

Samsung's New Display Driver IC Packaging Solution Enhances Heat Dissipation in High-Performance TV Applications

May 4 2010



Samsung Electronics today introduced its latest heat dissipation packaging technology solution for display driver ICs (DDIs) in high-end TV applications. Samsung's new ultra Low Temperature Chip On Film (u-LTCOF) packaging solution enhances heat dissipation in high-performance, high resolution TVs by minimizing the contact thermal resistance between the DDI package and the display panel chassis.

“With high-performance features becoming more and more prevalent in today’s consumer electronics, there are limits to solving heat emissions by adjusting just one specific aspect within the product’s overall design,” said Sa-Yoon Kang, vice president, System LSI package development

team, [Samsung Electronics](#). “The new u-LTCOF package is an innovative solution considering both the package technology and the module structure for outstanding [heat dissipation](#). We expect the u-LTCOF solution to be applicable to other semiconductor chips such as D-TV system-on-chips (SoCs) that require high-speed processing of increased data.”

First introduced in 2007, Samsung’s Low Temperature Chip On Film (LTCOF) used a thin-film metal tape to effectively spread heat generated from the DDI to provide a 30 percent improvement in heat emission over conventional chip on film (COF) packages. Samsung’s new u-LTCOF replaces the thin metal film with viscoelastic silicone that has a high [thermal conductivity](#) to enhance heat transfer characteristics by more than 20 percent against the LTCOF package.

Additionally, this new solution can deliver cost competitiveness to display panel manufactures as the package coated with viscoelastic silicone does not require the addition of thin metal film or thermal pads.

Samsung’s new u-LTCOF package is designed for display driver ICs used in 240Hz Full HD and 3D LED TVs as well as 60/120Hz mid to large-sized LCD and PDP TVs to significantly and effectively improve the heat dissipation needs of these high-performance, advanced-featured TVs.

Samsung has finalized reliability tests on the u-LTCOF package and plans to start production of the new package solution for its DDI devices from the fourth quarter of 2010.

Source: Samsung

Citation: Samsung's New Display Driver IC Packaging Solution Enhances Heat Dissipation in

High-Performance TV Applications (2010, May 4) retrieved 19 April 2024 from <https://phys.org/news/2010-05-samsung-driver-ic-packaging-solution.html>

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