

TI LED Drivers Enhance Resolution in Large Color Display Panels

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Supporting complex power requirements needed for light emitting diodes (LEDs) in large display electronics, Texas Instruments Incorporated announced today two 16-channel, constant-current sink LED drivers for large form-factor color displays. The drivers give designers increased system reliability and dynamic brightness control to enhance the resolution and power efficiency of stadium scoreboards, advertising displays and video display panels.

The TLC5940 features industry-leading, channel-to-channel and chip-to-chip accuracy, improving overall display quality. Each channel on the integrated circuit (IC) has an individually adjustable 4,096-step grayscale pulse width modulation (PWM) brightness control and a 64-step dot correction that allows the display to select from up to 68.7 billion colors to enhance color resolution. Dot correction on the device compensates for the brightness variations between individual LEDs in the system.

In addition to the TLC5940, TI offers a more cost-sensitive TLC5923 driver without grayscale PWM functionality. The flexible power management IC features 128 steps of dot correction and an on/off state function.

Additional Features of the TLC5940 and TLC5923 LED Drivers

-- 30-Mhz Data Transfer Rate

- 3.0 V to 5.5 V Input Voltage Range
- 120 mA Per Channel for the TLC5940, 80 mA Per Channel for the TLC5923
- Channel-to-Channel Accuracy of One Percent (Typical)
- Chip-to-Chip Accuracy of 2.7 Percent (Typical)
- LED Open Detect (LOD) and Thermal Error (TEF) Protection

Pricing and Availability

The TLC5940 and TLC5923 are available today in volume from TI and its authorized distributors. The TLC5940 is available in a 28-pin HTSSOP, PDIP or small QFN package, and the TLC5923 comes in a 32-pin HTSSOP package. Suggested resale pricing in quantities of 1,000 is \$2.90 for the TLC5940 and \$1.90 for the TLC5923.

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