ALUMINUM ELECTROLYTIC CAPACITORS
VZH Series: Surface Mount, Ultra Low Impedance

RoHS

FEATURES

- 105°C, 2000 ~ 5000 hours assured
- Ultra Low Impedance Capacitors
- RoHS Compliant

SPECIFICATIONS

Items	Performance	
Operating Temperature Range	6.3 ~ 63V	80 ~ 100V
	-55°C ~ +105°C	-40°C ~ +105° C
Capacitance Tolerance	± 20% (at 120 Hz, 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	

Dissipation Factor (Tan δ) at 120Hz, 20°C

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 1,000μF, 0.02 should 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°C)/Z(+20°C)	4	3	2	2	2	2	2	2	2
	Z(-40°C)/Z(+20°C)	8	5	4	3	3	3	3	3	3

Load Life Test

Test Time	2,000 Hrs for 4Ø ~ 6.3Ø, 8Øx6.5L & 10Øx7.7L	5,000 Hrs for ØD ≥ 8mm
Capacitance Change	Within ±25% of initial value	Within ±25% of initial value
Dissipation Factor	Less than 200% of specified value	Less than 200% of specified value
Leakage Current	Within specified value	Within specified value

* The above specifications shall be satisfied when the capacitors are restored to 20°C after the rated voltage applied for 2,000 ~ 5,000 hrs at 105°C

Shelf Life Test	Test Time: 1000 hrs; other items are the same as those for the load life test

Ripple Current & Frequency Multipliers

Frequency (Hz)	50, 60	120	1K	10K up
Multiplier	0.60	0.7	0.85	1

PAD SPACING AND DIAMETER

Unit: mm

Ø D	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	5.9	0.5 ~ 0.8	1.5	1
6.3	5.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
6.3	7.7 ± 0.3	6.6	6.6	7.2	0.5 ~ 0.8	2.0	1
8	6.5 ± 0.3	8.3	8.3	9.0	0.5 ~ 0.8	2.3	1
8	10 ± 0.5	8.3	8.3	9.0	0.7 ~ 1.1	3.1	1
10	7.7 ± 0.3	10.3	10.3	11.0	0.7 ~ 1.3	4.7	1
10	10 ± 0.5	10.3	10.3	11.0	0.7 ~ 1.3	4.7	1
12.5	13.5 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
12.5	16 ± 0.5	13.0	13.0	13.7	1.1 ~ 1.4	4.4	2
16	16.5 ± 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
16	21.5 ± 0.5	17.0	17.0	18.0	1.1 ~ 1.4	6.4	2
18	16.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2
18	21.5 ± 0.5	19.0	19.0	20.0	1.1 ~ 1.4	6.4	2

Figure 1

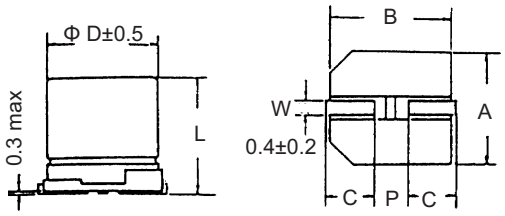
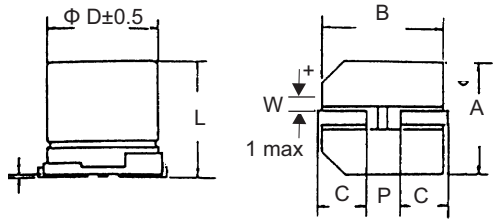


Figure 2



PART NUMBER EXAMPLE

VZH	101	M	1V	TR	080100
Series	Capacitance Code	Tolerance Code	Voltage Code	Package Style	Can Size (8Ø x 10L)

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DIMENSION, IMPEDANCE & PERMISSIBLE RIPPLE CURRENT

Dimension: φD x L(mm)
Ripple Current mA/rms at 100KHz, 105°C
Impedance: Ω at 100KHz, 20ºC

Rated Voltage (Vdc) / Cap (μF) / Contents		6.3V (0J)			10V (1A)			16V (1C)			25V (1E)			35V (1V)		
		ØD x L	mA	Imp.	ØD x L	mA	Imp.	ØD x L	mA	Imp.	ØD x L	mA	Imp.	ØD x L	mA	Imp.
4.7	4R7													4 x 5.7	80	1.35
10	100							4 x 5.7	80	1.35	4 x 5.7	80	1.35	5 x 5.7	150	0.80
22	220	4 x 5.7	80	1.35	4 x 5.7	80	1.35	5 x 5.7	150	0.80	5 x 5.7	150	0.80	6.3 x 5.7	230	0.44
33	330	4 x 5.7	80	1.35	5 x 5.7	150	0.80	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44
47	470	5 x 5.7	150	0.80	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44
68	680										6.3 x 5.7	230	0.44	8 x 6.5	280	0.36
100	101	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44	6.3 x 7.7 8 x 6.5	280 280	0.36 0.36	8 x 10	450	0.17
150	151	6.3 x 5.7	230	0.44	6.3 x 5.7	230	0.44	6.3 x 7.7 8 x 6.5	280 280	0.36 0.36	8 x 10	450	0.17	8 x 10 10 x 7.7	450 450	0.17 0.17
220	221	6.3 x 5.7 6.3 x 7.7	230 280	0.44 0.36	6.3 x 7.7 8 x 6.5	280 280	0.36 0.36	6.3 x 7.7	280	0.36	8 x 10 10 x 7.7	450 450	0.17 0.17	8 x 10 10 x 10	450 670	0.17 0.09
330	331	8 x 6.5 8 x 10	280 450	0.36 0.17	8 x 10 10 x 7.7	450 450	0.17 0.17	8 x 10 10 x 7.7	450 450	0.17 0.17	8 x 10	450	0.17	10 x 10 12.5 x 13.5	670 820	0.09 0.07
470	471	8 x 10 10 x 7.7	450 450	0.17 0.17	8 x 10 10 x 7.7	450 450	0.17 0.17	8 x 10 10 x 7.7	450 450	0.17 0.17	10 x 10	670	0.09	12.5 x 16	950	0.06
680	681	8 x 10 10 x 7.7	450 450	0.17 0.17	10 x 10	670	0.09	10 x 10	670	0.09	12.5 x 13.5	820	0.07	12.5 x 16	950	0.06
1,000	102	8 x 10	450	0.17	10 x 10	670	0.09	12.5 x 13.5	820	0.07	12.5 x 16	950	0.06	16 x 16.5	1,260	0.06
1,500	152	10 x 10	670	0.09	12.5 x 13.5	820	0.07	12.5 x 16.0	950	0.06	16 x 16.5	1,260	0.06	18 x 16.5 16 x 21.5	1,500 1,630	0.05 0.04
2,200	222	12.5 x 13.5	820	0.07	12.5 x 16	950	0.06	16 x 16.5	1,260	0.06	16 x 16.5	1,260	0.06	18 x 21.5	1,750	0.04
3,300	332	12.5 x 16	950	0.06	16 x 16.5	1,260	0.06	16 x 16.5 16.5 x 21.5	1,260 1,630	0.06 0.04	18 x 16.5 16 x 21.5 18 x 21.5	1,500 1,630 1,750	0.05 0.04 0.04			
4,700	472	16 x 16.5	1,260	0.06	16 x 16.5	1,260	0.06	18 x 16.5 16 x 21.5	1,500 1,630	0.05 0.04						
6,800	682	18 x 16.5 16 x 21.5	1,500 1,630	0.05 0.04	18 x 16.5 16 x 21.5	1,500 1,630	0.05 0.04									
8,200	822	18 x 16.5 16 x 21.5	1,500 1,630	0.05 0.04	18 x 21.5	1,750	0.04									

Rated Voltage (Vdc) / Cap (μF) / Contents		50V (1H)			63V (1J)			80V (1K)			100V (2A)		
		ØD x L	mA	Imp.	ØD x L	mA	Imp.	ØD x L	mA	Imp.	ØD x L	mA	Imp.
1	010	4 x 5.7	60	2.90									
2.2	2R2	4 x 5.7	60	2.90									
3.3	3R3	4 x 5.7	60	2.90									
4.7	4R7	5 x 5.7	85	1.52	5 x 5.7	70	1.90						
10	100	6.3 x 5.7	165	0.88	6.3 x 5.7	130	1.20						
22	220	6.3 x 5.7	165	0.88	6.3 x 7.7	150	0.90	8 x 10	130	1.30	8 x 10	130	1.30
33	330	6.3 x 5.7	185	0.68	8 x 10	280	0.50	8 x 10	130	1.30	10 x 10	200	0.70
47	470	6.3 x 7.7 8 x 6.5	185 185	0.68 0.68	8 x 10	280	0.50	10 x 10	200	0.70	10 x 10	200	0.70
68	680	8 x 10	369	0.34									
100	101	8 x 10 10 x 10	369 553	0.34 0.18	10 x 10	450	0.25	10 x 10	200	0.70	12.5 x 13.5	450	0.32
150	151	10 x 10	553	0.18	12.5 x 13.5	700	0.15	12.5 x 13.5	450	0.32	16 x 16.5	650	0.17
200	221	12.5 x 13.5	650	0.12	12.5 x 13.5	700	0.15	16 x 16.5	650	0.17	16 x 16.5 18 x 21.5	650 950	0.17 0.15
330	331	12.5 x 13.5	650	0.12	16 x 16.5	900	0.09	16 x 16.5	650	0.17	18 x 16.5 16 x 21.5	850 900	0.15 0.15
470	471	16 x 16.5	1,000	0.08	16 x 16.5	900	0.09	16 x 21.5	900	0.15	18 x 21.5	950	0.15
680	681	16 x 16.5	1,000	0.08	18 x 16.5 16 x 21.5	1,150 1,150	0.08 0.08	18 x 21.5	950	0.15			
1,000	102	16 x 16.5 18 x 16	1,000 1,500	0.08 0.07	18 x 21.5	1,250	0.06						
1,500	152	18 x 21.5	1,620	0.05									

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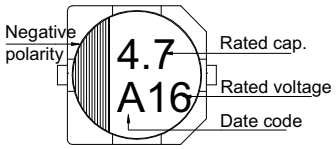
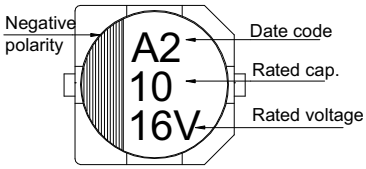
LEGACY MARKING

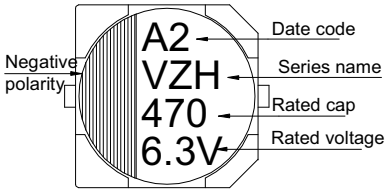
φD = 3 mm



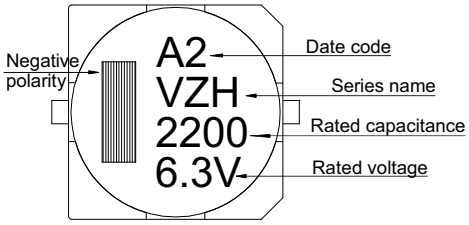
φD = 4 ~ 6.3 mm



φD = 8 ~ 10 mm

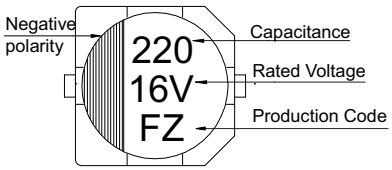


φD ≧ 12.5 mm



NEW MARKING

φD ≥ 6.3 mm



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