

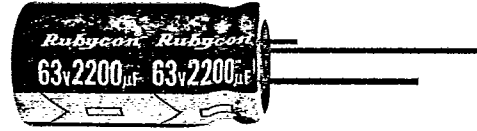
REB M88-09(TWPS)

MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

TWPS SERIES [Low Voltage, Large Capacitance with an Auxiliary Terminal]

FEATURES

- Low voltage, large capacitance capacitors have been reinforced with an auxiliary lead, for the substantial enhancement of their vibration withstanding capabilities.
- Positively prevents reversed polarity board insertions.



SPECIFICATION TABLE

1	OPERATING TEMPERATURE RANGE	-40°C to +85°C																						
2	RATED VOLTAGE RANGE	10~100VDC																						
3	CAPACITANCE RANGE	1000µF to 47000µF																						
4	CAPACITANCE TOLERANCE(120Hz)	-20%~+20% (20°C)																						
5	LEAKAGE CURRENT(µA max) (Apply rated voltage for 5 minutes before test)	I = 0.02CV or 5mA whichever is smaller I = Leakage Current (µA) C = Nominal Capacitance (µF) V = Rated Voltage (V)																						
6	DISSIPATION FACTOR (max)at 120Hz	<table border="1"> <tr> <th>RATED VOLTAGE(V)</th> <td>10</td> <td>16</td> <td>25</td> <td>35</td> <td>50</td> <td>63</td> <td>100</td> </tr> <tr> <th>DF(tan δ)</th> <td>0.50</td> <td>0.45</td> <td>0.45</td> <td>0.35</td> <td>0.30</td> <td>0.30</td> <td>0.25</td> </tr> </table>							RATED VOLTAGE(V)	10	16	25	35	50	63	100	DF(tan δ)	0.50	0.45	0.45	0.35	0.30	0.30	0.25
		RATED VOLTAGE(V)	10	16	25	35	50	63	100															
DF(tan δ)	0.50	0.45	0.45	0.35	0.30	0.30	0.25																	
		For Capacitors whose capacitance exceeds 10000µF, the value of DF (tan δ) is increased by 0.02 for every addition of 2000µF																						
7	LIFE TEST AT 85°C AND RATED VOLTAGE	TEST HOURS	1000 hours																					
		LEAKAGE CURRENT	Less than the value given in column 5																					
		CAPACITANCE CHANGE	Within ±20% of the initial value																					
		DF(tan δ)	Less than 200% of the value given in column 6																					
8	OTHERS	Comply with JIS-C-5141 characteristic W																						

RMS RIPPLE CURRENT COEFFICIENT

(1) TEMPERATURE COEFFICIENT

AMBIENT TEMPERATURE(°C)	85	70	50 & under
TEMPERATURE COEFFICIENT	1.00	1.58	2.00

(2) FREQUENCY COEFFICIENT

FREQUENCY(Hz)	60(50)	120	500	1k	10k & over
COEFFICIENT	0.8	1.0	1.05	1.10	1.15

A-05-11-01

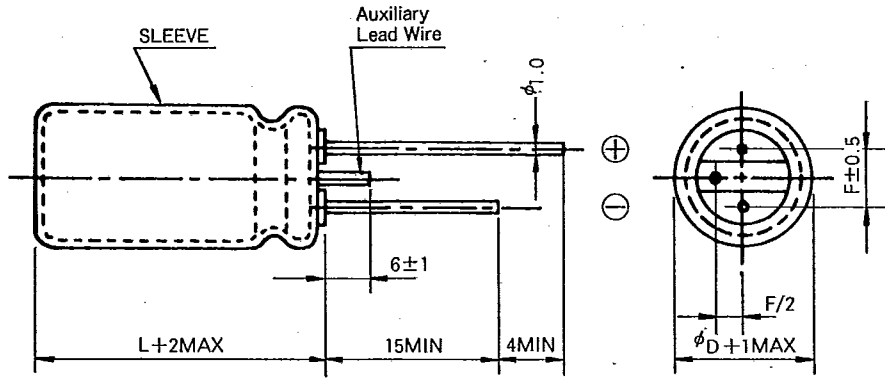


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DIMENSIONS

UNIT : mm



The auxiliary lead should be electrically isolated from circuit

ϕD	22	25.4	30
F	10	12.5	15

STANDARD CASE SIZE

($\phi D \times L$ mm)

RATED VOLTAGE(V.DC) NOMINAL CAPACITANCE(μF)	10	16	25	35	50	63	100
	(1A)	(1C)	(1E)	(1V)	(1H)	(1J)	(2A)
1000							22 × 41
2200						22 × 41	25.4 × 51
3300					22 × 41	22 × 51	30 × 62
4700				22 × 41	22 × 51	25.4 × 61	
6800			22 × 41	22 × 51	25.4 × 61	30 × 62	
10000		22 × 41	22 × 51	25.4 × 61	30 × 62		
15000	22 × 41	22 × 51	25.4 × 61	30 × 62			
22000	22 × 51	25.4 × 61	30 × 62				
33000	25.4 × 61	30 × 62					
47000	30 × 62						

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■ 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 85°C	DIMENSIONS(mm)			
							φD	L	F	φd
10 (13)	15000	10 TWPS 15000	0.54	0.048	3000	2150	22	41	10.0	1.0
	22000	10 TWPS 22000	0.62	0.037	4400	2700	22	51	10.0	1.0
	33000	10 TWPS 33000	0.72	0.029	5000	3550	25.4	61	12.5	1.0
	47000	10 TWPS 47000	0.86	0.024	5000	4000	30	62	15.0	1.0
16 (20)	10000	16 TWPS 10000	0.45	0.060	3200	2100	22	41	10.0	1.0
	15000	16 TWPS 15000	0.49	0.043	4800	2700	22	51	10.0	1.0
	22000	16 TWPS 22000	0.57	0.034	5000	3550	25.4	61	12.5	1.0
	33000	16 TWPS 33000	0.67	0.027	5000	3950	30	62	15.0	1.0
25 (32)	6800	25 TWPS 6800	0.45	0.088	3400	2000	22	41	10.0	1.0
	10000	25 TWPS 10000	0.45	0.060	5000	2650	22	51	10.0	1.0
	15000	25 TWPS 15000	0.49	0.043	5000	3300	25.4	61	12.5	1.0
	22000	25 TWPS 22000	0.57	0.034	5000	3900	30	62	15.0	1.0
35 (44)	4700	35 TWPS 4700	0.35	0.099	3290	1650	22	41	10.0	1.0
	6800	35 TWPS 6800	0.35	0.068	4760	2250	22	51	10.0	1.0
	10000	35 TWPS 10000	0.35	0.046	5000	2850	25.4	61	12.5	1.0
	15000	35 TWPS 15000	0.39	0.034	5000	3400	30	62	15.0	1.0
50 (63)	3300	50 TWPS 3300	0.30	0.121	3300	1600	22	41	10.0	1.0
	4700	50 TWPS 4700	0.30	0.085	4700	2200	22	51	10.0	1.0
	6800	50 TWPS 6800	0.30	0.059	5000	2800	25.4	61	12.5	1.0
	10000	50 TWPS 10000	0.30	0.040	5000	3150	30	62	15.0	1.0
63 (79)	2200	63 TWPS 2200	0.30	0.181	2772	1500	22	41	10.0	1.0
	3300	63 TWPS 3300	0.30	0.121	4158	2200	22	51	10.0	1.0
	4700	63 TWPS 4700	0.30	0.085	5000	2700	25.4	61	12.5	1.0
	6800	63 TWPS 6800	0.30	0.059	5000	3100	30	62	15.0	1.0
100 (125)	1000	100 TWPS 1000	0.25	0.332	2000	1200	22	41	10.0	1.0
	2200	100 TWPS 2200	0.25	0.151	4400	2150	25.4	51	12.5	1.0
	3300	100 TWPS 3300	0.25	0.100	5000	2700	30	62	15.0	1.0