

**NEWS RELEASE**

PR0408E

**Alps Develops and Starts Mass Production of LIQUALLOY™ HMSAW Series Magnetic Sheet for Noise Suppression & LIQUALLOY™ HMSAS Series Magnetic Sheet for RFID***Realizing the Industry's Top-Level Performance*

Duesseldorf, Germany, April 21, 2008 – ALPS ELECTRIC has developed LIQUALLOY™ HMSAW series magnetic sheet for noise suppression & HMSAS series magnetic sheet for RFID\*, starting mass production of these materials from April 2008. Both series deliver world's first level Performance.

There are so many kinds of digital devices in our daily lives. For instance, the mobile phone becomes ever smaller and thinner while growing more sophisticated with all-new functions ranging from a TV tuner for viewing terrestrial digital broadcasting to the possibility of handling electronic money transactions. Magnetic Sheet is one of the materials used in these ever-developing digital devices.

Circuit board parts are becoming increasingly dense due to set products' higher functionality coupled with their smaller size and thinner profiles. Accordingly, interference from radio waves or magnetic fields that is unexpected at the designing stage is likely to occur. So that set products can function correctly, certain measures for noise suppression should be applied during the limited development period.

The LIQUALLOY™ HMSAW series magnetic sheet for noise suppression delivers the industry's best noise control ( $\mu'' = 35$ ), and is approximately 20% more effective than Alps Electric's conventional products.

In addition, magnetic sheets are used to efficiently capture radio waves. In an RFID system, such as the electric money function, radio waves are influenced by other parts and devices and thus do not reach the antenna properly. In such cases, the efficiency of the communication system regarding the capturing of radio waves needs to be improved.

The LIQUALLOY™ HMSAS series magnetic sheet for RFID delivers the best highest magnetic permeability rate ( $\mu' = 100$  (13.56 MHz band)) in the industry, with efficiency 25% higher than Alps Electric's conventional products. Attaching this product to the antenna of the RFID system contributes to stable performance, improving communications.

Furthermore, both magnetic sheets can be reprocessed into shapes that meet requirements of individual set products. For example, these magnetic sheets can be punched out in the size of a mobile phone's battery cover or processed like stickers, depending on customer needs.

\*RFID (Radio Frequency IDentification): Products and technologies that transmit information through short-distance (between a few centimeters and a few meters depending on frequency band) wireless communication by means of electromagnetic fields or radio waves from a tag containing ID information.

## Features

Development and mass production of magnetic sheet for noise suppression and RFID that delivers industry' leading performance

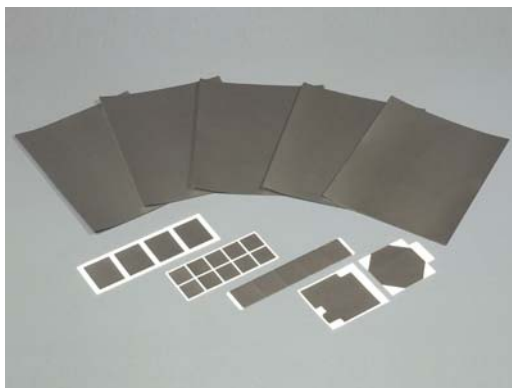
1. The LIQUALLOY™ HMSAW series magnetic sheet for noise suppression is approximately 20% more effective at reducing interference than conventional products
2. The LIQUALLOY™ HMSAS series magnetic sheet for RFID is approximately 25% more effective at magnetic permeability than conventional products
3. The sheet shape and size of both products can be customized depending on customer needs

## Principal Applications

- LIQUALLOY™ HMSAW series magnetic sheet for noise suppression in digital still cameras, digital video cameras, car navigation systems, laptop computers, compact mobile devices, LCD TVs, compact audio systems, DVD recorders
- LIQUALLOY™ HMSAS series magnetic sheet for RFID in mobile phones, readers in cash registers and vending machines, electronic tags

## Specifications

Product name	HMSAW series	HMSAS series
Frequency range	10MHz - 1GHz	13.56MHz band
Noise suppression effect ( $\mu''$ )	35	—
Magnetic permeability ( $\mu'$ )	—	100 (13.56MHz band)
Operating temperature range	-40 to 85 degrees centigrade	
Thickness (magnetic sheet)	0.05mm / 0.1mm / 0.2mm	
Surface resistance	$1.0 \times 10^6 \Omega$ min	
Flame resistance	UL94 V-0	
Maximum dimensions	175mm x 295mm	



For more information on the new the products please visit  
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## **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, 2007 amounted to YEN 708 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, our sales office in Milan and our European distribution work are co-ordinated from Düsseldorf. ALPS Nordic AB, a 100 percent subsidiary of ALPS ELECTRIC EUROPE GmbH, is based in Sweden and services the Scandinavian market.

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