ALUMINUM ELECTROLYTIC CAPACITORS

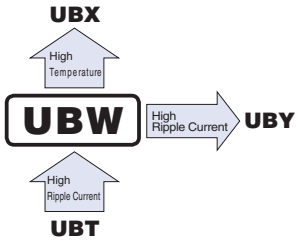
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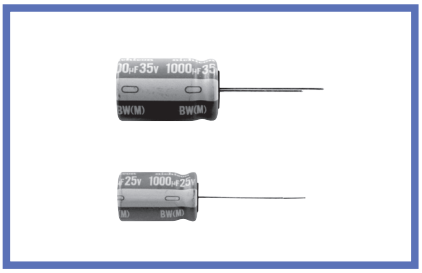
UBW

High Temperature Range, For +135°C Use

Long Life

- 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, (EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.



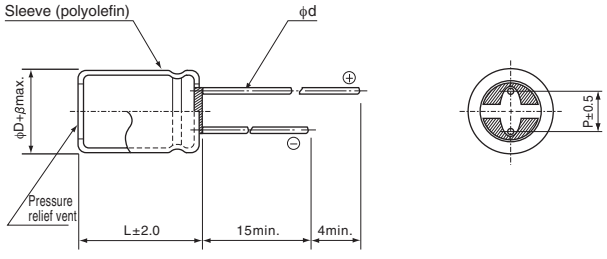


■Specifications

Item	Performance Characteristics
Category Temperature Range	−55 to +135°C
Rated Voltage Range	10 to 100V
Rated Capacitance Range	4.7 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 (max.) Z(−25°C) / Z(+20°C): 3 / 2 / 2 / 2 / 2 / 2 / 2 / 2 Impedance ratio (max.) Z(−40°C) / Z(+20°C): 4 / 4 / 4 / 4 / 4 / 4 / 4 / 4
Endurance	The specifications listed below shall be met when the capacitors are restored to 20°C after D.C. bias plus rated ripple current is applied at 135°C for the condition listed at right.The peak voltage shall not exceed the rated voltage. Rated Voltage \ φD(mm): φ8 / φ10 / ≧φ12.5 10～100V: 1000hrs. / 2000hrs. / 3000hrs. Capacitance change: Within ±30% of the initial capacitance value tan δ: 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.

※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

■Radial Lead Type



(mm)

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

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

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 the Guidelines for Aluminum Electrolytic Capacitors for end seal configuration information.

● Frequency coefficient of rated ripple current

V	CV \ Frequency	120Hz	300Hz	1kHz	10kHz or more
10 to 100	1000 > CV	0.50	0.64	0.83	1.00
	1000 ≦ CV	0.67	0.79	0.91	1.00

● Dimension table in next page.

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■Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20℃ after 1 minute)	Impedance (Ω) max. (20℃/100kHz)	Rated Ripple (mArms) (135℃/100kHz)	Part Number
10 (1A)	220	8×11.5	0.20	66	0.26	340	UBW1A221MPD
	330	10×12.5	0.20	99	0.15	620	UBW1A331MPD
	470	10×12.5	0.20	141	0.10	680	UBW1A471MPD
	1000	10×20	0.20	300	0.057	1100	UBW1A102MPD
	2200	12.5×25	0.22	660	0.033	1750	UBW1A222MHD
	3300	16×25	0.24	990	0.024	2300	UBW1A332MHD
	4700	16×30.5	0.26	1410	0.020	2710	UBW1A472MHD
16 (1C)	100	8×11.5	0.16	48	0.32	340	UBW1C101MPD
	220	10×12.5	0.16	105.6	0.15	620	UBW1C221MPD
	330	10×12.5	0.16	158.4	0.10	680	UBW1C331MPD
	470	10×16	0.16	225.6	0.075	945	UBW1C471MPD
	1000	12.5×20	0.16	480	0.042	1490	UBW1C102MHD
	2200	16×25	0.18	1056	0.024	2300	UBW1C222MHD
	3300	16×30.5	0.20	1584	0.020	2710	UBW1C332MHD
25 (1E)	100	8×11.5	0.14	75	0.13	500	UBW1E101MPD
	220	10×12.5	0.14	165	0.10	680	UBW1E221MPD
	330	10×16	0.14	247.5	0.075	945	UBW1E331MPD
	470	10×20	0.14	352.5	0.057	1100	UBW1E471MPD
	1000	12.5×25	0.14	750	0.033	1750	UBW1E102MHD
	2200	16×30.5	0.16	1650	0.020	2710	UBW1E222MHD
35 (1V)	100	10×12.5	0.12	105	0.15	620	UBW1V101MPD
	220	10×16	0.12	231	0.094	790	UBW1V221MPD
	330	10×20	0.12	346.5	0.075	950	UBW1V331MPD
	470	12.5×20	0.12	493.5	0.058	1330	UBW1V471MHD
	1000	16×25	0.12	1050	0.031	2010	UBW1V102MHD
50 (1H)	4.7	8×11.5	0.10	7.05	1.15	85	UBW1H4R7MPD
	10	8×11.5	0.10	15	0.75	180	UBW1H100MPD
	22	8×11.5	0.10	33	0.50	250	UBW1H220MPD
	33	8×11.5	0.10	49.5	0.45	300	UBW1H330MPD
	47	8×11.5	0.10	70.5	0.35	440	UBW1H470MPD
	100	10×12.5	0.10	150	0.18	555	UBW1H101MPD
	220	10×20	0.10	330	0.098	930	UBW1H221MPD
	330	12.5×20	0.10	495	0.070	1330	UBW1H331MHD
	470	12.5×25	0.10	705	0.055	1650	UBW1H471MHD
	1000	16×30.5	0.10	1500	0.031	2430	UBW1H102MHD
63 (1J)	22	8×11.5	0.10	41.58	2.00	130	UBW1J220MPD
	33	8×11.5	0.10	62.37	1.50	150	UBW1J330MPD
	47	10×12.5	0.10	88.83	0.59	530	UBW1J470MPD
	100	10×16	0.10	189	0.41	690	UBW1J101MPD
	220	12.5×20	0.10	415.8	0.16	1050	UBW1J221MHD
	330	12.5×25	0.10	623.7	0.12	1290	UBW1J331MHD
	470	12.5×30.5	0.10	888.3	0.097	1460	UBW1J471MHD
	1000	16×30.5	0.10	1890	0.055	1900	UBW1J102MHD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code “1” and then add the appropriate code.

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■Dimensions

Rated Voltage (V) (code)	Rated Capacitance (μF)	Case Size φD×L (mm)	tan δ	Leakage Current (μA) (at 20℃ after 1 minute)	Impedance (Ω) max. (20℃/100kHz)	Rated Ripple (mArms) (135℃/100kHz)	Part Number
80 (1K)	22	8×11.5	0.08	52.8	1.50	150	UBW1K220MPD
	33	10×12.5	0.08	79.2	0.80	480	UBW1K330MPD
	47	10×12.5	0.08	112.8	0.80	480	UBW1K470MPD
	100	10×20	0.08	240	0.39	790	UBW1K101MPD
	220	12.5×25	0.08	528	0.18	1240	UBW1K221MHD
	330	12.5×30.5	0.08	792	0.16	1390	UBW1K331MHD
	470	16×25	0.08	1128	0.11	1500	UBW1K471MHD
100 (2A)	10	8×11.5	0.08	30	1.50	150	UBW2A100MPD
	22	10×12.5	0.08	66	0.80	480	UBW2A220MPD
	33	10×12.5	0.08	99	0.80	480	UBW2A330MPD
	47	10×16	0.08	141	0.55	630	UBW2A470MPD
	100	12.5×20	0.08	300	0.25	990	UBW2A101MHD
	220	16×25	0.08	660	0.11	1500	UBW2A221MHD
	330	16×30.5	0.08	990	0.079	1790	UBW2A331MHD

For cut leads, formed leads or taped parts, please add the appropriate code after the size code (12th digit).
If there is no size code in the part number, please add size code “1” and then add the appropriate code.

- For formed lead or taped product specifications and minimum order quantity, please refer to the Guidelines for Aluminum Electrolytic Capacitors.