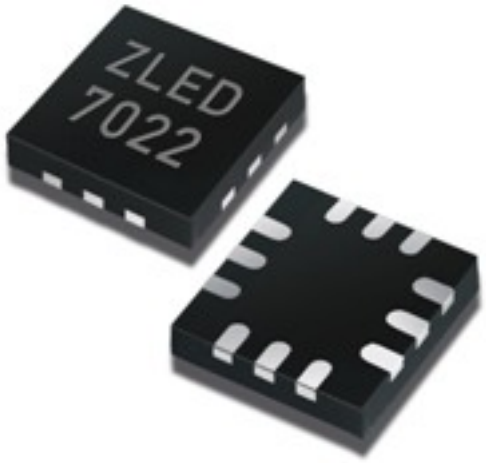
# LED Driver ICs Save Energy in Portable Devices




ZMDI, a global supplier of energy- efficient analog and mixed-signal solutions for automotive, industrial, consumer, and medical applications, launched the second wave of its ZLED family of LED control solutions with two new low-voltage ICs designed for battery-powered handheld devices. The ZLED7012 and ZLED7022 incorporate low-noise, constant-frequency charge pump DC/DC converters that can efficiently drive up to four (ZLED7012) or six (ZLED7022) strings of LEDs. The devices come in the ultra-small UTQFN package (2mm x 2mm) and require only three external components for operation thus enabling a very low bill of material.

Capable of operating efficiently with DC voltage supplies ranging from 2.8V to 5.5V, the devices are ideal for small, battery-powered LED backlighting applications such as mobile phones, PDAs, GPS and navigation systems. The devices can also be used for illumination of digital photo frames, low voltage LED lighting fixtures as well as all kinds of general-purpose low-voltage industrial and consumer applications.

“ZMDI’s highly integrated LED low-voltage driver ICs reduce energy consumption in mobile applications, “stated Carlo Rebughini, ZMDI vice-president worldwide sales & marketing. “Thanks to the IC’s small footprints and ultra-low shut-down current consumption, companies can build smaller portable devices with longer battery life. In addition, the ZLED7012 and ZLED7022 feature special low-EMI inductor-less design technology to eliminate back-injected noise. This feature is especially valuable for mobile phones, GPS systems, and other equipment that receive radio signals requiring extremely low-noise components.”

With the pulse count control (PCC) serial digital input, designers can enable and disable the LEDs and set the current level. The programmable current levels range

from 1.8mA to 20mA per LED channel. This simple, high-speed interface allows efficient real-time management of LEDs via microcontrollers or control systems.

Additional device features include integrated soft-start circuitry to protect against excessive in-rush current during power-on and a low-current shutdown mode that reduces quiescent current consumption to approximately 1?A. The ZLED7012 and ZLED7022 operate over a temperature range of -40°C to +85°C.

Full application kits including application notes and an evaluation board are available now. The ZLED7012 and ZLED7022 come in a 12-pin UTQFN package. For low quantities, the ZLED7012 comes at €0.32, the ZLED7022 at €0.39. Both parts are available in mass production now.

The URL for a product fact sheet is www.zmdi.com/products/led-drivers [1]

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