National Semiconductor Samples First Dual 10-bit Color Transmit and Receive Chipset

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Industry's First Chipset Designed to Drive Full HDTV with Greater Than One Billion Colors

National Semiconductor Corporation today introduced the industry's most efficient interface for driving full high-definition televisions with greater than one billion colors. The DS90C3201 transmitter and DS90C3202 receiver is a transmit and receive chipset with a dual 10-bit LVDS (low voltage differential signaling) interface for full HDTV (high-definition television) applications of 1920 x 1080 resolution, including LCD (liquid-crystal display), plasma and rear projection television.

The DS90C3201 transmitter receives a 70-bit parallel stream of RGB data from the image processing engine and sends it to the panel using 10 LVDS pairs (20 lines total). The DS90C3202 receiver receives the LVDS data and converts it back to the original 70-bit LVTTL (low voltage transistor-transistor logic) stream for use by panel control ASICs and timing controllers.

"The LVDS transmit and receive chipset broadens National's portfolio of display ICs designed to drive the future of flat panel and digital television," said Jean-Louis Bories, senior vice president of National Semiconductor's Displays Division. "The chipset expands National's LVDS product leadership position by providing industry-leading performance with the most efficient package option."

Key Technical Specifications of National's DS90C3201 Transmit and

DS90C3202 Receive Chipset
The DS90C3201 transmitter and DS90C3202 receiver each support 8MHz to135MHz pixel clocks allowing for up to 9.45Gbps total data throughput and full high-definition (1920 x 1080) resolution. The transmit and receive chipset operates from a single 3.3V input that simplifies the power supply requirements of the application. By supporting spread spectrum clock inputs, the chipset enables the system designer to further reduce the overall system EMI (electro-magnetic interference).

The transmitter and receiver are highly flexible and can be programmed for a wide variety of applications using internal register settings, allowing them to be used across a range of platforms. They conform to the TIA/EIA-644-A-2001 LVDS standard that ensures compatibility with all industry-standard LVDS devices. Packaged in a 128-pin TQFP, both the transmitter and the receiver provide the lowest pin count and most efficient system design in the industry.

Samples of the DS90C3201 and DS90C3202 are available now by contacting a National Semiconductor sales or distribution representative. In 1,000 unit production quantities, the DS90C3201 and DS90C3202 are $8.00 each.