
NICHICON Expands Ratings for PCR and PCH Series of Chip-Type Conductive Polymer Aluminum Solid Electrolytic Capacitors

NICHICON CORPORATION has expanded its PCR/PCH series of high capacitance chip-type conductive polymer aluminum solid electrolytic capacitors with high ripple current and low ESR performance to include $\phi 10 \times 16L$ case size.

Overview and Development Background

NICHICON has launched the PCM series (guaranteed for 8,000 hours at 125°C), which has a longer guaranteed life than the PCR series of chip-type conductive polymer aluminum solid electrolytic capacitors (guaranteed for 4,000 hours at 125°C), and the PCH series (guaranteed for 4,000 hours at 135°C), which has a higher guaranteed operating temperature. The Company has introduced the PCR/PCH series into markets where high reliability is required, such as the automotive, industrial equipment, and telecommunication fields.

NICHICON has now expanded the size of the PCR/PCH series to include the $\phi 10 \times 16L$ size. This expansion of the series enables Nichicon to offer a wider range of products for various applications that require high capacitance and ripple current. The added values will contribute to further performance enhancement and optimization of set devices.

Features

Conductive polymer aluminum solid electrolytic capacitors are products that use only conductive polymers as the electrolyte. They feature low ESR performance and high heat resistance as well as an extremely small decrease in capacitance over time due to the absence of an electrolytic solution.

The addition of a $\phi 10 \times 16L$ size for the rated voltage range of 25V to 80V (the conventional rated voltage range is from 16V to 80V) in the PCR/PCH series will contribute to reducing the number of capacitors and noise in circuit designs especially in the field of AI servers, which is currently attracting attention.

[Comparison of Capacitance and Rated Ripple Current (PCR series)]

Series	Rated Voltage (V)	ø10×12.7L (existing size)			ø10×16L (expanded size)			Capacitance Ratio	Rated Ripple Current Ratio
		Capacitance (μF)	Initial ESR (mΩ)	Rated ripple (mArms)	Capacitance (μF)	Initial ESR (mΩ)	Rated ripple (mArms)		
PCR	25	470	15	4,100	680	14	4,500	+44.7%	+9.8%
	35	330	16	3,900	470	14	4,500	+42.4%	+15.4%
	50	180	19	3,500	270	15	4,500	+50.0%	+28.6%
	63	100	24	3,000	180	15	3,500	+80.0%	+16.7%
	80	68	28	2,100	120	18	2,500	+76.5%	+19.0%

※Capacitance : 120Hz at 20°C

※Rated ripple : 100kHz at 135°C

※Initial ESR : 100kHz at 20°C

[Comparison of Capacitance and Rated Ripple Current (PCH series)]

Series	Rated Voltage (V)	ø10×12.7L (existing size)			ø10×16L (expanded size)			Capacitance Ratio	Rated Ripple Current Ratio
		Capacitance (μF)	Initial ESR (mΩ)	Rated ripple (mArms)	Capacitance (μF)	Initial ESR (mΩ)	Rated ripple (mArms)		
PCH	25	470	15	2,900	680	14	3,100	+44.7%	+6.9%
	35	330	16	2,800	470	14	3,100	+42.4%	+10.7%
	50	180	19	2,500	270	15	3,100	+50.0%	+24.0%
	63	100	24	2,100	180	15	2,500	+80.0%	+19.0%
	80	68	28	1,500	120	18	2,000	+76.5%	+33.3%

※Capacitance : 120Hz at 20°C

※Rated ripple : 100kHz at 135°C

※Initial ESR : 100kHz at 20°C

Main Specifications

- Series : PCR Series
- Rated voltage range : 16 to 80V
- Rated capacitance range : 22 to 1000 μ F
- Category temperature range : -55 to 125°C
- Product dimensions : \varnothing 10 \times 16 L (\varnothing 8 \times 7L to \varnothing 10 \times 12.7L Sizes are in mass production)
- Life : 4000 hours guaranteed at 125°C
- Terminal shape : Chip type
- Mass production launch /
Production capacity : From October 2024 [Planned production volume: 500,000 / month]

- Series : PCH Series
- Rated voltage range : 16 to 80V
- Rated capacitance range : 12 to 1000 μ F
- Category temperature range : -55 to 135°C
- Product dimensions : \varnothing 10 \times 16 L (\varnothing 6.3 \times 6L to \varnothing 10 \times 12.7L Sizes are in mass production)
- Life : 4000 hours guaranteed at 135°C
- Terminal shape : Chip type
- Mass production launch /
Production capacity : From October 2024 [Planned production volume: 500,000 / month]

- Production plant : NICHICON (OHNO) CORPORATION FUKUI FACTORY
4-24-15 Technology Center, Tsuchifugo, Ohno-shi, Fukui Pref.,
912-0805 Japan
(ISO 9001, IATF 16949, and ISO 14001 certified)

Product Appearance



PCR and PCH Series of Chip-Type Conductive Polymer Aluminum Solid Electrolytic Capacitors

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