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NICHICON Introduces Industry's Longest Life PCM Series of 125°C Chip-Type Conductive Polymer Aluminum Solid Electrolytic Capacitors

NICHICON CORPORATION

Karasumadori Oike-agaru, Nakagyo-ku, Kyoto

Phone: +81-75-231-8461

Inquiries: Masanobu Seki, Operating Officer and

General Manager, Capacitor Business Headquarters

NICHICON CORPORATION has developed the PCM series (chip-type conductive polymer aluminum solid electrolytic capacitors) for automotive applications and industrial equipment requiring a high degree of reliability. At a guaranteed 8,000 hours of operation, the PCM series features the longest life rating in the industry for capacitors rated at 125°C.

The PCM series retains the characteristics of the PCR series (4,000 hours guaranteed at 125°C), such as the same capacitance and ESR, while achieving a longer life (8,000 hours guaranteed at 125°C).

The new PCM series will be exhibited at CEATEC 2019, held at Makuhari Messe from Tuesday, October 15, to Friday, October 18.

Overview and Development Background

Integration and diversification of control boards is progressing in the automotive industry accompanying technological progress in automotive onboard electronics such as those supporting ADAS* and self-driving features. High temperature heat-resistant components are required as a result of changes such as having powertrain ECUs** installed in the engine compartment. In addition, to being heat resistant the capacitors must also be long-lasting. To meet these needs, Nichicon developed the PCM series to be heat-resistant while having long life.

Features

The PCM series further advances the high heat resistance technology of conductive polymer aluminum solid electrolytic capacitors. The PCM series

achieves longer life while maintaining characteristics such as capacitance and ESR by further improving the conductive polymer formation methods, optimizing material composition and material design, and increasing the sealing performance. As a result, this will contribute to further expanding temperature ranges and miniaturization leading to a reduction in production costs and allowing our customers to choose from a broader range of capacitors to meet their needs.

Main Specifications

Rated voltage range	16 to 80 VDC
Rated capacitance range	12 to 1,000 μ F
Category temperature range	-55°C to 125°C
Product dimensions	ϕ 6.3 × 6L to ϕ 10 × 12.7L (mm) 8 sizes
Life	8,000 hours guaranteed at 125°C (6,000 hours guaranteed at 125°C for ϕ 6.3)
Terminal shape	Chip type
Samples	From October 2019
Mass production	From January 2020 [Planned production volume: 1 million/month]
Production plant	NICHICON (OHNO) CORPORATION, SITE II Factory 4-24-15 Tsuchifugo, Ono, Fukui Prefecture (ISO 9001, IATF 16949, and ISO 14001 certified)

Terminology Explanation

*ADAS: Advanced driver-assistance systems

**ECU: Electronic control unit



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