ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

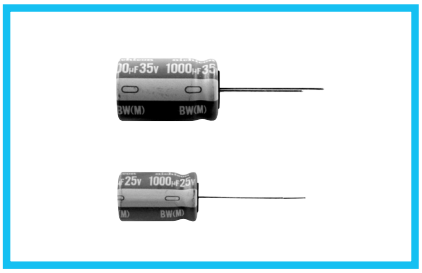
BW series

High Temperature Range, For +135°C Use

Long Life | Anti-Solvent Feature

- Highly dependable reliability withstanding load life of 1000 to 3000 hours at +135°C.
- Suited for automobile electronics where heavy duty services are indispensable.
- Compliant to the RoHS directive (2011/65/EU).

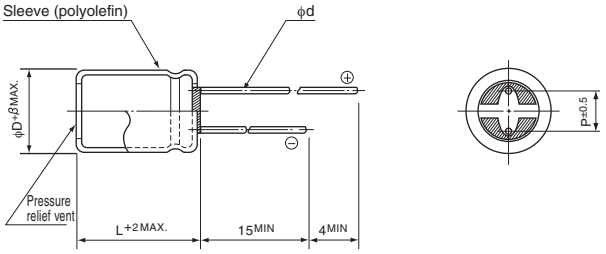
BX (High Temperature) — BW — BT (High Temperature)



■Specifications

Item	Performance Characteristics
Category Temperature Range	−55 to +135°C
Rated Voltage Range	10 to 100V
Rated Capacitance Range	1 to 4700μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV or 4 (μA), whichever is greater.
Tangent of loss angle (tan δ)	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 120Hz, 20°C For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.
Stability at Low Temperature	120Hz Rated voltage (V): 10 / 16 / 25 / 35 / 50 / 63 / 80 / 100 Impedance ratio ZT / Z20 (MAX.): Z−25°C / Z+20°C: 3 / 2 / 2 / 2 / 2 / 2 / 2 / 2 Z−40°C / Z+20°C: 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4
Endurance	The specifications listed at right shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied for 3000 hours (1000 hours for φD=8, 2000 hours for φD=10) at 135°C, the peak voltage shall not exceed the rated voltage. Capacitance change: Within ±30% of the initial capacitance value Dissipation Factor: 300% or less than the initial specified value Leakage current: Less than or equal to the initial specified value
Shelf Life	After storing the capacitors under no load at 135˚C for 1000 hours and then performing voltage treatment based on JIS C 5101-4 clause 4.1 at 20°C, they shall meet the specified values for the endurance characteristics listed above.
Marking	Printed with white color letter on blue sleeve.

■Radial Lead Type



(mm)

φD	8	10	12.5	16
β	0.8	0.8	1.0	1.0
P	3.5	5.0	5.0	7.5
φd	0.8	0.6	0.6※	0.8

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

• Please refer to page 20 about the end seal configuration.

Type numbering system (Example : 10V 220μF)

1	2	3	4	5	6	7	8	9	10	11
U	B	W	1	A	2	2	1	M	P	D

Configuration※
Capacitance tolerance (±20%)
Rated capacitance (220μF)
Rated voltage (10V)
Series name
Type

※Configuration

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

Please refer to page 20, 21, 22 about the formed or taped product spec.
Please refer to page 4 for the minimum order quantity.
●Dimension table in next page.

BW series

■Dimensions

V (Code) / Item / Code / Cap. (μF)	10 (1A)			16 (1C)			25 (1E)			35 (1V)		
	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) / Item / Code / Cap. (μF)	50 (1H)			63 (1J)			80 (1K)			100 (2A)		
	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 current (mArms) at 135°C 100kHz
Impedance (Ω) MAX. at 20°C 100kHz

● Frequency coefficient of rated ripple current

CV \ Frequency	120Hz	300Hz	1kHz	10kHz or more
1000 > CV	0.50	0.64	0.83	1.00
1000 ≦ CV	0.67	0.79	0.91	1.00