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SmartASIC Introduces World Smallest, Feature-Rich TFT LCD Controllers

SAN JOSE, Calif. – February 15, 2000 – SmartASIC, Inc. today introduced a new family of advanced TFT LCD controllers for a wide spectrum of the TFT LCD monitor market. The family members include the SD1010A analog-interface XGA TFT LCD controller and the SD1010D digital-interface XGA TFT LCD controller. Both chips are packaged in 128-pin PQFP packages, making them the smallest, most economical TFT LCD controllers on the market. Also in the family are two dual-interface (both analog and digital) TFT LCD controllers packaged in 160-pin PQFP packages: the SD1010 XGA controller for 15” monitors and the SD1210 SXGA controller for 16-18” monitors.

“We deliver these chips to be the best solutions to serve a wide spectrum of the TFT LCD monitor market,” stated SmartASIC President/CEO Dr. C.C. Kau, “ranging from the high-volume low-cost XGA monitor segment, to the bundled LCD-PC segment, to the mainstream feature-rich XGA and SXGA monitor segments.”

"In 1999, SmartASIC jumped to the number four position among LCD controller suppliers on a worldwide unit sales basis," said Barry Young, VP and CFO of DisplaySearch. "Today's announcement of digital-only, analog-only and mixed analog-and-digital controllers will enable SmartASIC to compete across the board in the rapidly expanding LCD monitor market. By 2005, we expect that digital-only LCD monitors will grow to 91 percent of the standalone and bundled market on a unit basis."

Feature Rich

All four new SmartASIC TFT LCD controllers are not just small but also implement advanced image processing algorithms and many automatic system configuration features. Automatic calibration correctly detects the input mode and gauges the horizontal/vertical screen position while synchronizing the frequency and phase of the clock. Automatic contrast adjustments correctly set the black level and contrast gain adjustment. Automatic up and down scaling to expands the image to full screen for different input modes. Automatic phase tracking checks and adjusts the phase drift over a programmable time period to compensate the graphic card clock phase drift due to temperature change. And these chips automatically provide true color support with proprietary spatial-based dithering and optional temporal-based dithering for the less-expensive 6-bit LCD panels.

In addition, all four new controllers employ SmartASIC's proprietary adaptive interpolation and image processing algorithms to smooth jagged edges in interpolation, enhance the sharpness of text,

eliminating gray shades for maximum contrast and readability. These chips also support YUV video input and implement on-chip color space conversion and de-interlace.

Furthermore, these four controllers, like all other SmartASIC controllers, support a wide variety of TFT LCD panels with programmable output timing parameters that can be set to match the specifications of each panel. Similarly, the controllers support a wide range of standard or non-standard input timings from PC graphic cards.

Robust and Cost Effective System Solutions

The SD1010A analog-interface XGA TFT LCD controller is ideal for use with 15" LCD monitors that replace CRT monitors in currently installed desktop computer systems. Because it has an analog interface, the SD1010A can handle data directly from the graphics card inside the PC – no additional digital interface card is required. The SD1010A works seamlessly with industry standard analog front-end chip, such as ICS1531. The estimated total bill of materials (BOM) for the SD1010A solution board is around \$35 in high volume.

The SD1010D digital-interface XGA TFT LCD controller is best for new systems that include digital graphics interface cards and are often bundled with a 15" LCD monitor. The SD1010D works seamlessly with industry standard TMDS receiver chip. The estimated total BOM for the SD1010D solution board is around \$30 in high volume.

The SD1010 dual-interface XGA TFT LCD controller includes support for industry standard digital interfaces as well as full compatibility with legacy analog standards. This controller allows flat panel monitor manufacturers to provide input flexibility for both new and existing systems.

The SD1210 dual-interface SXGA TFT LCD controller provides all the support required for analog or digital interfaces used with 16-18" LCD monitors.

Pricing and Availability

The SD1010A analog-interface XGA TFT LCD controller, packaged in a 128-pin PQFP, is available now and priced under \$12 in volume.

The SD1010D digital-interface XGA TFT LCD controller, packaged in a 128-pin PQFP, is available now and priced under \$11 in volume.

The SD1010 dual-interface XGA TFT LCD controller, packaged in a 160-pin PQFP, is available now and priced under \$15 in volume.

The SD1210 dual-interface SXGA TFT LCD controller, packaged in a 160-pin PQFP, is available now and priced under \$18 in volume.

SmartASIC, Inc., a fabless semiconductor company, was founded in February 1998 in San Jose, Calif. SmartASIC is a major worldwide supplier of TFT LCD controller IC, and is developing video processing technology for digital display products. In 1999, SmartASIC was the fourth largest worldwide

supplier of LCD monitor controller ICs, according to DisplaySearch. The company is delivering the best quality and most cost-effective system solutions with impeccable reliability to the system manufacturers worldwide. For more information, go to www.smartasic.com.

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