

A-05-11-01

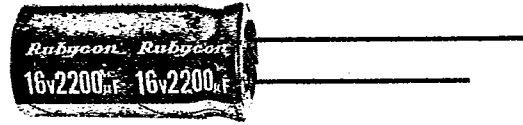


REB M88-04(SSP)

**MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS**

**SSP SERIES [Compact size, 105°C]**

This series has been specifically designed with the same compact size as the conventional SS series and wider operating temperature range (-55°C to +105°C), and is ideal for application in the equipment, which requires the compact size and longer load life.



**FEATURES**

- For this series, the conventional PS-1 series (wide temperature range -55°C to +105°C) has been made more compact in size.
- Excellent low temperature performance.
- Extend the capability of automated insertion operations.
- Solvent proof Type

**Rinsing Conditions**

Withstands either a 5-minute duration of any one of the immersion, ultrasonic, and vapor process employing Freon TE, Freon TES, or Freon TF, or a combination of these processes totaling 5 minutes or less in duration.

**SPECIFICATION TABLE**

1	OPERATING TEMPERATURE RANGE	-55°C to +105°C														
2	RATED VOLTAGE RANGE	6.3~50V.DC														
3	CAPACITANCE TOLERANCE(120HZ)	-20%~+20% (20°C)														
4	LEAKAGE CURRENT(µA max.) (Apply rated voltage for 5 minutes before test)	I = 0.01CV or 3 whichever is greater I = Leakage Current (µA) C = Nominal Capacitance(µF) V = Rated Voltage(V)														
5	DISSIPATION FACTOR(max) at 120Hz	<table border="1"> <tr> <td>RATED VOLTAGE:</td> <td>6.3</td> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> </tr> <tr> <td>DF(tan δ)</td> <td>0.26</td> <td>0.22</td> <td>0.18</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> </tr> </table> <p>For capacitors whose capacitance exceeds 1000µF, the value of tan δ is increased by 0.02 for every addition of 1000µF</p>	RATED VOLTAGE:	6.3	10	16	25	35	50	DF(tan δ)	0.26	0.22	0.18	0.16	0.14	0.12
RATED VOLTAGE:	6.3	10	16	25	35	50										
DF(tan δ)	0.26	0.22	0.18	0.16	0.14	0.12										
6	LIFE TEST AT 105°C AND RATED VOLTAGE	TEST HOURS	1000 hours													
		LEAKAGE CURRENT	Less than the value given in column 4													
		CAPACITANCE CHANGE	Within ±25% of the initial value													
		DF(tan δ)	Less than 200% of the value given in column 5													
7	OTHERS	Comply with JIS-C-5141 Characteristic W														

**RMS RIPPLE CURRENT COEFFICIENT**

(1) TEMPERATURE COEFFICIENT

AMBIENT TEMPERATURE(°C)	105	85	65 & under
TEMPERATURE COEFFICIENT	1.00	1.70	2.12

(2) FREQUENCY COEFFICIENT

NOMINAL CAPACITANCE(µF)	FREQUENCY(Hz)				
	60 (50)	120	500	1k	10k & over
	< 100	0.8	1.0	1.20	1.30
100~1000	0.8	1.0	1.10	1.15	1.20
> 1000	0.8	1.0	1.05	1.10	1.15

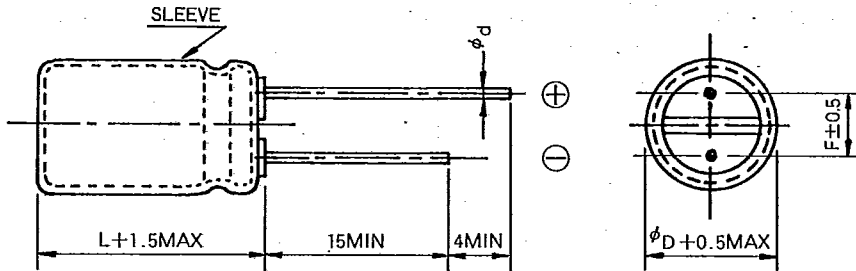
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## MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

## DIMENSIONS

UNIT : mm



$\phi D$	5	6.3	8	10	12.5	16	18
$\phi d$	0.5	0.5	0.6	0.6	0.6	0.8	0.8
F	2.0	2.5	3.5	5.0	5.0	7.5	7.5

## STANDARD CASE SIZE

 ( $\phi D \times L$  mm)

NOMINAL CAPACITANCE( $\mu F$ )	RATED VOLTAGE(V.DC)					
	6.3 (OJ)	10 (1A)	16 (1C)	25 (1E)	35 (1V)	50 (1H)
0.47						5 × 11
1						5 × 11
2.2						5 × 11
3.3						5 × 11
4.7						5 × 11
10						5 × 11
22						5 × 11
33				5 × 11	5 × 11	6.3 × 11
47			5 × 11	5 × 11	6.3 × 11	6.3 × 11
100	5 × 11	5 × 11	6.3 × 11	6.3 × 11	8 × 11	8 × 12.5
220	6.3 × 11	6.3 × 11	8 × 11	8 × 12.5	10 × 12.5	10 × 16
330	6.3 × 11	8 × 11	8 × 12.5	10 × 12.5	10 × 16	10 × 20
470	8 × 11	8 × 12.5	10 × 12.5	10 × 16	10 × 20	12.5 × 20
1000	10 × 12.5	10 × 16	10 × 20	12.5 × 20	12.5 × 25	16 × 25
2200	12.5 × 20	12.5 × 20	12.5 × 25	16 × 25	16 × 31.5	18 × 35.5
3300	12.5 × 20	12.5 × 25	16 × 25	16 × 31.5	18 × 35.5	
4700	16 × 25	16 × 25	16 × 31.5	18 × 35.5		
6800	16 × 25	16 × 31.5	18 × 35.5			
10000	16 × 31.5	18 × 35.5				
15000	18 × 35.5					

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MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

LIST OF STANDARD PRODUCTS

RATED VOLTAGE (SURGE VOLTAGE) (V.DC)	NOMINAL CAPACITANCE (μF)	PART NUMBER	DF (tan δ) at 120Hz 20°C	ESR (ΩMAX.) at 120Hz 20°C	LEAKAGE CURRENT (μA MAX.)	RIPPLE CURRENT (mA MAX) at 120Hz 105°C	DIMENSIONS(mm)			
							φ <sub>D</sub>	L	F	φ <sub>d</sub>
6.3 (8)	100	6.3 SSP 100	0.26	3.45	6.3	84	5	11	2.0	0.5
	220	6.3 SSP 220	0.26	1.57	13.8	138	6.3	11	2.5	0.5
	330	6.3 SSP 330	0.26	1.04	20.7	165	6.3	11	2.5	0.5
	470	6.3 SSP 470	0.26	0.73	29.6	210	8	11	3.5	0.6
	1000	6.3 SSP 1000	0.26	0.34	63.0	350	10	12.5	5.0	0.6
	2200	6.3 SSP 2200	0.28	0.17	138	723	12.5	20	5.0	0.6
	3300	6.3 SSP 3300	0.30	0.12	207	856	12.5	20	5.0	0.6
	4700	6.3 SSP 4700	0.32	0.09	296	1190	16	25	7.5	0.8
	6800	6.3 SSP 6800	0.36	0.07	428	1283	16	25	7.5	0.8
	10000	6.3 SSP 10000	0.44	0.06	630	1610	16	31.5	7.5	0.8
	15000	6.3 SSP 15000	0.54	0.05	945	1791	18	35.5	7.5	0.8
10 (13)	100	10 SSP 100	0.22	2.92	10.0	90	5	11	2.0	0.5
	220	10 SSP 220	0.22	1.33	22.0	144	6.3	11	2.5	0.5
	330	10 SSP 330	0.22	0.88	33.0	198	8	11	3.5	0.6
	470	10 SSP 470	0.22	0.62	47.0	230	8	12.5	3.5	0.6
	1000	10 SSP 1000	0.22	0.29	100	450	10	16	5.0	0.6
	2200	10 SSP 2200	0.24	0.14	220	757	12.5	20	5.0	0.6
	3300	10 SSP 3300	0.26	0.10	330	977	12.5	25	5.0	0.6
	4700	10 SSP 4700	0.28	0.08	470	1255	16	25	7.5	0.8
	6800	10 SSP 6800	0.32	0.06	680	1588	16	31.5	7.5	0.8
	10000	10 SSP 10000	0.40	0.05	1000	1690	18	35.5	7.5	0.8
	16 (20)	47	16 SSP 47	0.18	5.08	7.5	62	5	11	2.0
100		16 SSP 100	0.18	2.39	16.0	105	6.3	11	2.5	0.5
220		16 SSP 220	0.18	1.09	35.2	180	8	11	3.5	0.6
330		16 SSP 330	0.18	0.72	52.8	227	8	12.5	3.5	0.6
470		16 SSP 470	0.18	0.51	75.2	315	10	12.5	5.0	0.6
1000		16 SSP 1000	0.18	0.24	160	565	10	20	5.0	0.6
2200		16 SSP 2200	0.20	0.12	352	930	12.5	25	5.0	0.6
3300		16 SSP 3300	0.22	0.09	528	1202	16	25	7.5	0.8
4700		16 SSP 4700	0.24	0.07	752	1510	16	31.5	7.5	0.8
6800		16 SSP 6800	0.28	0.05	1088	1754	18	35.5	7.5	0.8
25 (32)		33	25 SSP 33	0.16	6.43	8.2	60	5	11	2.0
	47	25 SSP 47	0.16	4.52	11.7	68	5	11	2.0	0.5
	100	25 SSP 100	0.16	2.12	25.0	115	6.3	11	2.5	0.5
	220	25 SSP 220	0.16	0.96	55.0	190	8	12.5	3.5	0.6
	330	25 SSP 330	0.16	0.64	82.5	292	10	12.5	5.0	0.6
	470	25 SSP 470	0.16	0.45	117	370	10	16	5.0	0.6
	1000	25 SSP 1000	0.16	0.21	250	671	12.5	20	5.0	0.6
	2200	25 SSP 2200	0.18	0.11	550	1124	16	25	7.5	0.8
	3300	25 SSP 3300	0.20	0.08	825	1450	16	31.5	7.5	0.8
	4700	25 SSP 4700	0.22	0.06	1175	1703	18	35.5	7.5	0.8
	35 (44)	33	35 SSP 33	0.14	5.63	11.5	62	5	11	2.0
47		35 SSP 47	0.14	3.95	16.4	85	6.3	11	2.5	0.5
100		35 SSP 100	0.14	1.86	35.0	130	8	11	3.5	0.6
220		35 SSP 220	0.14	0.84	77.0	247	10	12.5	5.0	0.6
330		35 SSP 330	0.14	0.56	115	350	10	16	5.0	0.6
470		35 SSP 470	0.14	0.40	164	442	10	20	5.0	0.6
1000		35 SSP 1000	0.14	0.19	350	744	12.5	25	5.0	0.6
2200		35 SSP 2200	0.16	0.10	770	1303	16	31.5	7.5	0.8
3300		35 SSP 3300	0.18	0.07	1155	1631	18	35.5	7.5	0.8

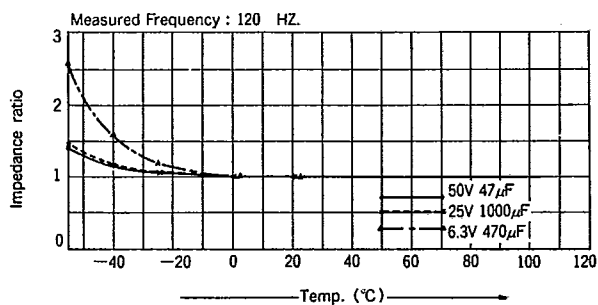
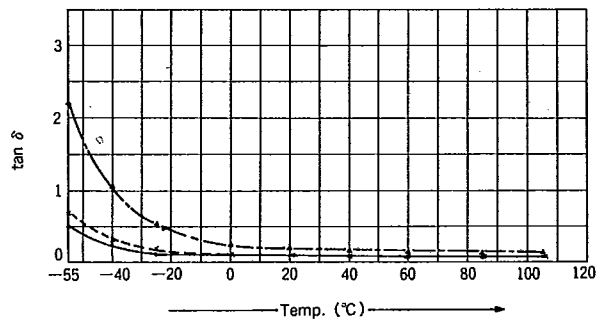
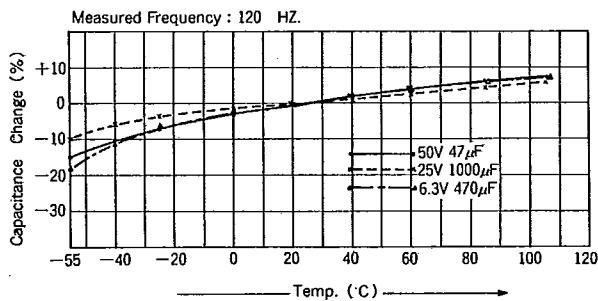
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LIST OF STANDARD PRODUCTS

RATED VOLTAGE (SURGE VOLTAGE) (V.DC)	NOMINAL CAPACITANCE ( $\mu$ F)	PART NUMBER	DF (tan $\delta$ ) at 120Hz 20°C	ESR (QMAX.) at 120Hz 20°C	LEAKAGE CURRENT ( $\mu$ A MAX.)	RIPPLE CURRENT (mA MAX) at 120Hz 105°C	DIMENSIONS(mm)			
							$\phi$ D	L	F	$\phi$ d
50 (63)	0.47	50 SSP OR47	0.12	339	3.0	7	5	11	2.0	0.5
	1	50 SSP 1	0.12	159	3.0	12	5	11	2.0	0.5
	2.2	50 SSP 2R2	0.12	72.3	3.0	18	5	11	2.0	0.5
	3.3	50 SSP 3R3	0.12	48.2	3.0	22	5	11	2.0	0.5
	4.7	50 SSP 4R7	0.12	33.9	3.0	25	5	11	2.0	0.5
	10	50 SSP 10	0.12	15.9	5.0	38	5	11	2.0	0.5
	22	50 SSP 22	0.12	7.23	11.0	51	5	11	2.0	0.5
	33	50 SSP 33	0.12	4.82	16.5	78	6.3	11	2.5	0.5
	47	50 SSP 47	0.12	3.39	23.5	100	6.3	11	2.5	0.5
	100	50 SSP 100	0.12	1.59	50.0	163	8	12.5	3.5	0.6
	220	50 SSP 220	0.12	0.72	110	289	10	16	5.0	0.6
	330	50 SSP 330	0.12	0.48	165	407	10	20	5.0	0.6
	470	50 SSP 470	0.12	0.34	235	520	12.5	20	5.0	0.6
	1000	50 SSP 1000	0.12	0.16	500	930	16	25	7.5	0.8
2200	50 SSP 2200	0.14	0.08	1100	1473	18	35.5	7.5	0.8	

Temperature Characteristics



Load Life at 105°C

