

NICHICON Develops the UTF Series of Lead Type Aluminum Electrolytic Capacitors with High Ripple Current (Guaranteed for 5,000 hours at 105°C)

NICHICON CORPORATION has developed the UTF series of lead type aluminum electrolytic capacitors with high ripple current (guaranteed for 5,000 hours at 105°C). Characteristics which are increasingly required in automotive-related equipment applications.

NICHICON will exhibit this product at the Automotive Engineering Exposition 2024 to be held at PACIFICO Yokohama from May 22 to 24.

Overview and Development Background

In recent years, the demand for on-board chargers (OBCs) has increased due to the growing popularity of EVs and PHEVs. Higher output power is required as the battery banks continue to increase in capacity. The DC link of the OBCs uses aluminum electrolytic capacitors, and because powerful currents of 11 kW or more flow through OBCs connected to three-phase power supplies, the market demand for capacitors with high ripple current has been increasing. To meet these market needs, NICHICON has developed the UTF series of lead type aluminum electrolytic capacitors with higher ripple current than the UTH series (guaranteed for 5,000 hours at 105°C).

Features

The UTF series is based on the Company's accumulated technologies. It realizes higher ripple current by utilizing a high-capacity electrode foil and low-resistance electrolyte. As a result, the UTF series has as much as 51.1% higher ripple current than the UTH series when comparing products rated with the same voltage and size. This product will contribute to higher power density by reducing the number of capacitors used in OBCs.

[Comparison of Capacitance (UTH Series)]

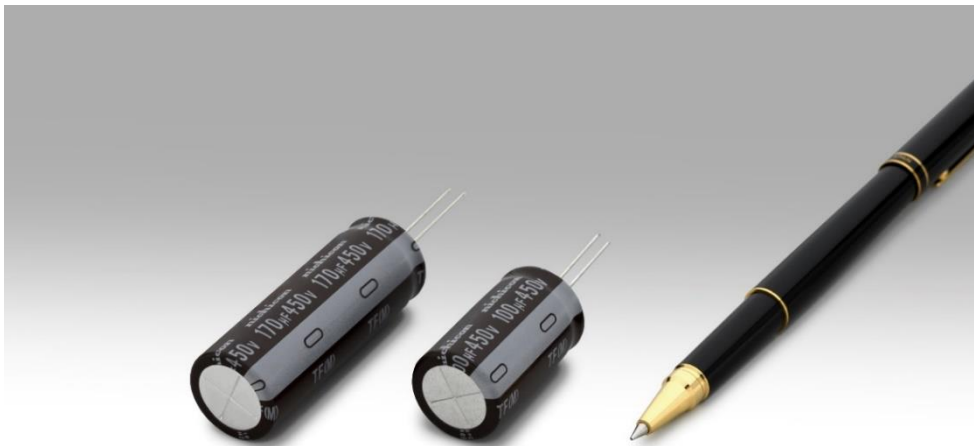
Rated Voltage (V)	Case size øD×L(mm)	Capacitance (μF)	Rated Ripple Current(mArms) (at 105°C/120Hz)		Rated Ripple Current Ratio
			UTH Series (Current product)	UTF Series (Developed product)	
450	18 × 31.5	100	815	1,160	+42.3%
	18 × 36	120	900	1,360	+51.1%
	18 × 40	130	980	1,410	+43.9%
	18 × 46	150	-	1,670	-
	18 × 50	170	-	1,840	-

※Capacitance : 120Hz at 20°C

Main Specifications

- Series : UTF Series
- Rated voltage range : 450V
- Rated capacitance range : 100 to 170 μ F
- Category temperature range : -40 to 105°C
- Product dimensions : \varnothing 18 \times 31.5 L to \varnothing 18 \times 50 L (5 Sizes)
- Life : 5000 hours guaranteed at 105°C (Rated ripple current superimposed)
- Terminal shape : Lead type
- Samples : From May 2024
- Mass production launch /
Production capacity : From September 2024 [Planned production volume: 50,000 / 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



UTF Series of Lead Type Aluminum Electrolytic Capacitors

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