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NICHICON Launches the GYE Series of High-Capacitance Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

NICHICON CORPORATION

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NICHICON CORPORATION has launched the GYE series of high-capacitance conductive polymer hybrid aluminum electrolytic capacitors with high ripple current and low ESR performance, which are features increasingly demanded in automotive and telecommunications applications.

NICHICON will exhibit the series at TECHNO-FRONTIER 2021's 36th Power System Japan Expo.

Overview and Development Background

NICHICON has introduced conductive polymer hybrid aluminum electrolytic capacitors such as GYA series (guaranteed for 4,000 hours at 125°C) and GYD series (guaranteed for 1,000 hours at 150°C) to markets where high reliability is required, such as automotive, industrial machinery, and telecommunications markets.

NICHICON has now launched the GYE series, which offers higher capacity than the GYA series in the same size capacitor. The GYE series will contribute to advancements in circuit design by reducing the number of capacitors, resulting in lighter and smaller units.

Features

Conductive polymer hybrid aluminum electrolytic capacitors use both conductive polymers and electrolytic solutions for electrolytes. Combining the two types of electrolytes means the GYE series has characteristics of both aluminum electrolytic capacitors and conductive polymer aluminum solid electrolytic capacitors.

The GYE series achieves higher capacitance than the GYA series through the utilization of a high-capacitance anode foil and optimization of the electrolyte material.

Further, the GYE series retains the heat resistance and long life (guaranteed for

4,000 hours at 125°C) of the current GYA series in addition to moisture resistance (guaranteed 2,000 hours at 85°C and 85% RH). The rated ripple current is 1.25 times that of the GYA series.

Main Specifications

Rated voltage range:	25 to 35V
Rated capacitance range:	56 to 470 μ F
Category temperature range:	-55 to +125°C
Product dimensions:	ϕ 6.3 \times 5.8L to ϕ 10 \times 10L (mm)
Life:	4,000 hours guaranteed at 125°C
Terminal shape:	Chip type
Mass production:	From April 2021 [Planned production volume: 500 thousand/month]
Production plant:	NICHICON (IWATE) CORPORATION 8-17-1, Kubo, Iwate-cho Iwate-gun, Iwate Prefecture (ISO 9001, IATF 16949, and ISO 14001 certified)

Capacitance and Rated Ripple Current Comparison

Dimensions (mm)	Rated Voltage (V)	GYA Series (Existing series)		GYE Series (High Capacitance)	
		Capacitance (μ F)	Rated Ripple Current (mArms)	Capacitance (μ F)	Rated Ripple Current (mArms)
ϕ 6.3 \times 5.8L	25	56	900	68 82	1,100
	35	47	900	56	1,100
ϕ 6.3 \times 7.7L	25	100	1,400	150	1,700
	35	68	1,400	100	1,700
ϕ 8 \times 10L	25	220	1,600	270	2,000
	35	150	1,600	180	2,000
ϕ 10 \times 10L	25	330	2,000	470	2,400
	35	270	2,000	330	2,400

*Capacitance: 120Hz at 20°C

*Rated ripple current: 100kHz at 125°C



GYE Series of High-Capacitance
Conductive Polymer Hybrid Aluminum Electrolytic Capacitors