



Press Release

Nippon Chemi-Con Corporation

May 8, 2015

φ5×8.0 L mm Product Added to the "MHK Series" SMD Type Aluminum Electrolytic Capacitors Product Size Has Been Reduced by About 40% When Compared with Conventional Products

Nippon Chemi-Con has now added a smaller sized (φ5×8.0 L mm) surface mounted aluminum electrolytic capacitors to the "MHK Series." This product will help to make electronic equipment for use in automobile engine rooms smaller.

With the increased use of electronic controls for automobiles, the ECUs (Electronic Control Units) have been moving from the passenger compartment to the engine room.

Temperatures in engine rooms can range for a high range caused by the heat radiated from engines during operation and a low range when parked because of exposure to outside temperatures. Therefore, capacitors must be capable of performing stably at low temperatures down to -40°C and high temperatures around +125°C. In addition, ECU units are growing smaller, so they must not only perform reliably within a wide temperature range, but they must also be as small as possible.

Nippon Chemi-Con developed the MHK series to meet this demand for a highly reliable product that can cover the -40 to +125°C temperature range. In order to help make ECUs even more space saving and improve their reliability, we have developed a smaller product to add to the series.

The size of the product with a rated voltage of 35 volts and capacitance of 47 uF in the MHK series was φ6.3 × 8.0 L mm. The newly developed product has the same rated voltage and capacitance, but is only φ5 × 8.0 L mm, and its product volume has been reduced by about 40 percent.

<<Technological Points>>

The development points for this product were as follows:

- By adopting a high capacity foil and optimizing the aluminum foil of the opposite electrode area, we were able to assure capacitance equivalent to the previous product with a smaller form factor.
- We adopted a sealing material with excellent sealing performance and an electrolytic solution with a new composition, and designed the product with consideration for the ESR value at a lower temperature after endurance.

Taking environment into consideration, the product is compatible with lead-free soldering.

<<Sample Availability and Mass Production Schedule >>

Samples: August 2015

Mass production: February 2016

<<Production Location>>

Chemi-Con Miyagi Corporation

<<Main Specifications>>

- Category temperature range: -40°C to +125°C

- Endurance: 2,000 hours at 125°C

Product added at this time (Product size: $\phi 5 \times 8.0$ Lmm)

Series	Rated voltage [Vdc]	Capacitance [μ F]	Equivalent series resistance (ESR)		
			Initial (20°C, 100 to 400 kHz) [Ω max]	Initial (-40°C, 100 to 400 kHz) [Ω max]	After durability test (-40°C, 1 MHz) [Ω max]
MHK	35	47	0.3	3	10

<<Product Appearance>>

