

NICHICON CORPORATION Launches the UCK Series of Chip-Type Aluminum Electrolytic Capacitors with Low Voltage and High Capacitance (Guaranteed for 5,000 Hours at 105°C)

NICHICON CORPORATION has launched the UCK series of chip-type aluminum electrolytic capacitors with low voltage and high capacitance (guaranteed life of 5,000 hours at 105°C). These products are ideal for use in automotive equipment and telecommunications equipment.

Overview and Development Background

The trend in many industries toward surface mounting of electronic components has generated demand for chip-type aluminum electrolytic capacitors with equivalent capacitance to replace radial lead-type aluminum electrolytic capacitors. There is also a need for high-capacitance capacitors for power backup and other applications, and there is a constant demand for more compact and higher-capacitance aluminum electrolytic capacitors. We have launched the UCK series of chip-type aluminum electrolytic capacitors to meet these market needs.

Features

The UCK series is based on our accumulated technology. It realizes miniaturization and high capacitance by utilizing a high-capacitance electrode foil. As a result, the UCK series achieves a maximum 20.9% increase in capacitance compared to the UCM series, the current chip-type product rated to 105°C. The series contributes to more compact device and terminal designs. Further, compared with the current UPW series of radial leaded capacitors with the same capacitance, the UCK series is 30% smaller in terms of height, leading to reductions in labor and a lower profile when surface mounting.

Capacitance Versus the Current UCM Series

Rated Voltage (V)	Dimensions φD×L(mm)	Capacitance (μF)		
		UCM Series (Current product)	UCK Series (Developed product)	Volume Ratio
25	12.5 × 13.5	1,500	1,700	+13.3%
	16 × 16.5	2,700	2,900	+ 7.4%
	18 × 21.5	5,100	5,900	+15.7%
35	12.5 × 13.5	910	1,100	+20.9%
	16 × 16.5	1,800	1,900	+ 5.6%
	18 × 21.5	3,600	3,800	+ 5.6%

*Capacitance: 120Hz at 20°C

Height Versus the Current UPW Series

Rated Voltage (V)	Capacitance / Dimensions $\phi D \times L$ (mm)				
	UPW Series(現行品) (Current product)		UCK Series (Developed product)		Height Ratio
25	1,500	12.5 × 25.5	1,700	12.5 × 13.5	- 47.0%
	2,700	16 × 25	2,900	16 × 16.5	- 34.0%
	4,700	18 × 35.5	5,900	18 × 21.5	- 39.4%
35	680	12.5 × 20	1,100	12.5 × 13.5	- 32.5%
	1,900	16 × 25	1,900	16 × 16.5	- 34.0%
	3,300	18 × 35.5	3,800	18 × 21.5	- 39.4%

*Capacitance: 120Hz at 20°C

Main Specifications

- Rated voltage range : 25 to 35V
- Rated capacitance range : 1,100 to 5,900 μ F
- Category temperature range : -55 to 105°C
- Product dimensions : $\phi 12.5 \times 13.5$ L to $\phi 18 \times 21.5$ L (6 Sizes)
- Life : 5000 hours guaranteed at 105°C when rated voltage is applied
- Terminal shape : Chip type
- Samples : From October 2023
- Mass production launch / Production capacity : From October 2023
[Planned production volume: one hundred thousand / month]
- Production plant : NICHICON (OHNO) CORPORATION
1-11-2 Shimoyoro, Ohno-shi, Fukui Pref., 912-0095 Japan
(ISO 9001, IATF 16949, and ISO 14001 certified)

Product Appearance



UCK Series of Chip-Type Aluminum Electrolytic Capacitors

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