SMD Aluminum Electrolytic Capacitors VGA

Features
- 4 ~ 16φ, 105℃, 2,000 hours assured.
- Designed for surface mounting on high density PC board.
- RoHS Compliance

SPECIFICATIONS

Items	Performance
Operating Temperature Range	-40℃ ~ +105℃
Capacitance Tolerance	±20% (at 120Hz, 20℃)

Leakage Current (at 20℃)

Rated voltage	6.3 ~ 100V		160 ~ 450V
Time	after 2 minutes		after 5 minutes
Case size	4 ~ 10φ	12.5 ~ 16φ	12.5 ~ 16φ
Leakage Current	I = 0.01CV or 3μA, whichever is greater	I = 0.03CV or 4μA, whichever is greater	I = 0.04CV + 100μA

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	100	160 ~ 250	400 ~ 450
4 ~ 10φ	0.45	0.35	0.28	0.18	0.16	0.14	0.12	0.12	-	-
12.5 ~ 16φ	0.40	0.38	0.34	0.26	0.22	0.18	0.14	0.10	0.20	0.25

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	100	160 ~ 250	400 ~ 450
Impedance Ratio	Z(-25℃)/Z(+20℃)	φD < 12.5	4	4	3	2	2	2	2	3	-	-
		φD ≧ 12.5	5	4	3	2	2	2	2	2	3	6
	Z(-40℃)/Z(+20℃)	φD < 12.5	12	8	6	4	3	3	3	4	-	-
		φD ≧ 12.5	10	8	6	4	3	3	3	3	6	10

Load Life Test

Test Time		2,000 hrs
Capacitance Change	4 ~ 6.3φ	Within ±25% of initial value
	8 ~ 16φ	Within ±20% of initial value
Dissipation Factor		Less than 200% 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 hrs at 105℃.

Shelf Life Test

Test time: 1,000 hrs; other items are the same as those for the load life test.
The rated voltage shall be applied to the capacitors before the measurements for 160 ~ 450V(Refer to JIS C 5101-4 4.1).

DIAGRAM OF DIMENSIONS

Fig. 1

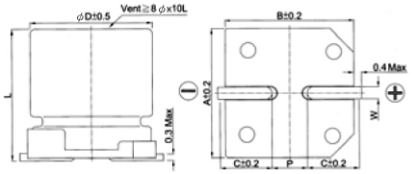
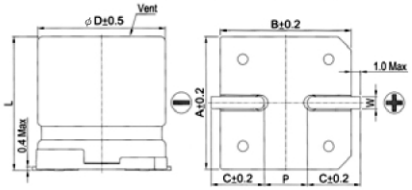


Fig. 2



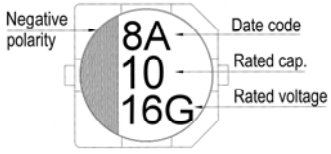
LEAD SPACING AND DIAMETER

Unit: mm

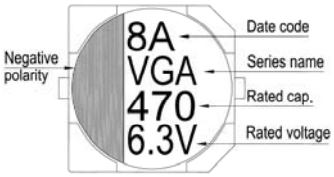
φD	L	A	B	C	W	P±0.2	Fig. No.
4	5.7 ± 0.3	4.3	4.3	2.0	0.5 ~ 0.8	1.0	1
5	5.7 ± 0.3	5.3	5.3	2.3	0.5 ~ 0.8	1.5	1
6.3	5.7 ± 0.3	6.6	6.6	2.7	0.5 ~ 0.8	2.0	1
6.3	7.7 ± 0.3	6.6	6.6	2.7	0.5 ~ 0.8	2.0	1
8	10 ± 0.5	8.4	8.4	3.0	0.7 ~ 1.1	3.1	1
10	10 ± 0.5	10.4	10.4	3.3	0.7 ~ 1.1	4.7	1
10	10.3 ± 0.5	10.4	10.4	3.3	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

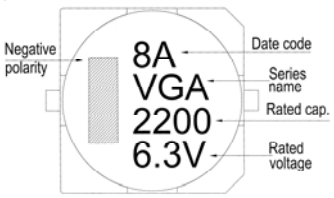
φD ≦ 6.3mm



φD = 8 ~ 10 mm



φD ≧ 12.5mm



Dimension: φD × L(mm)

DIMENSION & PERMISSIBLE RIPPLE CURRENT

Ripple Current: mA/rms at 120 Hz, 105°C

V. DC / μF	Contents	4V (0G)		6.3V (0J)		10V (1A)		16V (1C)		25V (1E)		35V (1V)		50V (1H)		63V (1J)	
		φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA
0.1	0R1											4×5.7	2				
0.22	R22											4×5.7	3				
0.33	R33											4×5.7	4				
0.47	R47											4×5.7	5	4×5.7	5		
1	010											4×5.7	10	4×5.7	8		
2.2	2R2											4×5.7	16	4×5.7	12		
3.3	3R3											4×5.7	18	5×5.7	17		
4.7	4R7							4×5.7	13	4×5.7	16	5×5.7	20	6.3×5.7	22		
10	100					4×5.7	17	5×5.7	23	5×5.7	27	6.3×5.7	32	6.3×5.7	32		
22	220					5×5.7	30	6.3×5.7	38	6.3×5.7	44	6.3×5.7	47	6.3×7.7	58	8×10	100
33	330			5×5.7	30	6.3×5.7	45	6.3×5.7	50	6.3×5.7	54	6.3×7.7	65	8×10	140	10×10	150
47	470	5×5.7	30	6.3×5.7	48	6.3×5.7	48	6.3×5.7	60	6.3×7.7	80	6.3×7.7	80	8×10	170	12.5×13.5	250
														10×10	310		
100	101	6.3×5.7	69	6.3×5.7	69	6.3×5.7	69	6.3×7.7	100	8×10	150	8×10	270	10×10.3	310	12.5×13.5	380
												10×10	375				
220	221	6.3×7.7	120	6.3×7.7	120	6.3×7.7	120	8×10	320	10×10	375	10×10.3	375	12.5×13.5	470	16×16.5	450
330	331	8×10	290	8×10	290	8×10	290	10×10	375	10×10.3	410	12.5×13.5	500	16×16.5	700	16×16.5	500
470	471	8×10	320	8×10	320	8×10	320	10×10	410	12.5×13.5	520	12.5×16	550	16×16.5	700		
				10×10	410												
1,000	102	10×10	410	10×10.3	410	12.5×13.5	510	12.5×16	550	16×16.5	750						
2,200	222	12.5×13.5	680	12.5×16	750	16×16.5	950	16×16.5	950								
3,300	332	12.5×16	850	16×16.5	1,000	16×16.5	1,090										
4,700	472	16×16.5	1,000	16×16.5	1,000												
6,800	682	16×16.5	1,000														

V. DC / μF	Contents	160V (2C)		200V (2D)		250V (2E)		400V (2G)		450V (2W)	
		φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA	φD×L	mA
3.3	3R3					12.5×13.5	65			12.5×13.5	40
4.7	4R7					12.5×13.5	68	12.5×13.5	50	12.5×13.5	50
10	100			12.5×13.5	80	12.5×13.5	80	12.5×13.5	65	12.5×16	75
22	220			12.5×13.5	115	12.5×13.5	115	16×16.5	85	16×16.5	85
33	330	12.5×13.5	115	12.5×16	150	16×16.5	180				
47	470	12.5×16	140	16×16.5	220	16×16.5	220				
100	101	16×16.5	250								