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## **NICHICON Develops the UCN Series of Chip-Type Aluminum Electrolytic Capacitors**

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NICHICON CORPORATION has developed the UCN Series of chip-type aluminum electrolytic capacitors designed for automotive applications, where demand is increasing for higher capacitance and greater reliability.

We will exhibit the series at Electronica China 2025, held at the Shanghai New International Expo Center from April 15 to 17.

### **Overview and Development Background**

NICHICON CORPORATION previously launched the UCZ series (guaranteed for 2,000–3,000 hours at 125°C), followed by the UCH series (2,000 hours at 125°C), which offers smaller dimensions and higher capacitance. We have proposed these products for markets that demand high reliability, such as the automotive, industrial equipment, and communications markets.

The newly developed UCN series achieves even higher capacitance and reliability than the UCH series. With the addition of the UCN series to the lineup, we can now make broader product proposals tailored to a wider variety of use cases, contributing to further enhanced performance and optimization of end-user devices.

### **Features**

Aluminum electrolytic capacitors use a dielectric layer formed by an oxide film on the surface of a high-purity aluminum foil (the anode). When this dielectric layer experiences defects, the capacitor relies on an electrolyte that restores the oxide film by applying voltage.

The UCN series builds on this foundation, offering 1.5 times the capacitance of the conventional UCH Series in the 25V and 35V rated voltage classes—for example, increasing from 330 $\mu$ F in the UCH Series to 560 $\mu$ F in the UCN Series at 35V ( $\varnothing$ 10 $\times$ 10mm version).

The series also improves on lifespan, extending the rated life from 2,000 hours at 125°C to 3,000 hours. Further, in addition to the standard 0.01CV leakage current guarantee, NICHICON CORPORATION has introduced a stricter leakage current specification at 16V applied. This addition addresses the growing demand for low standby current (dark current) designs, especially in automotive 12V systems.

These advancements contribute to smaller product sizes, a reduction in the number of required capacitors, and greater support for low-standby-current circuit designs.

【Capacitance and Leakage Current Comparison】

Rated Voltage (V)	Dimensions (mm)	UCH Series (Existing Series)		UCN Series (New Series)		
		Capacitance (μF)	Leakage Current (μA) (2-minute value/20°C)	Capacitance (μF)	Leakage Current (μA) 20°C	
					Rated Voltage Applied (2-minute value/0.01CV)	16V Applied (5-minute value/0.001CV)
25	6.3×7.7	150	37.5	<b>180</b>	<b>45</b>	<b>4.5</b>
25	10×10	330	16.45	<b>820</b>	<b>205</b>	<b>20.5</b>
35	6.3×7.7	100	35	<b>150</b>	<b>52.5</b>	<b>5.25</b>
35	10×10	330	115.5	<b>560</b>	<b>196</b>	<b>19.6</b>

\*Capacitance: 120Hz at 20°C

## Main Specifications

- Series : UCN Series
- Rated voltage range : 25V、35V
- Rated capacitance range : 150μF to 820μF
- Category temperature range : -40°C to 125°C
- Product dimensions : ø6.3mm×7.7mmL to ø8mm×10mmL、ø10mm×10mmL
- Life : 3,000 hours guaranteed at 125°C
- Terminal shape : Chip type
- Samples : From April 2025
- Mass production launch : From July 2025
- Production plant : NICHICON (IWATE) CORPORATION  
8-17-1, Kubo, Iwate-cho Iwate-gun, Iwate Prefecture  
(ISO 9001, IATF 16949, and ISO 14001 certified)



## UCN Series of Chip-Type Aluminum Electrolytic Capacitors

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