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**NICHICON Develops PCH Series of World's Highest 135°C Compatible Chip-Type Conductive Polymer Aluminum Solid Electrolytic Capacitors**

NICHICON CORPORATION has developed the PCH Series of chip-type conductive polymer aluminum solid electrolytic capacitors for automotive applications and industrial equipment requiring a high degree of reliability. The PCH Series maintains various characteristics including capacitance and E.S.R. while achieving the highest category temperature of 135°C for a conductive polymer aluminum solid electrolytic capacitor.

These products will be displayed at CEATEC JAPAN 2018, held at Makuhari Messe from Tuesday, October 16, to Friday, October 19.

**Overview and Development Background**

Due to the high electrical conductivity and heat resistance characteristics of conductive polymer electrolytes the PCH capacitors will have superior E.S.R. characteristics at high frequencies, wide temperature ranges and high reliability and excellent resistance to ripple currents. In the automotive onboard electronics field, ECU\* miniaturization and space saving requires products compatible with high heat resistance and high allowable ripple currents are in demand. The PCH Series of high temperature chip-type conductive polymer aluminum solid electrolytic capacitors were developed to meet these requirements.

**Features**

The PCH series further advances the high heat resistance technology of conductive polymer aluminum solid electrolytic capacitors. The PCH series further optimizes the conductive polymer formation methods, material composition and material design while maintaining various characteristics such as capacitance and E.S.R. As a result, this will contribute to further expanding temperature ranges and miniaturization leading to a reduction in production costs.

## Comparison with Current Products

|                      | PCH Series<br>(new products) | PCR Series<br>(current products) |
|----------------------|------------------------------|----------------------------------|
| Rating               | 25V-220 $\mu$ F              | 25V-220 $\mu$ F                  |
| Case size (mm)       | $\phi$ 8 $\times$ 10L        | $\phi$ 8 $\times$ 10L            |
| ESR (at 20°C/100kHz) | 20m $\Omega$                 | 20m $\Omega$                     |
| Life (guaranteed)    | 135°C 4,000 hours            | 125°C 4,000 hours                |

## Main Specifications

- Rated voltage range: 25 to 63VDC
- Rated capacitance range: 22 to 470 $\mu$ F
- Category temperature range: -55 to 135°C
- Product dimensions:  $\phi$ 8 $\times$ 7L to  $\phi$ 10 $\times$ 12.7L (mm) (6 sizes)
- Life: 135°C 4000 hours guaranteed
- Terminal shape: Chip type
- Samples: From October 2018
- Mass production: From October 2018  
[Planned production volume: 1 million/month]
- Production plant: NICHICON (OHNO) CORPORATION,  
Site II Factory  
4-24-15 Tsuchifugo, Ono, Fukui Prefecture  
(ISO 9001, ISO/TS 16949 and ISO 14001 certified)

## \*Terminology Explanation

ECU: Electronic Control Unit



PCH Series 135°C Chip-Type Conductive Polymer  
Aluminum Solid Electrolytic Capacitors