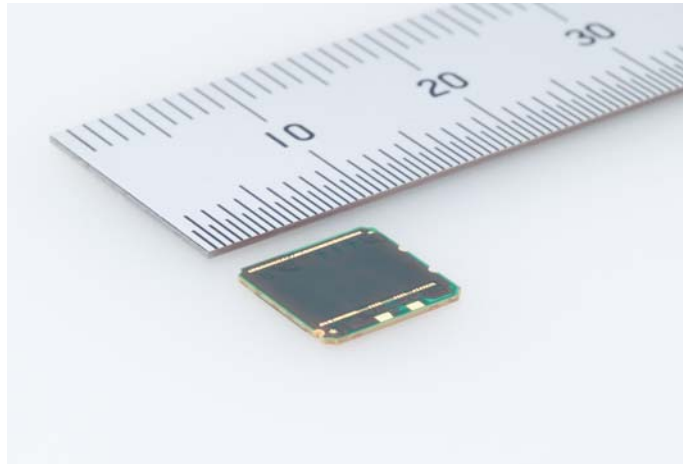


For immediate release

**TAIYO YUDEN Announces Copper Core Embedded-parts Multilayer Wiring Substrate “EOMIN<sup>®</sup>” with Embedding Capability for Multiple ICs**

*Contributing to smartphone camera module miniaturization, 20% thinner substrates*



TOKYO, April 12, 2012 — TAIYO YUDEN CO., LTD. today announced the commercialization of its embedded-parts multilayer wiring substrate “EOMIN<sup>®</sup>(Embedded Organic Module Involved Nanotechnology)” that incorporates a copper core, technology developed to accommodate multiple built-in ICs.

This product is an embedded-parts multilayer wiring substrate for camera modules which are mounted in compact mobile devices such as smartphones, and achieves power and control functions for the camera module within a space of 8.3x8.3x0.38mm (the substrate thickness) through the integration of multiple ICs. This has made it possible for a significant reduction in size of such camera modules.

In addition, with the low profiling of the copper core with its “EOMIN<sup>®</sup>” features, the TAIYO YUDEN’s conventional substrate thickness has been reduced by about 20% from 0.48mm to 0.38mm, and will thus also contribute to low profile compact mobile devices such as smartphones.

### **Technology Background**

Along with advances in multifunctionality and performance (such as an increasing number of pixels and autofocus function), there is a strong demand for small size, low profile camera modules in compact mobile devices such as smartphones.

TAIYO YUDEN has succeeded in the development of a new product which integrates multiple ICs into the copper core embedded-parts multilayer wiring substrate “EOMIN<sup>®</sup>” and can contribute to reductions in the size and thickness of camera modules.

In older camera modules, the power function was located outside the module. With this newly developed product, through the increasingly high precision of IC packaging technology, TAIYO YUDEN has not only succeeded in making the integration of multiple ICs possible, but also in providing a built-in inductor function. By means of these developments, TAIYO YUDEN has realized the possibility of incorporating both the power and control functions of the camera module into a single substrate. We have also maintained high stiffness even while using a thinner copper core, which is one of the special features of the embedded-parts multilayer wiring substrate “EOMIN<sup>®</sup>”, and have thus also made it possible for the profile of devices to be made even thinner through a reduction in the substrate thickness of approximately 20%.

Henceforth, while continuing efforts to make the copper core embedded-parts multilayer wiring substrate “EOMIN<sup>®</sup>” thinner, TAIYO YUDEN will continue to realize the modularization of multiple functions, and strive for further high performance, miniaturization and lower profile devices.

\* “EOMIN” is a registered trademark or trademark of TAIYO YUDEN CO., LTD. used both for Japan and other countries.

#### ■ Applications

In electrical circuits for the camera modules of mobile devices such as smartphones and tablet PCs.

#### EOMIN<sup>®</sup> Features

- Low noise  
An improvement in tolerance to noise due to the shielding effect from the copper core
- Highly heat radiation  
The high thermal conductivity of the copper core effectively dissipates heat coming from IC chips, etc.
- Stiffness  
Constructed with a built-in copper core, the rigidity of the module itself is increased
- High reliability  
Jointed with embedded parts by electrolytic copper plating

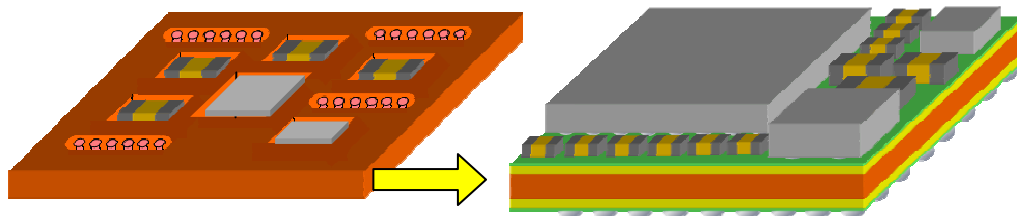


Figure 1. EOMIN<sup>®</sup> Exterior View (Left: copper core and embedded parts, through holes, Right: module)