V-CHIP ALUMINUM ELECTROLYTIC CAPACITORS

SS Standard

- Designed for surface mounting on density circuit board.
- Emboss carrier tape packing system is available for automatic insertion.
- Lead free reflow soldering is available subject to customer's request.

◆Specifications

Items	Performance Characteristics
Operating Temperature Range	-40~85℃
Voltage Range	4~100V
Capacitance Range	0.1~1500μF
Capacitance Tolerance	±20% at 120 Hz, 20℃
Leakage Current	After 2 minutes' application of rated voltage, leakage current is not more than 0.01CV or 3μA, whichever is greater.
Tan δ	Measurement frequency: 120Hz, Temperature: 20℃

Rated voltage(V)	4	6.3	10	16	25	35	50	63	100
Tan δ (max)	0.35	0.26	0.20	0.16	0.14	0.12	0.12	0.10	0.10

Stability at Low Temperature	Measurement frequency: 120Hz									
Rated voltage(V)		4	6.3	10	16	25	35	50	63	100
Impedance ratio ZT/Z20 (max)	Z-25℃/Z+20℃	7	4	3	2	2	2	2	2	2
	Z-40℃/Z+20℃	15	8	6	4	4	3	3	3	3

Load Life

After 2000 hours' application of rated voltage at 85℃, capacitors meet the characteristics requirements listed at right

Capacitance Change	Within ±20% of initial value (Within ±30% of initial value for 4V)
Tan δ	200% or less of initial specified value
Leakage Current	Initial specified value or less

Shelf Life

After leaving capacitors under no load at 85℃ for 1000 hours, they meet the specified value for load life characteristics listed above.

Resistance to Soldering Heat

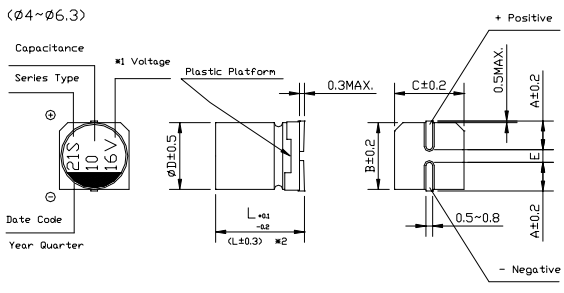
After reflow soldering according to Reflow Soldering Condition (see page 7 and 8) and restored at room temperature, they meet the characteristics requirements listed at right.

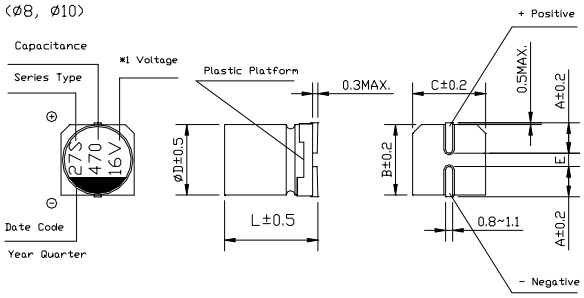
Capacitance Change	Within ±10% of initial value
Tan δ	Initial specified value or less
Leakage Current	Initial specified value or less

Applicable Standards

JIS C-5141 and JIS C-5102

◆ Dimensions & Marking





*1 Voltage mark for 6.3V is [6V]

*2 Applicable to 6.3×7.7

Re: Date code and series type —

1st digit for Year;

2nd digit for Quarter, 4 quarter date-code in one year: 1,4,7,O;

3rd character for Series, SS Series = S.

(mm)

φD×L	4×5.4	5×5.4	6.3×5.4	6.3×7.7	8×10.5	10×10.5
A	1.8	2.1	2.4	2.4	2.9	3.2
B	4.3	5.3	6.6	6.6	8.3	10.3
C	4.3	5.3	6.6	6.6	8.3	10.3
E	1.0	1.3	2.2	2.2	3.1	4.5
L	5.4	5.4	5.4	7.7	10.5	10.5

SS Series

◆ Standard ratings & Maximum permissible ripple current

Cap. (μF) \ WV		4		6.3		10		16		25	
		0G		0J		1A		1C		1E	
4.7	4R7									4×5.4	19
10	100							4×5.4	25	5×5.4 (4×5.4)	28 (24)
15	150							4×5.4	28	5×5.4	34
22	220			4×5.4	31	5×5.4 (4×5.4)	35 (30)	5×5.4 (4×5.4)	39 (32)	6.3×5.4 (5×5.4)	52 (46)
33	330	4×5.4	28	5×5.4 (4×5.4)	39 (34)	5×5.4 (4×5.4)	43 (35)	6.3×5.4 (5×5.4)	57 (45)	6.3×5.4	63
47	470	4×5.4	33	5×5.4	47	6.3×5.4 (5×5.4)	52 (47)	6.3×5.4 (5×5.4)	68 (50)	6.3×5.4	68
56	560	4×5.4	39	5×5.4	54	6.3×5.4	68	6.3×5.4	74	6.3×5.4	82
68	680	5×5.4	45	6.3×5.4	62	6.3×5.4	72	6.3×5.4	80	6.3×5.4	94
100	101	5×5.4	56	6.3×5.4	71	6.3×5.4	76	6.3×5.4	86	6.3×7.7	145
150	151	6.3×5.4	74	6.3×5.4	78	6.3×5.4	88	6.3×7.7	150	8×10.5	190
220	221	6.3×5.4	96	6.3×5.4	95	6.3×7.7	170	6.3×7.7	160	8×10.5	230
330	331	6.3×7.7	150	6.3×7.7	190	8×10.5	250	8×10.5	280	10×10.5	305
470	471	6.3×7.7	200	8×10.5	270	8×10.5	300	10×10.5	330	10×10.5	350
680	681	8×10.5	285	8×10.5	320	10×10.5	380	10×10.5	390		
1000	102	8×10.5	340	10×10.5	400	10×10.5	450	10×10.5	490		
1500	152	10×10.5	390	10×10.5	420						

Cap. (μF) \ WV		35		50		63		100	
		1V		1H		1J		2A	
0.1	0R1			4×5.4	1.0	4×5.4	1.0		
0.22	R22			4×5.4	2.3	4×5.4	2.3		
0.33	R33			4×5.4	3.5	4×5.4	3.5		
0.47	R47			4×5.4	5.0	4×5.4	5.0		
1	010			4×5.4	10	4×5.4	10	4×5.4	10
1.5	1R5			4×5.4	12	4×5.4	12	6.3×5.4	15
2.2	2R2			4×5.4	15	4×5.4	15	6.3×5.4	20
3.3	3R3	4×5.4	18	4×5.4	18	5×5.4	25	6.3×7.7	45
4.7	4R7	4×5.4	20	5×5.4 (4×5.4)	23 (19)	6.3×5.4	30	6.3×7.7	50
10	100	5×5.4 (4×5.4)	30 (25)	6.3×5.4	34	6.3×7.7 (6.3×5.4)	35 (30)	8×10.5	85
22	220	6.3×5.4	54	6.3×5.4	45	8×10.5	40	10×10.5	85
33	330	6.3×5.4	60	6.3×7.7	85	8×10.5	40	10×10.5	90
47	470	6.3×5.4	70	6.3×7.7	90	10×10.5	55	10×10.5	120
56	560	6.3×7.7	80	6.3×7.7	110	10×10.5	55		
68	680	6.3×7.7	110	8×10.5	170	10×10.5	60		
100	101	8×10.5	190	8×10.5	200	10×10.5	60		
150	151	8×10.5	215	10×10.5	240				
220	221	10×10.5	270	10×10.5	300			Case size	Allowable ripple
330	331	10×10.5	400						

Allowable Ripple (mA rms) at 85℃ 120Hz

◆Frequency Coefficient of allowable ripple current

Frequency	50Hz	120Hz	300Hz	1kHz	10kHz~
Coefficient	0.70	1.00	1.17	1.36	1.50