



Press Release

Nippon Chemi-Con Corporation
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Development of Snap-in Type Aluminum Electrolytic Capacitors KHJ Series High-ripple product for home appliances and industrial inverters [guarantees 3,000 hours at 105°C]

Nippon Chemi-Con has developed snap-in type aluminum electrolytic capacitors KHJ Series for home appliances and industrial inverters which require long-term reliability and high ripple current capability.

The KHJ Series is the successor to the KMT Series which features high ripple current. By improving the anode foil and electrolyte, the KHJ Series has achieved high reliability and a maximum 23.8% higher allowable ripple current (compared to the KMT Series). As a result, the ripple current value per volume is one of the highest in the industry.

We also extended the minimum value of the voltage range to 400V from the conventional 420V to enhance the Series lineup.

The KHJ Series is available in a rated voltage range of 400 to 450V, case sizes $\phi 30$ x 35 L to $\phi 35$ x 59 L mm, and a capacitance of 240 to 820 μ F as the standard. By extending the minimum value of the category temperature range to -40°C from the conventional -25°C, the products can be used in cold regions as well.

When conventional products are used in parallel connection, it is possible to reduce the number of capacitors by replacing them with the KHJ Series. In cases where excess capacitance is implemented to ensure ripple current value, costs can be reduced. Space and weight saving will also become possible due to the reduction of surface area and volume.

In development, we used proprietary aluminum electrode foils with low dielectric loss, which is used in the RLA Series and KLA Series commercialized for 180 to 250V. We have also achieved high reliability and high allowable ripple current by working on low ESR through adopting special structures and new electrolyte.

[Samples and Mass Production]

Samples and mass production of the KHJ Series is scheduled to start in June 2019. They will be manufactured at Chemi-Con Fukushima Corp. (a wholly owned subsidiary of Nippon Chemi-Con) We will also begin production at Chemi-Con (Malaysia) Sdn. Bhd.

[Main Specifications]

- Category temperature range: -40°C to +105°C
- Endurance: 3,000 hours at 105°C

- Rated voltage range: 400 to 450 V
- Capacitance range: 240 to 820 μ F
- Case size: ϕ 30 x 35 L to ϕ 35 x 59 Lmm
- Rated ripple current: a maximum 23.8% increase compared to the KMT Series

[Product Features]

Performance comparison of 420V 6.5A products

	General-purpose products KMS Series ϕ 35x45L 420V560 μ F Ir=2.17Arms, 120Hz	General-purpose high ripple current products KMT Series ϕ 30x45L 420V470 μ F Ir=2.32Arms, 120Hz	New high ripple current products KHJ Series ϕ 35x46L 420V500 μ F Ir=3.27Arms, 120Hz
Required quantity	3	3	2
Mounting area of substrate [cm ²] *calculated as a square whose side lengths are D	36.75	27.00	24.50
Occupied volume [cm ³] *calculated as the volume of the capacitor	129.89	95.43	88.50
Total capacitance [μ F]	1680	1410	1000
Total ripple current [Arms, 105°C, 120Hz]	6.51	6.96	6.54

Performance comparison of 450V 11.0A products

	General-purpose products KMS Series ϕ 35x50L 450V560 μ F Ir=2.22Arms, 120Hz	General-purpose high ripple current products KMT Series ϕ 35x50L 450V560 μ F Ir=2.85Arms, 120Hz	New high ripple current products KHJ Series ϕ 35x54L 450V550 μ F Ir=3.68Arms, 120Hz
Required quantity	5	4	3
Mounting area of substrate [cm ²] *calculated as a square whose side lengths are D	61.25	49.00	36.75
Occupied volume [cm ³] *calculated as the volume of the capacitor	240.53	192.42	155.86
Total capacitance [μ F]	2800	2240	1650
Total ripple current [Arms, 105°C, 20Hz]	11.1	11.4	11.04

[Product Appearance]

