Two-channel LED drivers designed for high CRI professional and consumer lamps

Atmel announced three new two-channel solid state lighting (SSL) LED drivers that provide accurate color control for two-color LED light engines. In addition, the LED drivers deliver the most efficient power management, with the lowest component count, for high CRI LED lamps.

Ideal for applications including general lighting, residential and commercial lighting, architectural lighting, and mood lighting, the LED drivers consist of the Atmel MSL2021 [1], MSL2023 [2], MSL2024 [2]; all can be accompanied with an Atmel AVR [3]MCU or ARM processor-based MCU [4] for a complete system solution in a variety of luminaires and lamp configurations.

The new MSL2021/23/24 LED devices have several distinct advantages when compared to existing LED drivers:

- The devices drive one dominant LED string with a linear controller and one color LED string with a low-side buck controller to achieve the target correlated color temperature (CCT) coordinate, and replicate the color spectrum to attain a high CRI value.

- The devices have a look-up table in the EEPROM so designers can program accurate profiles to follow the desired CCT compensation curve, lowering the overall bill of materials (BOM) cost.

- The linear controller for white LEDs in the device family adaptively controls the headroom of any AC/DC or DC/DC, isolated or non-isolated topology, while external MOSFETs give designers the flexibility of choosing LED currents and LED string

lengths.

- There are several dimming options and I2C interface for additional flexibility and control.

Key features for the three new devices include:

• MSL2021 -- the first LED driver with integrated temperature compensation for the color LED string

• MSL2023 -- offering I2C serial port and internal pulse-width modulation (PWM) generators

• MSL2024 -- featuring individual PWM input pins

Pricing and availablity

The new devices are available now. Pricing for 1,000-piece quanties follows:

· MSL2021 starts at USD $3.10

· MSL2023 starts at USD $2.74

· MSL2024 starts at USD $2.52

To accelerate a design, evaluation kits are also available through your local sales representative [5]. The new kits include an isolated AC/DC power supply, an integrated LED load board with one white and red LED string, and an on-board AVR MCU to I2C to USB/parallel bridge for programming the LED driver.

www.atmel.com [6]

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Links:
[1] http://www.atmel.com/devices/MSL2021.aspx
[2] http://www.atmel.com/devices/MSL2023_MSL2024.aspx
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