NEC SCHOTT presents Lid Systems for Li-Ion Batteries with Innovative Reliable Sealing Technology

Enhanced lifetime and long-term hermeticity of Li-ion batteries thanks to Glass-to-Aluminum sealing / Also available for capacitor lid systems

Minakuchi (Japan) & Landshut (Germany), February 25, 2014 – NEC SCHOTT, the successful joint venture of a Japanese and German technology company, offers complete lid systems for high power lithium ion batteries with glass-to-aluminum sealed (GTAS®) terminals. Li-ion batteries for rechargeable applications such as electrical vehicles, a rapidly growing market in Japan, must be hermetically sealed over long periods of time to prevent water intrusion. The newly developed GTAS® technology enables a gas- and humidity-tight cell design that can contribute to enhanced lifetime and safety of batteries. NEC SCHOTT is showcasing its lid systems for battery and capacitors applications at Battery Japan in Tokyo (Big Sight Japan, February 26-28, 2014).

Japan is currently one of the leading markets for electric vehicles world-wide. According to the Japanese Ministry of Economy, Trade and Industry (METI), the market share of electromobility should grow to 20 to 30 percent by 2030. The country not only boasts many electric vehicle producers and the necessary infrastructure. Japan is also the international technology leader for lithium ion batteries, a core technology for electric vehicles (Trend Report Electro Mobility in Japan, German Chamber of Commerce in Japan, December 2013).

For such high-power lithium ion batteries to function for a long time, they must be properly sealed so that they will not leak. As lithium is highly reactive with water, the batteries must be absolutely humidity tight.

Today's packaging and lid systems for lithium-ion batteries however have technological weaknesses that limit the reliability and lifetime of batteries. Some designs, for example, use organic polymer materials to seal the electrical feedthroughs of the battery, which poses the threat of humidity penetration and leakage.

To achieve long-term hermeticity, the materials for insulating the battery terminals must fulfill two key criteria: they must be long-term stable at high temperatures and all materials must show reliable resistance against chemical corrosion. Thanks to its specialty glass and sealing know-how, NEC SCHOTT has now developed complete battery lid systems with glass-to-aluminum sealed terminals. The inorganic glass sealing offers higher thermal stability,
excellent lithium electrolyte resistance and high mechanical stability. All of these properties help to prevent humidity penetration into the cell housing, leading to durable hermeticity and enhanced battery lifetime. The new GTAS® lid system is available both for cylindrical as well as prismatic battery cells.

NEC SCHOTT’s GTAS® lid systems are also available for capacitors, ensuring an enhanced lifetime and a long-term hermeticity, which itself can enable an overall size reduction of the capacitor. The lid systems for both batteries and capacitors can be easily integrated into existing production processes through customized designs.

**Reliable specialty glass know-how and sealing experience**

NEC SCHOTT, founded in 2000, is a world leading developer and manufacturer of special glass materials, hermetically-sealed housings and feedthroughs and other components that are proven and trusted in a large variety of safety-critical, harsh environment applications.

SCHOTT has more than 70 years of experience with hermetic sealing technology and many years of experience with primary battery packaging. The company has been offering glass-to-metal sealing for primary battery covers for more than 20 years. Glass-to-metal sealed feedthroughs reliably prevent leakage of electrolyte over the service lifetime of the battery and enable the efficient conduction of power. They also offer high corrosion resistance and chemical resistance. Based on this long term experience, SCHOTT developed its new and reliable GTAS® technology for high-power Li-Ion batteries.

*GTAS® is a registered trademark of SCHOTT AG.*

Additional information: [http://www.nec-schott.co.jp/japanese/batteries/index.html](http://www.nec-schott.co.jp/japanese/batteries/index.html)

Photo download link: [http://www.schott-pictures.net/presskit/231425.necschott](http://www.schott-pictures.net/presskit/231425.necschott)

Lid systems for cylindrical and prismatic battery cells with NEC SCHOTT GTAS® glas-to-aluminium sealing technology. Source: SCHOTT.
Lid systems for cylindrical battery cells with NEC SCHOTT GTAS® glas-to-aluminium sealing technology. Source: SCHOTT.

Lid systems for prismatic battery cells with NEC SCHOTT GTAS® glas-to-aluminium sealing technology. Source: SCHOTT.

NEC SCHOTT Components Corporation is a joint venture company, established in September 2000, between SCHOTT group of Germany and NEC of Japan. In the electronic components field such as glass-to-metal seals, thermal cutoffs and special glass, we will optimize the global know-how of the NEC and SCHOTT groups and continue to provide products and services that satisfy our customers’ requirements into the 21st century and beyond.

SCHOTT is an international technology group with more than 130 years of experience in the areas of specialty glasses and materials and advanced technologies. SCHOTT ranks number one in the world with many of its products. Its core markets are the household appliance, pharmaceutical, electronics, optics and transportation industries. The company is strongly committed to contributing to its customers’ success and making SCHOTT an important part of people’s lives with high-quality products and intelligent solutions. SCHOTT is committed to managing its business in a sustainable manner and supporting its employees, society and the environment. The SCHOTT Group maintains close proximity to its customers with manufacturing and sales units in 35 countries. Its workforce of 15,400 employees generated worldwide sales of 1.84 billion euros for the 2012/2013 fiscal year. SCHOTT AG, with its headquarters in Mainz (Germany) is owned by the Carl Zeiss Foundation.

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