

NEWS RELEASE

PR0106E

ALPS Develops TSM 1 Series as the Industry's Smallest FM Tuner Module*First Tuner in Industry under 6mm*

Duesseldorf, Germany, January 05, 2005 – Furthering the movement towards mobile devices that started with the mobile phone, Alps has developed the TSM 1 Series, an FM tuner module.

From the introduction of the mobile phone, the growing multi-functionality of portable devices is increasingly remarkable in our times. For example, in addition to communications functions, the mobile phone can also show television programs; while the MP3 Player, in addition to playing and recording music has a built-in radio function, all of which contribute to boosting the value of such multi-functional products.

Perceiving the need for these combined devices to be multi-functional, Alps has developed the industry's smallest FM tuner module.

Realizing the industry's smallest tuner module was made possible by Alps' long-held commanding position in high frequency wave design technology and high-density mounting technology, which it placed at the service of the increasing demands of both miniaturization and multi-functionality.

Up until now, adding an FM function required an IC to be mounted on the circuit board in order to engineer the tuner separately and to carry out a performance inspection. Now, however, in this new product the tuner function is modularized, and an added shield cover increases tolerance from inside and outside. Together with being the industry's smallest device, the TSM 1 Series increases freedom in set product design; and

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because the module function can be guaranteed, the performance inspection can be dispensed with, contributing to a shorter set design and production time.

What is more, because of Alps' commanding position in high frequency wave design technology, the IC function could be removed and circuit loss reduced to achieve high-sensitivity with low distortion, resulting in stable reception and clear sound reproduction. In addition, the product's low energy-consumption design principles enable prolonged use when supply is low. The TSM 1 Series is compatible with wave frequencies in Japan, Europe and the U.S.

*In Japan, the product operates up to VHF channels 1 – 3 (television audio broadcast).

Features

As volume production of the industry's smallest FM tuner module is set to commence, Alps can boast the following accomplishments:

1. Industry's smallest size (internal area: 0.049 ml, total surface: 34.81 mm²)
2. Modularized set construction contributes to shorter design and production times
3. High sensitivity and low distortion
4. Low energy costs
5. Operable on frequencies in Europe, the U.S. and Japan

Principal Applications

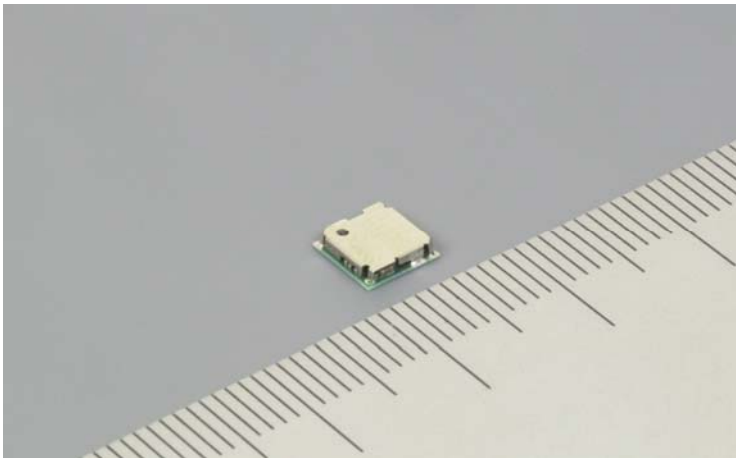
For use in mobile telephones, various mobile information terminals, digital audio players, memory player, PCs, home audio-visual devices, etc.

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Specifications

Product name	TSM 1 Series
Dimensions (W x D x H)	5.9 mm x 5.9 mm x 1.4 mm
Receiving frequency range FM, FM tuner attached	76.0 – 108 MHz
Supply voltage	2.85 V
Current drain	8 mA (max. 12 mA)
Control signal	I ² C
External clock frequency	32.768 kHz (X'tal EXT)

This news release and a press photo are available electronically
at <http://www.presseagentur.com/alps/en/>



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 8 countries as well as 61 sales bases in 14 countries. Consolidated net sales in the year ended March 31, 2004 amounted to YEN 643 billion.

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ALPS Electric Europa 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 Europa GmbH, is based in Sweden and services the Scandinavian market.

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