
NICHICON Develops and Launches the GXC Series of Conductive Polymer Hybrid Aluminum Electrolytic Capacitors with High Ripple Current (Guaranteed for 4,000 hours at 135°C)

NICHICON CORPORATION has developed and launched the GXC series of highly heat-resistant conductive polymer hybrid aluminum electrolytic capacitors. The GXC series has excellent high ripple current and low ESR performance. Characteristics which are increasingly required in the automotive and telecommunications fields.

NICHICON will exhibit this product at the Automotive Engineering Exposition 2024 to be held at PACIFICO Yokohama from May 22 to 24.

Overview and Development Background

NICHICON previously launched the GYC series (guaranteed for 4,000 hours at 135°C or 125°C) and other products that enable higher heat resistance and higher ripple current than the conductive polymer hybrid aluminum electrolytic capacitors of the GYA series (guaranteed for 4,000 hours at 125°C). Nichicon introduced these products to markets that demand high reliability, including the automotive, industrial equipment, and telecommunications.

The GXC series achieves even higher ripple current than the GYC series, and is expected to contribute to reductions in the weight and size through the use of fewer capacitors. these reductions contribute to even higher performance.

Features

Conductive polymer hybrid aluminum electrolytic capacitors use both conductive polymers and electrolytic solutions for electrolytes. Combining the two types of electrolytes means the GXC series has characteristics of both aluminum electrolytic capacitors (oxide film repair) and conductive polymer aluminum solid electrolytic capacitors (low ESR performance and high heat resistance).

The GXC series achieves 1.3 to 2.1 times higher ripple current than the GYC series by using an optimized electrode foil and highly heat-resistant sealing rubber, while maintaining the guaranteed life of previously released series (guaranteed for 4,000 hours at 135°C or 125°C).

This contributes to higher performance in circuits requiring higher ripple current and miniaturization in circuits requiring fewer capacitors.

【Comparison of Capacitance (GYC Series)】

| Case size øD×L(mm) | Rated Voltage (V) | Capacitance (μF) | Rated ripple current (mArms, 100kHz) | | | | Rated Ripple Current Ratio | |
|-----------------------|-------------------------|---------------------|--------------------------------------|-------|-----------------------------|-------------|-------------------------------|-------|
| | | | GYC Series (Current product) | | GXC Series (New product) | | 125°C | 135°C |
| | | | 125°C | 135°C | 125°C | 135°C | | |
| 8 × 10 | 25 | 150 / 220 | 2900 | 1600 | 4000 | 2800 | x1.38 | x1.75 |
| | 35 | 100 / 150 | 2900 | 1600 | 4000 | 2800 | x1.38 | x1.75 |
| | 50 | 47 / 68 | 2200 | 1250 | 3600 | 2500 | x1.64 | x2 |
| | 63 | 33 / 47 | 1900 | 1100 | 3300 | 2300 | x1.74 | x2.09 |
| 10 × 10 | 25 | 270 / 330 | 3300 | 2000 | 4500 | 3300 | x1.36 | x1.65 |
| | 35 | 220 / 270 | 3300 | 2000 | 4500 | 3300 | x1.36 | x1.65 |
| | 50 | 100 / 120 | 2600 | 1600 | 4300 | 3000 | x1.65 | x1.88 |
| | 63 | 56 / 68 / 82 | 2300 | 1400 | 4000 | 2800 | x1.74 | x2 |
| 10 × 12.5 | 25 | 470 | 3500 | 2300 | 5200 | 3600 | x1.49 | x1.57 |
| | 35 | 330 | 3500 | 2300 | 5000 | 3500 | x1.43 | x1.52 |
| | 50 | 150 | 3200 | 2000 | 4600 | 3300 | x1.44 | x1.65 |
| | 63 | 100 | 3000 | 1900 | 4600 | 3300 | x1.53 | x1.74 |

※Capacitance : 120Hz at 20°C

Main Specifications

- Series : GXC Series
- Rated voltage range : 25 to 63V
- Rated capacitance range : 33 to 470μ F
- Category temperature range : -55 to 135°C
- Product dimensions : ø8×10L to ø10×12.5L(mm)
- Life : Guaranteed for 4,000 hours at 135°C or 125°C
(Rated ripple current superimposed)
- Terminal shape : Chip type
- Samples : Currently available
- Mass production launch /
Production capacity : From April 2024 [Planned production volume: 1,000,000 / month]
- Production plant : NICHICON (IWATE) CORPORATION
8-17-1, Kubo, Iwate-machi Iwate-gun, Iwate Pref., 028-4305 Japan
(ISO 9001, IATF 16949, and ISO 14001 certified)



**GXC Series of Conductive Polymer
Hybrid Aluminum Electrolytic Capacitors**

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