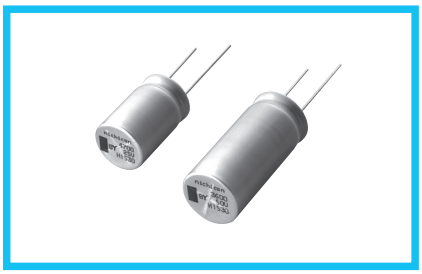
nichicon

UBY

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

Smaller | Low Impedance | Anti-Solvent Feature

Expanded



- 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).

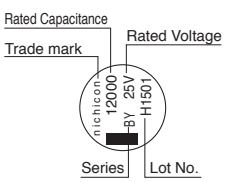
UBT
UBW
→ Higher Capacitance, Higher ripple current → **UBY** → Vibration Resistance → UXY

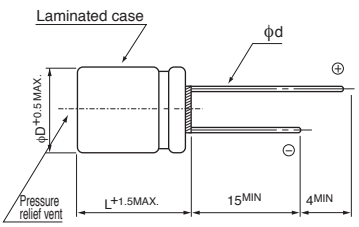
■Specifications

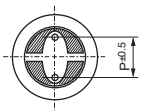
Item	Performance Characteristics
Category Temperature Range	−40 to +135°C
Rated Voltage Range	25 to 100V
Rated Capacitance Range	160 to 12000μF
Capacitance Tolerance	±20% at 120Hz, 20°C
Leakage Current	After 1 minute's application of rated voltage at 20°C, leakage current is not more than 0.03CV (μA)
Tangent of loss angle (tan δ)	Rated voltage (V): 25 / 35 / 50 / 63 / 80 / 100 tan δ (MAX.): 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): 25 / 35 / 50 / 63 / 80 / 100 Impedance ratio Z−25°C / Z+20°C: 2 / 2 / 2 / 2 / 2 / 2 ZT / Z20 (MAX.) Z−40°C / Z+20°C: 4 / 4 / 4 / 4 / 4 / 4
Endurance	Rated voltage (V): 25 to 50V / 63 to 100V —: 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 for 3000 hours at 125°C or 135°C, the peak voltage shall not exceed the rated voltage. / 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 for 3000 hours at 125°C or 2000 hours at 135°C, the peak voltage shall not exceed the rated voltage. Capacitance change: Within ±30% of the initial capacitance value tan δ: 300% or less than tha initial specified value Leakage current: Less than or equal to the initial specified value
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.

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
- 10: Capacitance tolerance (±20%)
- 9–8–7–6: Rated capacitance (12000μF)
- 5–4: Rated voltage (25V)
- 3–2–1: Series name
- Type

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.

UBY

■Dimensions

Cap.(μF)	Code	25(1E) Case size φD × L (mm)	25(1E) ESR (Ω) MAX. 20℃/100kHz	25(1E) ESR (Ω) MAX. −40℃/100kHz	25(1E) Rated ripple (mArms) 125℃/100kHz	25(1E) Rated ripple (mArms) 135℃/100kHz	35(1V) Case size φD × L (mm)	35(1V) ESR (Ω) MAX. 20℃/100kHz	35(1V) ESR (Ω) MAX. −40℃/100kHz	35(1V) Rated ripple (mArms) 125℃/100kHz	35(1V) Rated ripple (mArms) 135℃/100kHz
1300	132						12.5 × 20	0.042	0.48	2760	1690
1800	182						12.5 × 25	0.033	0.30	3480	2010
2000	202	12.5 × 20	0.042	0.48	2760	1690					
2200	222						12.5 × 31.5	0.028	0.24	4490	2900
							▲16 × 20	0.031	0.27	3040	1860
2700	272						12.5 × 35.5	0.025	0.21	5140	3190
							▲18 × 20	0.030	0.22	3250	1870
3000	302	12.5 × 25	0.033	0.30	3480	2010	16 × 25	0.026	0.22	4260	2870
3300	332	16 × 20	0.031	0.27	3040	1860	12.5 × 40	0.024	0.19	5810	3470
3600	362	12.5 × 31.5	0.028	0.24	4490	2900					
3900	392						16 × 31.5	0.023	0.18	5480	3400
							▲18 × 25	0.025	0.19	4500	2900
4300	432	18 × 20	0.030	0.22	3250	1870					
4700	472	16 × 25	0.026	0.22	4260	2870	16 × 35.5	0.020	0.14	6070	3630
5100	512	12.5 × 40	0.024	0.19	5810	3470	18 × 31.5	0.022	0.16	5600	3470
5600	562						16 × 40	0.019	0.12	6810	3930
6200	622	16 × 31.5	0.023	0.18	5480	3400	18 × 35.5	0.019	0.12	6280	3750
		▲18 × 25	0.025	0.19	4500	2900					
7500	752	16 × 35.5	0.020	0.14	6070	3630	18 × 40	0.018	0.10	7070	4080
8200	822	18 × 31.5	0.022	0.16	5600	3470					
9100	912	16 × 40	0.019	0.12	6810	3930					
10000	103	18 × 35.5	0.019	0.12	6280	3750					
12000	123	18 × 40	0.018	0.10	7070	4080					

Cap.(μF)	Code	50 (1H) Case size φD × L (mm)	50 (1H) ESR (Ω) MAX. 20℃/100kHz	50 (1H) ESR (Ω) MAX. −40℃/100kHz	50 (1H) Rated ripple (mArms) 125℃/100kHz	50 (1H) Rated ripple (mArms) 135℃/100kHz	63 (1J) Case size φD × L (mm)	63 (1J) ESR (Ω) MAX. 20℃/100kHz	63 (1J) ESR (Ω) MAX. −40℃/100kHz	63 (1J) Rated ripple (mArms) 125℃/100kHz	63 (1J) Rated ripple (mArms) 135℃/100kHz
390	391						12.5 × 20	0.074	0.56	1640	1420
560	561						12.5 × 25	0.054	0.39	2520	2050
620	621	12.5 × 20	0.056	0.52	2400	1470					
750	751						12.5 × 31.5	0.042	0.30	3110	2630
							▲16 × 20	0.053	0.34	2140	1910
820	821	12.5 × 25	0.044	0.35	3350	2260					
950	951						12.5 × 35.5	0.038	0.25	3760	2970
							▲18 × 20	0.048	0.26	2350	2100
1000	102	16 × 20	0.039	0.30	2960	1870	16 × 25	0.038	0.23	2940	2680
1100	112	12.5 × 31.5	0.037	0.26	4220	2520	12.5 × 40	0.031	0.22	4610	3260
1300	132	12.5 × 35.5	0.033	0.23	4810	2780	16 × 31.5	0.034	0.20	3860	3050
		▲16 × 25	0.033	0.22	4040	2500	▲18 × 25	0.035	0.19	3080	2810
		※18 × 20	0.038	0.20	3130	2110					
1600	162	12.5 × 40	0.032	0.20	5240	3020					
1700	172						16 × 35.5	0.027	0.15	4590	3420
1800	182	16 × 31.5	0.029	0.19	5130	2960	18 × 31.5	0.028	0.15	4080	3220
		▲18 × 25	0.032	0.19	4230	2530					
2000	202						16 × 40	0.025	0.14	5190	3670
2200	222	16 × 35.5	0.025	0.14	5480	3160	18 × 35.5	0.023	0.12	5220	3690
2400	242	18 × 31.5	0.025	0.16	5240	3020					
2500	252						18 × 40	0.021	0.11	5660	3820
2700	272	16 × 40	0.022	0.13	5930	3420					
3000	302	18 × 35.5	0.022	0.12	5870	3390					
3600	362	18 × 40	0.020	0.10	6420	3700					

▲: In this case, 6 will be put at 12th digit of type numbering system.
※: In this case, 3 will be put at 12th digit of type numbering system.

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■Dimensions

Cap.(μF) \ V (Code) / Item / Code		80 (1K)					100 (2A)				
		Case size φD × L (mm)	ESR (Ω) MAX.		Rated ripple (mArms)		Case size φD × L (mm)	ESR (Ω) MAX.		Rated ripple (mArms)	
			20℃/100kHz	−40℃/100kHz	125℃/100kHz	135℃/100kHz		20℃/100kHz	−40℃/100kHz	125℃/100kHz	135℃/100kHz
160	161						12.5 × 20	0.074	0.56	1640	1420
220	221						12.5 × 25	0.054	0.39	2520	2050
270	271	12.5 × 20	0.074	0.56	1640	1420	16 × 20	0.053	0.34	2140	1910
300	301						12.5 × 31.5	0.042	0.30	3110	2630
360	361						12.5 × 35.5	0.038	0.25	3760	2970
							▲18 × 20	0.048	0.26	2350	2100
390	391	12.5 × 25	0.054	0.39	2520	2050	16 × 25	0.038	0.23	2940	2680
430	431						12.5 × 40	0.031	0.22	4610	3260
470	471	16 × 20	0.053	0.34	2140	1910	16 × 31.5	0.034	0.20	3860	3050
510	511	12.5 × 31.5	0.042	0.30	3110	2630	18 × 25	0.035	0.19	3080	2810
560	561						16 × 35.5	0.027	0.15	4590	3420
620	621	12.5 × 35.5	0.038	0.25	3760	2970					
		▲18 × 20	0.048	0.26	2350	2100					
680	681	16 × 25	0.038	0.23	2940	2680	18 × 31.5	0.028	0.15	4080	3220
750	751	12.5 × 40	0.031	0.22	4610	3260	16 × 40	0.025	0.14	5190	3670
820	821	16 × 31.5	0.034	0.20	3860	3050	18 × 35.5	0.023	0.12	5220	3690
		▲18 × 25	0.035	0.19	3080	2810					
950	951						18 × 40	0.021	0.11	5660	3820
1000	102	16 × 35.5	0.027	0.15	4590	3420					
1100	112	18 × 31.5	0.028	0.15	4080	3220					
1300	132	16 × 40	0.025	0.14	5190	3670					
		▲18 × 35.5	0.023	0.12	5220	3690					
1600	162	18 × 40	0.021	0.11	5660	3820					

▲: In this case, 6 will be put at 12th digit of type numbering system.

● 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