	450 450	8×10 10×7.7	0.17 0.17	450 450	8×10.3	0.17	450	12.5×13.5	0.070	820	12.5×13.5	0.12	650
470	471	8×10 10×7.7	0.17 0.17	450 450	8×10 10×7.7	0.17 0.17	450 450	8×10 10×10	0.17 0.09	450 670	10×10	0.09	670	12.5×16	0.060	950	16×16.5	0.073	1,000
680	681	8×10.3 10×7.7	0.17 0.17	450 450	10×10	0.09	670	10×10.3	0.09	670	12.5×13.5	0.070	820	12.5×16	0.060	950	16×16.5	0.073	1,000
1,000	102	8×10.3	0.17	450	10×10	0.09	670	12.5×13.5	0.070	820	12.5×16	0.060	950	16×16.5	0.054	1,260	18×16.5	0.066	1,500
1,500	152	10×10.3	0.09	670	12.5×13.5	0.070	820	12.5×16	0.060	950	16×16.5	0.054	1,260	18×16.5	0.048	1,500			
2,200	222	12.5×13.5	0.070	820	12.5×16	0.060	950	16×16.5	0.054	1,260	16×16.5	0.054	1,260						
3,300	332	12.5×16	0.060	950	16×16.5	0.054	1,260	16×16.5	0.054	1,260	18×16.5	0.048	1,500						
4,700	472	16×16.5	0.054	1,260	16×16.5	0.054	1,260	18×16.5	0.048	1,500									
6,800	682	18×16.5	0.048	1,500	18×16.5	0.048	1,500												
8,200	822	18×16.5	0.048	1,500															

V. DC / μF	Contents	63V (1J)			80V (1K)			100V (2A)		
		ϕD×L	Imp.	mA	ϕD×L	Imp.	mA	ϕD×L	Imp.	mA
4.7	4R7	5×5.7	1.90	70						
10	100	6.3×5.7	1.20	130						
22	220	6.3×7.7	0.90	150	8×10	1.3	130	8×10	1.3	130
33	330	8×10	0.50	280	8×10	1.3	130	10×10	0.7	200
47	470	8×10	0.50	280	10×10	0.7	200	10×10	0.7	200
100	101	10×10	0.25	450	10×10.3	0.7	200	12.5×13.5	0.32	450
150	151	12.5×13.5	0.15	700	12.5×13.5	0.32	450	12.5×16	0.26	550
220	221	12.5×13.5	0.15	700	12.5×16	0.26	550	16×16.5	0.17	650
330	331	16×16.5	0.082	900	16×16.5	0.17	650	18×16.5	0.15	850
470	471	16×16.5	0.082	900	18×16.5	0.15	850			
680	681	18×16.5	0.080	1,150						