

**NEWS RELEASE**

PR0709E

**ALPS Offers Heat Conducting Magnetic Sheet,  
Liquialloy™ HMFTW Series***Achieves Both Noise Suppression and Heat Radiation Functions*

Duesseldorf, Germany, March 18, 2009 – ALPS ELECTRIC has developed the Liquialloy™ HMFTW Series, a heat conducting magnetic sheet, as a cooling application for points within electronic devices subject to high heat. Offering both, heat radiation and noise suppression functions, mass production is to commence from March 2009.

More and more, the high performance and advanced functionality of flat-screen TVs, car navigation systems and a variety of other electronics devices are driving an increased volume of heat generated internally within equipment, making it essential to engineer heat-reducing measures. Generally, the method used to alleviate heat is to wrap bundled circuit elements that generate heat in a heat radiation sheet, and in addition to that, design into the device heat dissipation fins. Another issue is the need to take countermeasures against the noise (electromagnetic waves) generated by the bundled circuit elements of CPUs and GPUs. Because laws and regulations with regard to electromagnetic noise are becoming increasingly severe throughout the world, anti-noise measures are expected to become an important element when undertaking product development.

Liquialloy™ HMFTW Series is a heat radiation magnetic sheet that simultaneously performs both heat and noise reduction. By positioning this product between bundled circuit elements and the fins used or metal casings to dissipate heat, not only is it possible to efficiently alleviate heat, but a noise suppression function is realized as well. Thermal transfer takes place over a wide temperature range – from -40°C to +150°C, and the

possible frequency range for noise suppression extends from 10MHz to 5GHz.

With a thin sheet, the transfer of heat is enhanced, although the ability to suppress noise is diminished. In contrast, while a thick sheet raises the degree of noise suppression, heat conductivity declines. This product realizes a balance between these two contrasting characteristics to a high degree. ALPS applies magnetic materials engineering cultivated over many years of product development for magnetic applications, and by using proprietary processes, optimizes the integration of magnetic materials and metal heat transfer materials to realize these qualities.

In addition, the superior elasticity of the sheet enables a snug fit, with no excess space, around the many slight variations of bundled circuit elements. Furthermore, attaching to a surface is a simple matter due to its mildly adhesive surface.

Moreover, availability in a lineup of 1mm, 2mm and 3mm thicknesses – along with the shaping process – enables a diverse range of dimensions.

## **Features**

Development of heat conducting magnetic sheet with dual noise suppression and heat radiation functions

1. Both noise suppression and heat radiation functions in a single sheet
2. Excellent elasticity and outstanding mounting capability on surfaces with slight curvature variations
3. Mildly adhesive surface for easy mounting
4. Customization is possible for thickness, shaping

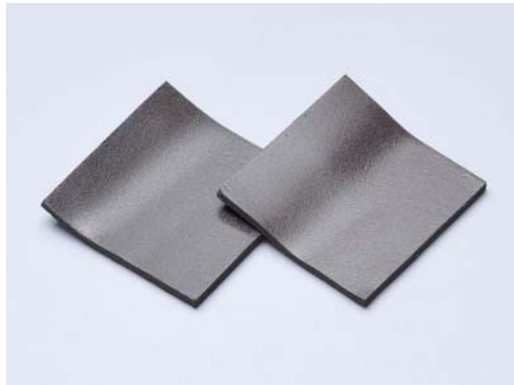
## **Principal Applications**

Cooling applications for high-heat points within LCD TVs, notebook PCs, car navigation systems and other devices

## Specifications

|                                 |                             |
|---------------------------------|-----------------------------|
| Product name                    | HMFTW Series                |
| Maximum dimensions              | 100mm x 100mm               |
| Standard Thickness              | 1mm, 2mm, 3mm               |
| Frequency range                 | 10MHz – 5Ghz                |
| Operating temperature range     | -40°C – 150°C               |
| Hardness                        | E40                         |
| Thermal transfer rate           | 1.2W / mk (hot-wire method) |
| Initial permeability ( $\mu'$ ) | 10                          |
| Low-molecular siloxane          | <20ppm                      |
| Flame resistance                | 94V-0                       |

For more information on the new the product please visit  
[http://www3.alps.com/e/npv\\_product/090311\\_HMFTW/HMFTW\\_E.PDF](http://www3.alps.com/e/npv_product/090311_HMFTW/HMFTW_E.PDF)



### ALPS Electric Co., Ltd.

Since its establishment in 1948 ALPS has grown as a comprehensive manufacturer of electronic components. At present ALPS is creating innovative high-value-added products in its main business segments – Components, Magnetic Devices, Communications, Peripheral Products, and Automotive Electronics – which are contributing to the advance of a digital society. ALPS is a global company that carries out its operations with 23 production bases in 9 countries as well as 57 sales bases in 14 countries. Consolidated net sales in the year ended March 31, 2008 amounted to YEN 693 billion.

**ALPS ELECTRIC EUROPE GmbH**, a subsidiary of ALPS Electric Co., Ltd., was established in 1979. Since 1989, the European Head Office has been located in Düsseldorf, where a team of specialists works in Sales, Marketing, and Product Engineering. The activities of our branch offices in Munich, Paris and Milton Keynes, Stockholm, Gothenburg, our sales office in Milan and our European distribution work are co-ordinated from Düsseldorf.

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