

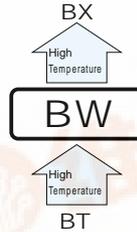
ALUMINUM ELECTROLYTIC CAPACITORS



BW series High Temperature Range, For +135°C Use



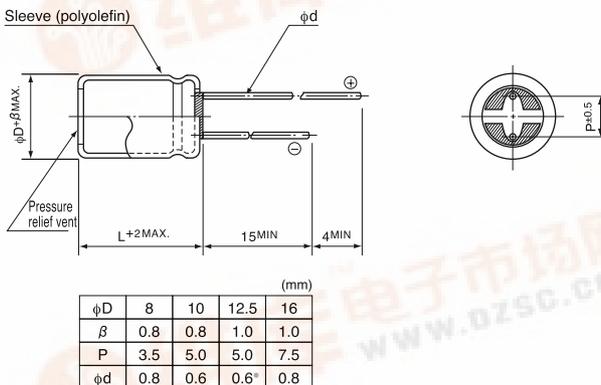
- Highly dependable reliability withstanding load life of 1000 to 3000 hours at +135°C.
- Suited for automobile electronics where heavy duty services are indispensable.
- Adapted to the RoHS directive (2002/95/EC).



Specifications

Item	Performance Characteristics																														
Category Temperature Range	-55 ~ +135°C																														
Rated Voltage Range	10 ~ 100V																														
Rated Capacitance Range	1 ~ 4700µF																														
Capacitance Tolerance	±20% at 120Hz, 20°C																														
Leakage Current	After 1 minute's application of rated voltage, leakage current is not more than 0.03CV or 4 (µA), whichever is greater.																														
tan δ	<table border="1"> <tr> <th>Rated voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> <tr> <td>tan δ (MAX.)</td> <td>0.20</td> <td>0.16</td> <td>0.14</td> <td>0.12</td> <td>0.10</td> <td>0.10</td> <td>0.08</td> <td>0.08</td> </tr> </table> 120Hz, 20°C For capacitance of more than 1000µF, add 0.02 for every increase of 1000µF.	Rated voltage (V)	10	16	25	35	50	63	80	100	tan δ (MAX.)	0.20	0.16	0.14	0.12	0.10	0.10	0.08	0.08												
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Stability at Low Temperature	<table border="1"> <tr> <th colspan="2">Rated voltage (V)</th> <th>10</th> <th>16</th> <th>25</th> <th>35</th> <th>50</th> <th>63</th> <th>80</th> <th>100</th> </tr> <tr> <td>Impedance ratio</td> <td>Z-25°C / Z+20°C</td> <td>3</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> <td>2</td> </tr> <tr> <td>ZT / Z20 (MAX.)</td> <td>Z-40°C / Z+20°C</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> <td>4</td> </tr> </table> 120Hz	Rated voltage (V)		10	16	25	35	50	63	80	100	Impedance ratio	Z-25°C / Z+20°C	3	2	2	2	2	2	2	2	ZT / Z20 (MAX.)	Z-40°C / Z+20°C	4	4	4	4	4	4	4	4
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Endurance	After an application of D.C. bias voltage plus the rated ripple current for 3000 hours (1000 hours for φD = 8, 2000 hours for φD = 10) at 135°C the peak voltage shall not exceed the rated D.C. voltage, capacitors meet the characteristics requirements listed at right. <table border="1"> <tr> <td>Capacitance change</td> <td>Within ±30% of initial value</td> </tr> <tr> <td>Dissipation Factor</td> <td>300% or less of initial specified value</td> </tr> <tr> <td>Leakage current</td> <td>Initial specified value or less</td> </tr> </table>	Capacitance change	Within ±30% of initial value	Dissipation Factor	300% or less of initial specified value	Leakage current	Initial specified value or less																								
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Shelf Life	After storing the capacitors under no load at 135°C for 1000 hours, and after performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they will meet the specified value for endurance characteristics listed above.																														
Marking	Printed with white color letter on blue sleeve.																														

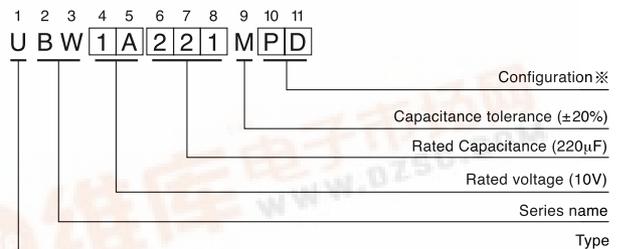
Radial Lead Type



* In case L > 25 for the φ12.5 dia. unit, lead dia. φ d = 0.8mm.

• Please refer to page 21 about the end seal configuration.

Type numbering system (Example : 10V 220µF)



※ Configuration

φ D	Pb-free leadwire Pb-free Polyolefin sleeve
8 · 10	PD
12.5 · 16	HD



ALUMINUM ELECTROLYTIC CAPACITORS

BW series

■ Dimensions

V (Code)		10 (1A)			16 (1C)			25 (1E)			35 (1V)		
Cap. (μF)	Item	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)
100	101				8 × 11.5	0.32	340	8 × 11.5	0.13	500	10 × 12.5	0.15	620
220	221	8 × 11.5	0.26	340	10 × 12.5	0.15	620	10 × 12.5	0.10	680	10 × 16	0.094	790
330	331	10 × 12.5	0.15	620	10 × 12.5	0.10	680	10 × 16	0.075	945	10 × 20	0.075	950
470	471	10 × 12.5	0.10	680	10 × 16	0.075	945	10 × 20	0.057	1100	12.5 × 20	0.058	1330
1000	102	10 × 20	0.057	1100	12.5 × 20	0.042	1490	12.5 × 25	0.033	1750	16 × 25	0.031	2010
2200	222	12.5 × 25	0.033	1750	16 × 25	0.024	2300	16 × 31.5	0.020	2710			
3300	332	16 × 25	0.024	2300	16 × 31.5	0.020	2710						
4700	472	16 × 31.5	0.020	2710									

V (Code)		50 (1H)			63 (1J)			80 (1K)			100 (2A)		
Cap. (μF)	Item	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)	Case size φD × L (mm)	Impedance (Ω) MAX.	Rated ripple (mArms)
1	010	8 × 11.5	2.00	35									
2.2	2R2	8 × 11.5	1.80	50									
3.3	3R3	8 × 11.5	1.50	60									
4.7	4R7	8 × 11.5	1.15	85							8 × 11.5	2.00	130
10	100	8 × 11.5	0.75	180							8 × 11.5	1.50	150
22	220	8 × 11.5	0.50	250	8 × 11.5	2.00	130	8 × 11.5	1.50	150	10 × 12.5	0.80	480
33	330	8 × 11.5	0.45	300	8 × 11.5	1.50	150	10 × 12.5	0.80	480	10 × 12.5	0.80	480
47	470	8 × 11.5	0.35	440	10 × 12.5	0.59	530	10 × 12.5	0.80	480	10 × 16	0.55	630
100	101	10 × 12.5	0.18	555	10 × 16	0.41	690	10 × 20	0.39	790	12.5 × 20	0.25	990
220	221	10 × 20	0.098	930	12.5 × 20	0.16	1050	12.5 × 25	0.18	1240	16 × 25	0.11	1500
330	331	12.5 × 20	0.070	1330	12.5 × 25	0.12	1290	12.5 × 31.5	0.16	1390	16 × 31.5	0.079	1790
470	471	12.5 × 25	0.055	1650	12.5 × 31.5	0.097	1460	16 × 25	0.11	1500			
1000	102	16 × 31.5	0.031	2430	16 × 31.5	0.055	1900						

Rated Ripple (mArms) at 135°C 100kHz
Impedance (Ω)MAX. at 20°C 100kHz

● Frequency coefficient of rated ripple current

CV	Frequency			
	120Hz	300Hz	1kHz	10kHz ~
1000 > CV	0.50	0.64	0.83	1.00
1000 ≤ CV	0.67	0.79	0.91	1.00