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## **NICHICON Develops the GYG Series of Conductive Polymer Hybrid Aluminum Electrolytic Capacitors**

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NICHICON CORPORATION has developed the GYG series of conductive polymer hybrid aluminum electrolytic capacitors with high capacitance, which is seeing increasing demand in the automotive and communications fields.

We will exhibit the series at Electronica China 2025, held at the Shanghai New International Expo Center from April 15 to 17.

### **Overview and Development Background**

NICHICON CORPORATION previously introduced the GYA series of conductive polymer hybrid aluminum electrolytic capacitors (guaranteed for 4,000 hours at 125°C), followed by the GYE series with higher capacitance, and the GYF series with even higher capacitance (both also guaranteed for 4,000 hours at 125°C), targeting markets that require high reliability such as the automotive, industrial equipment, and communications markets.

We have now developed the GYG series, which achieves a further increase in capacitance over the GYF series. We expect this increase in capacitance to enable a reduction in the number of capacitors used, contributing to lighter and more compact units and supporting even higher performance in circuit designs.

### **Features**

Conductive polymer hybrid aluminum electrolytic capacitors use both conductive polymers and electrolytic solutions as electrolytes and thus retain both low ESR and high heat resistance characteristic of conductive polymers and the oxide film repair capabilities of electrolytic solutions. In this way, these capacitors combine the advantages of aluminum electrolytic capacitors and conductive polymer aluminum solid electrolytic capacitors.

The GYG series uses a high-capacitance foil and thin separators to achieve a three-rank increase in capacitance and up to 1.8-times higher ripple current compared to our standard GYA series, all while maintaining the temperature (4,000 hours at 125°C) and moisture resistance (2,000 hours at 85°C and 85% R.H.) guarantees of that series.

The development of the GYG series will contribute to better performance in circuits that require high capacitance and high ripple current, and to miniaturization of circuit designs by allowing fewer capacitors to be used.

### 【Capacitance and Rated Ripple Current Comparison】

Dimensions (mm)	Rated Voltage (V)	GYA Series (Existing Series)		GYF Series (2-Rank Higher Capacitance; Existing Series)		GYG Series (3-Rank Higher Capacitance; New Series)	
		Capacitance ( $\mu$ F)	Rated Ripple Current (mArms)	Capacitance ( $\mu$ F)	Rated Ripple Current (mArms)	Capacitance ( $\mu$ F)	Rated Ripple Current (mArms)
6.3×5.8	25	56	900	100	1,300	<b>120</b>	<b>1,400</b>
	35	47	900	68	1,200	<b>82</b>	<b>1,400</b>
8×10	25	220	1,600	330	2,000	<b>390</b>	<b>2,900</b>
	35	150	1,600	220	2,000	<b>270</b>	<b>2,900</b>
10×10	25	330	2,000	560	2,800	<b>680</b>	<b>3,300</b>
	35	270	2,000	390	2,800	<b>470</b>	<b>3,300</b>

\*Capacitance: 120Hz at 20°C

## Main Specifications

- Series : GYG Series
- Rated voltage range : 25V to 35V
- Rated capacitance range : 82 $\mu$ F to 680 $\mu$ F
- Category temperature range : -55°C to 125°C
- Product dimensions :  $\varnothing$ 6.3mm×5.8mmL to  $\varnothing$ 10mm×10mmL
- Life : 4,000 hours guaranteed at 125°C  
(Rated ripple current superimposed)
- Terminal shape : Chip type
- Samples : From April 2025
- Mass production launch : From July 2025
- Production plant : NICHICON (IWATE) CORPORATION  
8-17-1, Kubo, Iwate-cho Iwate-gun, Iwate Prefecture  
(ISO 9001, IATF 16949, and ISO 14001 certified)



## **GYG Series of Conductive Polymer Hybrid Aluminum Electrolytic Capacitors**

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