Common-Anode, Current-Mode, High-Brightness LED Driver with PWM Dimming

National Semiconductor Corporation introduced what is said to be the industry's first common-anode, current-mode, high-brightness light-emitting diode (LED) driver with pulse-width modulation (PWM) dimming. The LM3433 drives high-power, high-brightness LEDs in backlighting, projector and solid-state lighting applications. The device is a constant on-time DC/DC buck (step-down) constant-current regulator. It outputs a negative constant current for lighting high-power, high-brightness LEDs. The negative voltage option allows the anode of the LED to be tied directly to the ground-referenced chassis for maximum heat sink efficacy. The short constant-on-time architecture allows the use of small external passive components and no output capacitor. Two current control modes modulate LED brightness. An analog current control input is provided so it can be adjusted to compensate for LED manufacturing variations. The other current control is a logic-level dimming input for PWM control of LED brightness. The PWM functions by shorting out the LED with a parallel switch, allowing high PWM dimming frequencies up to 40 KHz. Additional features include thermal shutdown, VCC under-voltage lockout and logic-level shutdown mode. Available now it is offered in a 24-pin LLP package and priced at $2.25 each in 1,000-unit quantities.

National Semiconductor Corporation
800-272-9959, www.national.com/powerwise [1]

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