Press Release

Nippon Chemi-Con Corporation
April 8, 2016

SMD Type Aluminum Electrolytic Capacitors MHS Series
For communications infrastructure fields such as
mobile phone base stations

Nippon Chemi-Con has developed SMD type aluminum electrolytic capacitors MHS Series.

The MHS Series has an endurance guaranteeing 5,000 hours at 125°C. When compared to conventional products of the same size, the Series has a maximum 2.4 times higher capacitance. It is also compatible with high-temperature reflow soldering (JEDEC Standard) and is suited for communications infrastructure fields such as mobile phone base stations.

In conventional base stations, the baseband unit (digital signal processing) and the RF unit (radio signal transmission and reception) were fixed to a standard rack in a separate case and cooled with a blower fan. However, in the large-capacitance high-speed communication (LTE) system, the device is downsized by containing all functions in a single case and cooling is performed only by natural convection within the heat sink. Therefore, the environment inside the device tends to become severe.

In addition, as power supplies achieve higher output and smaller size, further improvement in capacitance, high-temperature resistance and downsizing of capacitors will become necessary. Furthermore, simultaneous mounting with many surface mount components will require compatibility with high-temperature reflow soldering.

In the MHS Series, we have increased the surface area of aluminum electrode foils by using high-capacitance electrode foils and thinner separators. As a result, the capacitance is up to 2.4 times higher than that of the conventional MVH Series.

We have also realized a longer life guaranteeing 5,000 hours at 125°C and compatibility with high-temperature reflow. This was achieved by ensuring a steady amount of product porosity and adopting a high-performance electrolyte with low vapor pressure and low evaporation at high temperatures.

[Main Specifications]
- Category temperature range: -40°C to +125°C
- Endurance: guarantees 5,000 hours at 125°C
- Rated voltage range: 16 to 100V
- Capacitance range: 110 to 2000µF
- Case size: φ12.5 x 13.5 L, φ12.5 x 16 L mm
  (2 sizes)

- Representative value of primary ESR
  (Comparison of MVH and MHS, rates in the MHS columns are decline rates of ESR compared to MVH)

Unit: Ωmax./100kHz, 20°C

	35V		63V		100V	
	MVH	MHS	MVH	MHS	MVH	MHS
φ12.5x13.5L	0.14	0.087 -38%	0.25	0.145 -42%	0.33	0.145 -56%
φ12.5x16L	0.11	0.070 -36%	0.20	0.115 -43%	0.26	0.115 -56%

- Representative value of rated capacitance
  (Comparison of MVH and MHS, rates in the MHS columns are rise rates of capacitance compared to MVH)

	35V		63V		100V	
	MVH	MHS	MVH	MHS	MVH	MHS
φ12.5x13.5L	330	680 206%	100	240 240%	47	110 234%
φ12.5x16L	470	820 174%	220	330 150%	68	150 221%

- Recommended reflow conditions
  Peak temperature 245°C, 20s at 240°C and higher, 70s at 217°C and higher, 3 times or less

[Samples and Mass Production]
Samples: May 2016
Mass production: July 2016

[Production Site]
Chemi-Con Iwate Corp.

[Product Apperance]