
NICHICON Expands Ratings for GYC Series of Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

NICHICON CORPORATION has expanded the GYC series to include $\phi 10 \times 16.5L$ -sized capacitors. The GYC series of highly heat-resistant conductive polymer hybrid aluminum electrolytic capacitors with high ripple current and low ESR performance are increasingly required in the automotive and telecommunications.

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

NICHICON previously launched the GYC series (guaranteed for 4,000 hours at 135°C or 125°C) and other products that enable higher heat resistance and higher ripple current than the conductive polymer hybrid aluminum electrolytic capacitors of the GYA series (guaranteed for 4,000 hours at 125°C). Nichicon introduced these products to markets that demand high reliability, including the automotive, industrial equipment, and telecommunications.

NICHICON has now added a new $\phi 10 \times 16.5L$ size (rated to 25V, 35V, 50V, and 63V) to the GYC series. The expanded ratings will enable Nichicon to offer a wider range of capacitors to meet various applications and contribute to further performance enhancement and optimization of set devices.

Features

Conductive polymer hybrid aluminum electrolytic capacitors use both conductive polymers and electrolytic solutions for electrolytes. Combining the two types of electrolytes means the GYC series has characteristics of both aluminum electrolytic capacitors (oxide film repair) and conductive polymer aluminum solid electrolytic capacitors (low ESR performance and high heat resistance).

The new $\phi 10 \times 16.5L$ size that has been added to the existing size range from $\phi 6.3 \times 5.8L$ to $\phi 10 \times 12.5L$. Capacitances up to 1.5 times higher than the $\phi 10 \times 12.5L$ product in the GYC series and ripple currents up to 1.4 times other capacitors in the GYC series with the same guaranteed life.

The trend toward electric vehicles such as EVs and PHEVs is expected to accelerate further and the new capacitors of the GYC series will contribute to higher performance in circuits that require high capacitance and high ripple current. The new values will assist in the miniaturization of circuits by reducing the number of capacitors required.

[Comparison of Capacitance and Rated Ripple Current (within the series)]

Series	Rated Voltage (V)	ø10×12.5L (existing size)			ø10×16.5L (expanded size)			Rated Ripple Current Ratio	
		Capacitance (μF)	Rated ripple (mArms, 100kHz)		Capacitance (μF)	Rated ripple (mArms, 100kHz)		125°C	135°C
			125°C	135°C		125°C	135°C		
GYC	25	470	3,500	2,300	560	4,800	2,900	+37.1%	+26.1%
	35	330	3,500	2,300	470	4,800	2,900	+37.1%	+26.1%
	50	150	3,200	2,000	220	4,300	2,600	+34.4%	+30.0%
	63	100	3,000	1,900	150	4,200	2,500	+40.0%	+31.6%

※Capacitance : 120Hz at 20°C

Main Specifications

- Series : GYC Series
- Rated voltage range : 25 to 63V
- Rated capacitance range : 150 to 560μ F
- Category temperature range : -55 to 135°C
- Product dimensions : ø10×16.5 L (ø6.3×5.8L to ø10×12.5L Sizes are in mass production)
- Life : Guaranteed for 4,000 hours at 135°C or 125°C
(Rated ripple current superimposed)
- Terminal shape : Chip type
- Samples : Currently available
- Mass production launch / Production capacity : From April 2024 [Planned production volume: 500,000 / month]
- Production plant : NICHICON (IWATE) CORPORATION
8-17-1, Kubo, Iwate-machi Iwate-gun, Iwate Pref., 028-4305 Japan
(ISO 9001, IATF 16949, and ISO 14001 certified)

Product Appearance



GYC Series of Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

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