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NICHICON Expands Ratings for PCZ Series of 150°C Chip-Type Conductive Polymer Aluminum Solid Electrolytic Capacitors (Highest Temperature Range in the Industry)

NICHICON CORPORATION

Karasumadori Oike-agaru, Nakagyo-ku, Kyoto

Phone: 81-75-231-8461

Inquiries: Katsuhiko Mori, Operating Officer and
General Manager, Capacitor Business Headquarters

NICHICON CORPORATION has expanded the ratings for its PCZ series of chip-type conductive polymer aluminum solid electrolytic capacitors (operating temperature of 150°C; guaranteed lifespan of 2,000 hours) for onboard automotive and industrial equipment applications that call for highly reliable components. We expanded the lineup to include 16V, 20V, 50V and 63V-rated capacitors. We also increased the range of sizes, including the introduction of low profile $\phi 8 \times 7L$ and $\phi 10 \times 8L$ versions and a longer length $\phi 8 \times 12L$ version.

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

Overview and Development Background

The automotive and related fields have increased the usage of electronic components in self-driving vehicles and ADAS* systems. The integration and diversification of control boards has increased as a result. It has become common to have control boards such as powertrain ECUs** installed in the engine compartment, which has created demand for highly reliable capacitors that operate at high temperatures.

To meet these market needs, we expanded our lineup of PCZ series capacitors (150°C; 2,000 hours) by offering capacitors rated to 16V, 20V, 50V and 63V, and in more sizes including low profile versions.

Features

We optimized the new technologies employed in the development of the PCZ series to expand our 150°C lineup, adding 16V, 20V, 50V and 63V-rated capacitors as well as low profile and long length capacitors. The PCZ series can now be used in applications that were previously unattainable.

The lineup now has a voltage range of 16V to 63V DC, a capacitance range

of 12 μ F to 1,000 μ F, and product dimensions ranging from ϕ 8 \times 7L to ϕ 10 \times 12.7L. The products will allow our customers to choose the best option to meet their needs in high-temperature environments without losing the features of conductive polymer aluminum solid electrolytic capacitors such as low ESR and high allowable ripple current.

Main Specifications

Note: Figures in parentheses indicate expanded ratings.

Rated voltage range	16 to 63V DC (16V, 20V, 50V, 63V)
Rated capacitance range	12 to 1,000 μ F (12 to 1,000 μ F)
Category temperature range	-55 to +150°C
Product dimensions	ϕ 8 \times 7L to ϕ 10 \times 12.7L (mm) (six sizes) ϕ 8 \times 7L to ϕ 10 \times 12.7L (mm) (six sizes)
Life	2,000 hours guaranteed at 150°C
Terminal shape	Chip type
Samples	Currently available
Mass production	Expanded lineup from October 2020 [Planned production volume: 1.5 million/month]
Production plant	NICHICON (OHNO) CORPORATION, SITE II Factory 4-24-15 Technology Center, Tsuchifugo, Ono, Fukui Prefecture (ISO 9001, IATF 16949, and ISO 14001 certified)

Terminology Explanation

*ADAS: Advanced driver-assistance system

**ECU: Electronic control unit



PCZ series of 150°C chip-type conductive polymer
aluminum solid electrolytic capacitors
(highest temperature range in the industry)