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NICHICON Develops 80V Rating for GYA Series of Conductive Polymer Hybrid Aluminum Electrolytic Capacitors

NICHICON CORPORATION

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NICHICON CORPORATION expanded the GYA series to include 80V-rated capacitors. The GYA series of conductive polymer hybrid aluminum electrolytic capacitors features superior performance at high temperatures, long life, high ripple current, and low equivalent series resistance (ESR), which have seen increasing demand from the automotive and industrial equipment fields.

The new series will be exhibited at CEATEC 2020 ONLINE from Tuesday, October 20, to Friday, October 23.

Overview and Development Background

NICHICON has launched the GYA series (operation guaranteed for 4,000 hours at 125°C), the GYB series (10,000 hours at 105°C), the GYC series (4,000 hours at 135°C), and the GYD series (1,000 hours at 150°C) of conductive polymer hybrid aluminum electrolytic capacitors for use in products primarily for the automotive and industrial equipment sectors where high reliability is required.

The newly added 80V product to the GYA series lineup (formerly 16V–63V), makes possible use of the series in high-voltage circuits where high reliability is required, allowing customers to further optimize their circuit designs.

Features

Conductive polymer hybrid aluminum electrolytic capacitors use both conductive polymers and electrolytic solutions for electrolytes. Combining the two types of electrolytes gives the GYA characteristics of both conductive polymers (low ESR, high heat resistance) and electrolytic solutions (oxide film restoration).

NICHICON developed the high-voltage 80V rating by optimizing the materials and electrolyte used in the GYA series.

Scheduled specifications

Series	GYA series		
Rating	80V 22 μ F	80V 33 μ F	80V 47 μ F
Case size (mm)	ϕ 8 \times 10L	ϕ 10 \times 10L	ϕ 10 \times 10L
ESR (at 20°C, 100kHz)	45m Ω	36m Ω	36m Ω
Rated ripple current (at 125°C, 100kHz)	1,100mA _{rms}	1,300mA _{rms}	1,300mA _{rms}
Life	4,000 hours at 125°C		

Main Specifications

Note: Figures in parentheses indicate expanded ratings.

Rated voltage range:	16 to 80V (80V)
Rated capacitance range:	10 to 470 μ F (22 μ F, 33 μ F, 47 μ F)
Category temperature range:	-55 to +125°C
Product dimensions:	ϕ 6.3 \times 5.8L to ϕ 10 \times 10L (mm) (four sizes) (ϕ 8 \times 10L, ϕ 10 \times 10L (mm) (two sizes))
Life:	4,000 hours guaranteed at 125°C
Terminal shape:	Chip type
Samples:	From January 2021 (newly added models)
Mass production:	From April 2021 (newly added models) [Planned production volume: 300 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)



GYA series of conductive polymer hybrid aluminum electrolytic capacitors