New Interface Standard for Large-Screen TFT-LCD Panels from Samsung

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Samsung Electronics Co. Ltd., a leader in advanced silicon technology solutions, today announced **a new interface standard for display driver ICs for large-screen TFT-LCD panels**. Samsung's new current-mode interface of cascade chip-on-glass (COG)/chip-on-film (COF) (CICC) standard uses a new technology for data transfer where the LCD driver IC (the source driver) is interfaced with the timing controller.

Today, electromagnetic interference (EMI) is a growing issue in the LCD panel industry. EMI is caused by the increased size in LCD monitors and TVs, the rapid advancement in high-resolution pictures, a continuous surge in display data size and a rising number of data bus lines to accelerate the data transmission speeds.

To address EMI, Samsung's CICC standard operates on a lower current swing method (DI=200uA, DV£10mV) and adopts a serialized, cascade data transfer method that allows data to directly flow between adjacent LCD driver ICs.

“Samsung will apply this new CICC standard to its own products while expanding its use as an industry standard,” said vice president Jin-tae Kim of Display Driver Development Team, System LSI Division, Samsung Electronics. “We are convinced that the CICC standard will be widely adopted as a next-generation interface standard for large-screen TFT-LCD driver IC, with its features benefiting LCD Panel makers.”

The data bus line can be halved from 18 lines to 9 in a 6-bit LCD driver

IC using the CICC standard, minimizing EMI and reducing power consumption by 20 percent. In addition, the chip size of the timing controller can be decreased, while the driver board can be simplified with the 50 percent reduction of peripheral parts.

Conventional interfaces such as reduced swing differential signaling (RSDS) and transistor-transistor logic (TTL) can only be used for source driver ICs in film type packages, such as tape carrier package (TCP) or COF. CICC can be applied, on the other hand, with COG where the chip is attached directly on the LCD glass, as well as the COF package.

Samsung presented the CICC technology at the Society for Information Display (SID) 2004 in May 2004.

The original press release can be found here.