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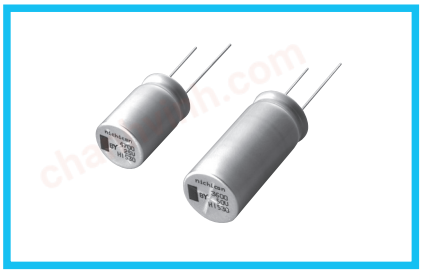
ALUMINUM ELECTROLYTIC CAPACITORS

nichicon

UBY

High Temperature Range,
For +125°C or 135°C Use

Smaller Low Impedance



- Higher capacitance and higher ripple current than UBT and UBW.
- Ideal for automobile control ciucuits such as electric power steering and direct injection engine drive.
- Compliant to the RoHS directive (2011/65/EU,(EU)2015/863).
- AEC-Q200 Qualified. Please contact us for details.

UBT
UBW
→ Higher Capacitance, Higher ripple current → **UBY** → Vibration Resistance → UXY

■ Specifications

Item	Performance Characteristics
Category Temperature Range	−40 to +135°C
Rated Voltage Range	25 to 100V
Rated Capacitance Range	160 to 12000μF
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 (μA)
Tangent of loss angle (tan δ)	See table below
Stability at Low Temperature	See table below
Endurance	See table below
Shelf Life	After storing the capacitors under no load at 125˚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	Black print on the case top.

Tangent of loss angle (tan δ) — 120Hz, 20°C

Rated voltage (V)	25	35	50	63	80	100
tan δ (max.)	0.14	0.12	0.10	0.10	0.08	0.08

For capacitance of more than 1000μF, add 0.02 for every increase of 1000μF.

Stability at Low Temperature — 120Hz

Rated voltage (V)		25	35	50	63	80	100
Impedance ratio (max.)	Z(−25°C) / Z(+20°C)	2	2	2	2	2	2
	Z(−40°C) / Z(+20°C)	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 the time shown in right table at 125°C or 135°C, the peak voltage shall not exceed the rated voltage.

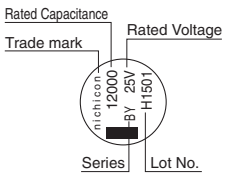
Rated voltage	Temperature	Time
25 to 50V	125°C	3000hours
	135°C	3000hours
63 to 100V	125°C	3000hours
	135°C	2000hours

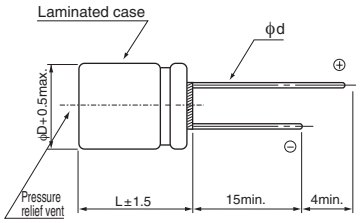
Capacitance change	Within ±30% of the initial capacitance value
tan δ	300% or less than the initial specified value
Leakage current	Less than or equal to the initial specified value

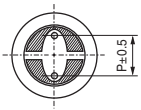
※ I : Leakage Current (μA), C : Rated Capacitance (μF), V : Rated Voltage (V)

The UBY series places emphasis on high ripple current, as a result the lifetime calculation is different than other series. Please contact Nichicon for details.

■ Radial Lead Type







(mm)

ϕD	12.5	16	18
P	5.0	7.5	7.5
ϕd	0.6※	0.8	0.8

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

Type numbering system (Example : 25V 12000μF)

1	2	3	4	5	6	7	8	9	10	11	12
U	B	Y	1	E	1	2	3	M	H	L	□

- 12: size code
- 11: Configuration
- 9–10: Capacitance tolerance (±20%)
- 6–8: Rated capacitance (12000μF)
- 4–5: Rated voltage (25V)
- 3: Series name
- 1–2: Type

● Frequency coefficient of rated ripple current

Cap. (μF) \ Frequency	120Hz	1kHz	10kHz	100kHz or more
160	0.40	0.75	0.90	1.00
220 to 620	0.50	0.85	0.94	1.00
680 to 2000	0.60	0.87	0.95	1.00
2200 to 4300	0.75	0.90	0.95	1.00
4700 to 12000	0.85	0.95	0.98	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)	ESR(Ω)max.		Rated Ripple (mArms)		Part Number
					20℃/ 100kHz	−40℃/ 100kHz	125℃/ 100kHz	135℃/ 100kHz	
25 (1E)	2000	12.5×20	0.16	1500	0.042	0.48	2760	1690	UBY1E202MHL
	3000	12.5×25	0.18	2250	0.033	0.30	3480	2010	UBY1E302MHL
	3300	16×20	0.18	2475	0.031	0.27	3040	1860	UBY1E332MHL
	3600	12.5×30.5	0.18	2700	0.028	0.24	4490	2900	UBY1E362MHL
	4300	18×20	0.20	3225	0.030	0.22	3250	1870	UBY1E432MHL
	4700	16×25	0.20	3525	0.026	0.22	4260	2870	UBY1E472MHL
	5100	12.5×40	0.22	3825	0.024	0.19	5810	3470	UBY1E512MHL
	6200	16×30.5	0.24	4650	0.023	0.18	5480	3400	UBY1E622MHL
	6200	18×25	0.24	4650	0.025	0.19	4500	2900	UBY1E622MHL6
	7500	16×35.5	0.26	5625	0.020	0.14	6070	3630	UBY1E752MHL
	8200	18×30.5	0.28	6150	0.022	0.16	5600	3470	UBY1E822MHL
	9100	16×40	0.30	6825	0.019	0.12	6810	3930	UBY1E912MHL
	10000	18×35.5	0.32	7500	0.019	0.12	6280	3750	UBY1E103MHL
	12000	18×40	0.36	9000	0.018	0.10	7070	4080	UBY1E123MHL
35 (1V)	1300	12.5×20	0.12	1365	0.042	0.48	2760	1690	UBY1V132MHL
	1800	12.5×25	0.12	1890	0.033	0.30	3480	2010	UBY1V182MHL
	2200	12.5×30.5	0.14	2310	0.028	0.24	4490	2900	UBY1V222MHL
	2200	16×20	0.14	2310	0.031	0.27	3040	1860	UBY1V222MHL6
	2700	12.5×35.5	0.14	2835	0.025	0.21	5140	3190	UBY1V272MHL
	2700	18×20	0.14	2835	0.030	0.22	3250	1870	UBY1V272MHL6
	3000	16×25	0.16	3150	0.026	0.22	4260	2870	UBY1V302MHL
	3300	12.5×40	0.16	3465	0.024	0.19	5810	3470	UBY1V332MHL
	3900	16×30.5	0.16	4095	0.023	0.18	5480	3400	UBY1V392MHL
	3900	18×25	0.16	4095	0.025	0.19	4500	2900	UBY1V392MHL6
	4700	16×35.5	0.18	4935	0.020	0.14	6070	3630	UBY1V472MHL
	5100	18×30.5	0.20	5355	0.022	0.16	5600	3470	UBY1V512MHL
	5600	16×40	0.20	5880	0.019	0.12	6810	3930	UBY1V562MHL
	6200	18×35.5	0.22	6510	0.019	0.12	6280	3750	UBY1V622MHL
	7500	18×40	0.24	7875	0.018	0.10	7070	4080	UBY1V752MHL
50 (1H)	620	12.5×20	0.10	930	0.056	0.52	2400	1470	UBY1H621MHL
	820	12.5×25	0.10	1230	0.044	0.35	3350	2260	UBY1H821MHL
	1000	16×20	0.10	1500	0.039	0.30	2960	1870	UBY1H102MHL
	1100	12.5×30.5	0.10	1650	0.037	0.26	4220	2520	UBY1H112MHL
	1300	12.5×35.5	0.10	1950	0.033	0.23	4810	2780	UBY1H132MHL
	1300	16×25	0.10	1950	0.033	0.22	4040	2500	UBY1H132MHL6
	1300	18×20	0.10	1950	0.038	0.20	3130	2110	UBY1H132MHL3
	1600	12.5×40	0.10	2400	0.032	0.20	5240	3020	UBY1H162MHL
	1800	16×30.5	0.10	2700	0.029	0.19	5130	2960	UBY1H182MHL
	1800	18×25	0.10	2700	0.032	0.19	4230	2530	UBY1H182MHL6
	2200	16×35.5	0.12	3300	0.025	0.14	5480	3160	UBY1H222MHL
	2400	18×30.5	0.12	3600	0.025	0.16	5240	3020	UBY1H242MHL
	2700	16×40	0.12	4050	0.022	0.13	5930	3420	UBY1H272MHL
	3000	18×35.5	0.14	4500	0.022	0.12	5870	3390	UBY1H302MHL
	3600	18×40	0.14	5400	0.020	0.10	6420	3700	UBY1H362MHL

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)	ESR (Ω) max.		Rated Ripple (mArms)		Part Number
					20℃/ 100kHz	−40℃/ 100kHz	125℃/ 100kHz	135℃/ 100kHz	
63 (1J)	390	12.5×20	0.10	737.1	0.074	0.56	1640	1420	UBY1J391MHL
	560	12.5×25	0.10	1058.4	0.054	0.39	2520	2050	UBY1J561MHL
	750	12.5×30.5	0.10	1417.5	0.042	0.30	3110	2630	UBY1J751MHL
	750	16×20	0.10	1417.5	0.053	0.34	2140	1910	UBY1J751MHL6
	950	12.5×35.5	0.10	1795.5	0.038	0.25	3760	2970	UBY1J951MHL
	950	18×20	0.10	1795.5	0.048	0.26	2350	2100	UBY1J951MHL6
	1000	16×25	0.10	1890	0.038	0.23	2940	2680	UBY1J102MHL
	1100	12.5×40	0.10	2079	0.031	0.22	4610	3260	UBY1J112MHL
	1300	16×30.5	0.10	2457	0.034	0.20	3860	3050	UBY1J132MHL
	1300	18×25	0.10	2457	0.035	0.19	3080	2810	UBY1J132MHL6
	1700	16×35.5	0.10	3213	0.027	0.15	4590	3420	UBY1J172MHL
	1800	18×30.5	0.10	3402	0.028	0.15	4080	3220	UBY1J182MHL
	2000	16×40	0.12	3780	0.025	0.14	5190	3670	UBY1J202MHL
	2200	18×35.5	0.12	4158	0.023	0.12	5220	3690	UBY1J222MHL
	2500	18×40	0.12	4725	0.021	0.11	5660	3820	UBY1J252MHL
80 (1K)	270	12.5×20	0.08	648	0.074	0.56	1640	1420	UBY1K271MHL
	390	12.5×25	0.08	936	0.054	0.39	2520	2050	UBY1K391MHL
	470	16×20	0.08	1128	0.053	0.34	2140	1910	UBY1K471MHL
	510	12.5×30.5	0.08	1224	0.042	0.30	3110	2630	UBY1K511MHL
	620	12.5×35.5	0.08	1488	0.038	0.25	3760	2970	UBY1K621MHL
	620	18×20	0.08	1488	0.048	0.26	2350	2100	UBY1K621MHL6
	680	16×25	0.08	1632	0.038	0.23	2940	2680	UBY1K681MHL
	750	12.5×40	0.08	1800	0.031	0.22	4610	3260	UBY1K751MHL
	820	16×30.5	0.08	1968	0.034	0.20	3860	3050	UBY1K821MHL
	820	18×25	0.08	1968	0.035	0.19	3080	2810	UBY1K821MHL6
	1000	16×35.5	0.08	2400	0.027	0.15	4590	3420	UBY1K102MHL
	1100	18×30.5	0.08	2640	0.028	0.15	4080	3220	UBY1K112MHL
	1300	16×40	0.08	3120	0.025	0.14	5190	3670	UBY1K132MHL
	1300	18×35.5	0.08	3120	0.023	0.12	5220	3690	UBY1K132MHL6
	1600	18×40	0.08	3840	0.021	0.11	5660	3820	UBY1K162MHL
100 (2A)	160	12.5×20	0.08	480	0.074	0.56	1640	1420	UBY2A161MHL
	220	12.5×25	0.08	660	0.054	0.39	2520	2050	UBY2A221MHL
	270	16×20	0.08	810	0.053	0.34	2140	1910	UBY2A271MHL
	300	12.5×30.5	0.08	900	0.042	0.30	3110	2630	UBY2A301MHL
	360	12.5×35.5	0.08	1080	0.038	0.25	3760	2970	UBY2A361MHL
	360	18×20	0.08	1080	0.048	0.26	2350	2100	UBY2A361MHL6
	390	16×25	0.08	1170	0.038	0.23	2940	2680	UBY2A391MHL
	430	12.5×40	0.08	1290	0.031	0.22	4610	3260	UBY2A431MHL
	470	16×30.5	0.08	1410	0.034	0.20	3860	3050	UBY2A471MHL
	510	18×25	0.08	1530	0.035	0.19	3080	2810	UBY2A511MHL
	560	16×35.5	0.08	1680	0.027	0.15	4590	3420	UBY2A561MHL
	680	18×30.5	0.08	2040	0.028	0.15	4080	3220	UBY2A681MHL
	750	16×40	0.08	2250	0.025	0.14	5190	3670	UBY2A751MHL
	820	18×35.5	0.08	2460	0.023	0.12	5220	3690	UBY2A821MHL
	950	18×40	0.08	2850	0.021	0.11	5660	3820	UBY2A951MHL

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