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NICHICON Develops UYY Series, the Industry's First 125°C Chip-Type Aluminum Electrolytic Capacitors Rated to 500V

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NICHICON CORPORATION has developed the UYY series of chip-type aluminum electrolytic capacitors, which are suitable for high-voltage applications in the electric and hybrid vehicles (EV/HV) market.

Overview and Development Background

Electric and hybrid vehicles are on the rise amid demand for reduced energy use and CO₂ emissions. Correspondingly, demand for on-board chargers (OBCs) for batteries used in these vehicles continues to trend upward. Batteries require high voltage (300 to 450 V DC) OBCs while in operation, and there is demand for capacitors rated to high voltages for use in these components. These high-voltage batteries, which serve as the vehicle's power source, employ compressors in their cooling units that also require aluminum electrolytic capacitors rated to high voltages.

To respond to these market needs, the Company developed the UYY series, the industry's first 125°C chip-type aluminum electrolytic capacitors rated to 500V.

Features

In designing the UYY series, Nichicon used its expertise to produce a higher voltage chip type aluminum electrolytic capacitor than was previously available. The UYY series will save space making it an ideal choice for electric and hybrid vehicles.

Main Specifications

Rated voltage range	400 to 500 V DC
Rated capacitance range	9.1 to 39 μ F
Category temperature range	-40 to +125°C
Product dimensions	ϕ 12.5x21L, ϕ 16x21.5L, ϕ 18x21.5L (mm) (three sizes)
Life	3,000 hours at 125°C (under specified voltage)
Terminal shape	Chip type
Samples	From August 2020
Mass production	From September 2020 [Planned production volume: 50,000/month]
Production plant	NICHICON (OHNO) CORPORATION, 1-11-2 Shimoyoro, Ono, Fukui Prefecture (ISO 9001, IATF 16949, and ISO 14001 certified)



UY Series of 125°C Chip-Type Aluminum Electrolytic Capacitors Rated to 500V