

## **NEWS RELEASE**

PR1811E

# ALPS Green Devices Develops Liqualloy™ "GLMD Series" Power Inductor

Industry-Leading Low-Loss Material Adopted for High-Current Inductor

Duesseldorf, Germany, October 05, 2011 – ALPS Green Devices Co., Ltd. has developed the "GLMD Series" Liqualloy™ Power Inductor for high-current applications such as CPU power supplies in notebook PCs, servers, and other electronic equipment. Shipment of samples is to commence from December of this year. The new product will be exhibited at CEATEC JAPAN 2011 which is being held at Makuhari Messe in Chiba from October 4, 2011.

The power consumption of electronic equipment such as notebook PCs and servers has been growing rapidly as they adopt a wider range of functions and achieve higher performance. Meanwhile, there are also strong demands to improve the energy efficiency of these devices and low loss power inductors are needed to achieve both lower power consumption and improved performance.

Power inductors are used in DC/DC converters which convert the power supplied to the various circuits in a notebook PC to the required voltage. In particular, because the CPU accounts for the bulk of power consumption in notebook PCs but operates at a low load level for more than 90% of the time, there is a need to reduce power losses under low-load conditions. With inductor loss being the main component of losses in a DC/DC converter, this means reducing the losses in the power inductor is required.

ALPS Green Devices has earned a high reputation in the marketplace for the "GLMC Series" power inductors it produces



## **ALPS**®

for use in the local power supplies for memory, LCD displays, and other subsystems and which achieve industry-leading\* low losses. ALPS Green Devices has now developed the "GLMD Series" Liqualloy  $^{\text{TM}}$  Power Inductor for high-current applications such as CPU power supplies. It intends to expand the series in future by adding additional variants suitable for other equipment that requires low losses.

Liqualloy™, the core material used in the inductor, is a metallic glass with magnetic properties created through joint research with Tohoku University. It is proprietary to Alps Green Devices and features industry-leading\* low losses. Metallic glass is a type of amorphous metal with a disordered atomic structure that is suited to industrial applications because it has a supercooled liquid region like oxide glass. The adoption of this magnetic material has resulted in lower losses than previous inductors, particularly when operating under light loads.

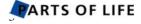
Similarly, the DC resistance has been reduced by adopting assembly technology and proprietary winding technology that Alps Group has built up through its experience with magnetic devices and RF products. This also provides low losses and low heat generation under heavy loads.

Further expansion in the market for low-loss power inductors is anticipated in the future with demand from applications such as non-portable game consoles and POL power supplies.

#### **Features**

Development of high-current power inductor designed for low losses

- 1. Industry-leading\* low losses achieved through use of proprietary Liqualloy™ magnetic material
- 2. Metal composite structure enables small size and high current capacity
- 3. Low DC resistance provides excellent low-heat-generating characteristics



<sup>\*</sup> Based on research by ALPS Green Devices. As of September 15, 2011.



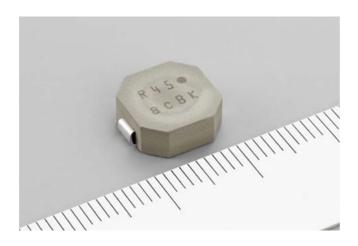
## **Principal Applications**

CPU and GPU power supplies for notebook PCs High-current DC/DC converters for servers, non-portable game consoles, and other equipment POL (point of load) power supplies

## **Specifications**

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Product name	GLMD series
Dimensions (W × D × H)	10.0mm x 11.5mm x 4.0mm
Inductance	$0.36 \sim 0.45 \pm 20  \text{\%} \mu \text{H}    (\text{at 100kHz})$
DC resistance	$0.76\sim$ $1.10$ $\pm 7\%$ $m\Omega$

For more information on the new product please visit http://www.alps.com/products/e/npv\_product/110930\_GLMD/GLMD\_E.PDF



### ALPS Electric Co., Ltd.

ALPS Electric (Tokyo: 6770) is a leading global manufacturer of high-quality electronic components for mobile devices, home electronics, vehicles and industrial equipment. With the philosophy of "Perfecting the Art of Electronics" ALPS Electric supplies over 40,000 different components to about 2,000 companies all over the world. For more information, visit www.alps.com.





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