
Lumissil Introduces IS32LT3136 32-Channel Linear LED Driver for Next-Generation Automotive OLED Lighting

Device brings fine channel control with UART networking, EMI mitigation, diagnostics, and ASIL-B functionality to animated OLED rear lamps, taillights, and DRL lighting

MILPITAS, Calif. – Lumissil Microsystems today announced the IS32LT3136, a 32-channel linear LED driver with UART interface developed for next-generation automotive O/LED lamp designs. As the industry moves beyond static rear lighting towards exterior communication with animated symbols, the IS32LT3136 provides designers with a highly integrated solution for OLED rear lights, daytime running lights, and automotive ambient lighting.

The IS32LT3136 is designed for common-cathode OLED panels and features 32 independently controlled channels, with up to 22V output capability to accommodate a wide OLED forward voltage variation. Each channel supports 12-bit PWM dimming and 8-bit channel current adjustment, for fine control of brightness and uniformity at the pixel or segment level. The device supports output current from 1mA to 35mA per channel, with $\pm 4\%$ device to device current accuracy and $\pm 4\%$ bit to bit mismatch at 15mA, helping designers achieve the precision required by premium rear-light signatures and segmented OLED effects.

The IS32LT3136 offers a solid design foundation for lamp makers wanting more segmentation, more personalization, and more dynamic communication. Each device has 32 channels with support for up to 64 addressable devices enabling multi-segmented OLED lighting applications. Its UART interface, protected by CRC and compatible with a 2MHz CANFD PHY, supports robust long-distance off-board communication. This capability enables modern automotive networks to move control intelligence to a central ECU or domain controller while maintaining reliable communication with remote lamp modules.

The IS32LT3136 integrates several features that enhance both electrical robustness and visual performance. These include spread spectrum on the internal PWM clock, programmable slew-rate control, and 8-group phase delay, which help reduce EMI, smooth channel switching transitions, and minimize inrush current and supply ripple. The device also includes DCFB for automatic DC/DC VLED adjustment so the system can optimize supply voltage versus OLED load conditions. This is an important benefit to automotive lamp designers looking for higher efficiency and tighter electrical control in thin, stylized O/LED lamp assemblies.

The IS32LT3136 is designed to meet the safety and diagnostic requirements for today's rear-lighting systems. Integrated protection and reporting functions include LED open/short detection, LED string short detection, programmable thermal current roll-off, CRC error detection, communication watchdog monitoring, and fail-safe mode support. Detected faults are stored in readable registers for host MCU access and indicated through the open drain FAULTB pin. The device is developed in accordance with ISO 26262 and supports automotive applications targeting ASIL-B safety requirements.

"The IS32LT3136 delivers the fine channel control, UART networking, EMI mitigation, diagnostics, and ASIL-B functionality that automotive designers have been waiting for," said Lyn Zastrow, Vice President of Sales and Marketing, Lumissil Microsystems. "As the industry moves from static lighting to dynamic, animated OLED systems, this highly integrated 32-channel driver gives lamp makers the precise segmentation, long-distance communication robustness, and safety compliance they need to create premium rear-light signatures, taillights, and DRLs while simplifying system design and accelerating time-to-market."


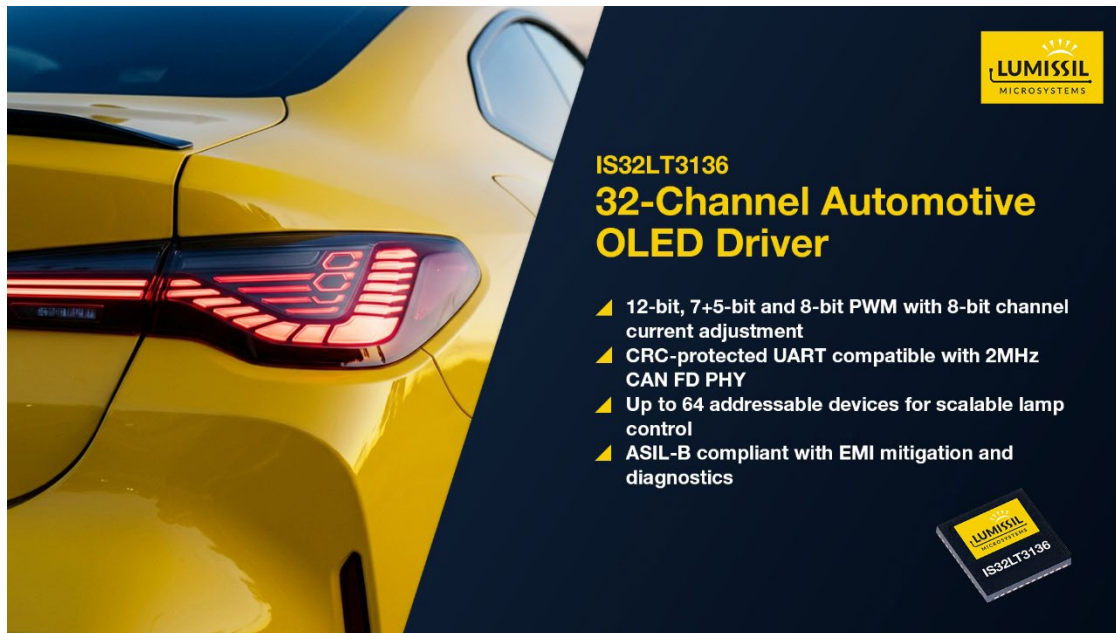
The IS32LT3136 is available now in a compact 6x6mm QFN-48 package, with a thermal resistance (θ_{JA}) of 36.9°C/W and specified for operation from -40°C to +150°C. The ordering part number is IS32LT3136-QFLCA3-TR and comes 2500 units per reel.

About Lumissil Microsystems

Lumissil Microsystems specializes in analog/mixed-signal products for automotive, communications, industrial, and consumer markets. Lumissil's primary products are LED drivers for low to mid-power RGB color mixing and high-power lighting applications. Other products include audio, sensors, high-speed wire communications, optical networking, and application specific microcontrollers. Lumissil Microsystems has worldwide offices in the US, Taiwan, Japan, Singapore, mainland China, Europe, Hong Kong, India, Israel, and Korea. Website: <https://www.lumissil.com>

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IS32LT3136
**32-Channel Automotive
OLED Driver**

- ▲ 12-bit, 7+5-bit and 8-bit PWM with 8-bit channel current adjustment
- ▲ CRC-protected UART compatible with 2MHz CAN FD PHY
- ▲ Up to 64 addressable devices for scalable lamp control
- ▲ ASIL-B compliant with EMI mitigation and diagnostics

