Features

- 4 ~ 16 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

SPECIFICATIONS

Items	Performance	
Operating Temperature Range	6.3 ~ 63V	80 ~ 100V
	-55 ~ +105℃	-40 ~ +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℃)	3	3	2	2	2	2	2	2	2
	Z(-55℃)/Z(+20℃)	7	7	5	3	3	3	3	3	3

Load Life Test

Test Time	2,000 hrs for 4 ~ 6.3 ϕ, 5,000 hrs for 8 ~ 16 ϕ
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 hrs at 105℃.

Shelf Life Test

Test time: 1,000 hrs; other items are the same as those for the load life test.

Ripple Current & Frequency Multipliers

Freq.(Hz)	50, 60	120	1K	10K up
Multiplier	0.64	0.8	0.93	1.0

DIAGRAM OF DIMENSIONS

Fig. 1

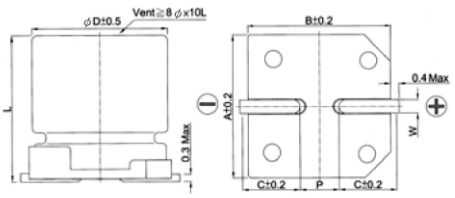
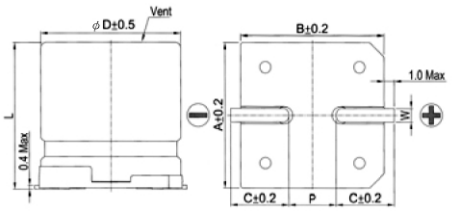


Fig. 2

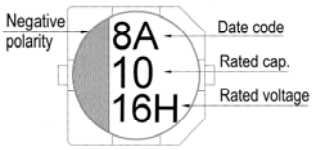


LEAD SPACING AND DIAMETER Unit: mm

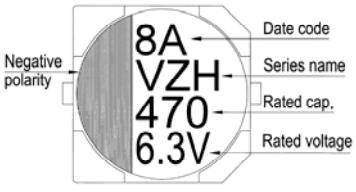
φD	L	A	B	C	W	P±0.2	Fig. No.
4	5.7 ± 0.3	4.3	4.3	2.0	0.5 ~ 0.8	1.0	1
5	5.7 ± 0.3	5.3	5.3	2.3	0.5 ~ 0.8	1.5	1
6.3	5.7 ± 0.3	6.6	6.6	2.7	0.5 ~ 0.8	2.0	1
6.3	7.7 ± 0.3	6.6	6.6	2.7	0.5 ~ 0.8	2.0	1
8	10 ± 0.5	8.4	8.4	3.0	0.7 ~ 1.1	3.1	1
8	10.3 ± 0.5	8.4	8.4	3.0	0.7 ~ 1.1	3.1	1
10	10 ± 0.5	10.4	10.4	3.3	0.7 ~ 1.1	4.7	1
10	10.3 ± 0.5	10.4	10.4	3.3	0.7 ~ 1.1	4.7	1
12.5	13.5 ± 0.5	13.0	13.0	4.8	1.1 ~ 1.4	4.4	2
12.5	16 ± 0.5	13.0	13.0	4.8	1.1 ~ 1.4	4.4	2
16	16.5 ± 0.5	17.0	17.0	5.8	1.1 ~ 1.4	6.4	2

MARKING

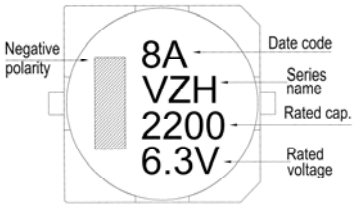
ϕD ≦ 6.3mm



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	0.34	369
																	10×10	0.18	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	0.17	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	0.17	450	10×10	0.09	670	10×10.3	0.18	553
330	331	8×10	0.17	450	8×10	0.17	450	8×10	0.17	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	0.17	450	8×10	0.17	450	8×10	0.17	450	10×10	0.09	670	12.5×16	0.060	950	16×16.5	0.082	900
								10×10	0.09	670									
680	681	8×10.3	0.17	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	0.082	900
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			
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						
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									
4,700	472	16×16.5	0.054	1,260	16×16.5	0.054	1,260												

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	1.52	85						
10	100	6.3×5.7	0.88	165						
22	220	6.3×7.7	0.68	185						
33	330	8×10	0.34	369						
47	470	8×10	0.34	369	10×10	0.7	200	10×10	0.7	200
100	101	10×10	0.18	553	10×10.3	0.7	200	12.5×13.5	0.32	450
150	151	10×10	0.18	553	12.5×13.5	0.32	450	12.5×16	0.26	
220	221	12.5×13.5	0.12	650	12.5×13.5	0.32	450	16×16.5	0.17	650
330	331	12.5×13.5	0.12	650	12.5×16	0.26	550			
470	471	16×16.5	0.082	900	16×16.5	0.17	650			