

Lumissil Microsystems Expands Automotive Lighting Portfolio with Family of High-Side Linear LED Drivers

Single and Triple Channel Drivers Enhance Thermal Optimization for High-Power Applications

MILPITAS, Calif., July 07, 2025 – Lumissil Microsystems announces the release of the **IS32LT315x** family, a new line of current-source linear LED drivers designed for automotive lighting applications, and Tail/Brake light combinations. The family consists of three devices: Single Channel IS32LT3151A/B/C/D/E and Triple Channel IS32LT3152A/B and IS32LT3153A/B/E. The IS32LT315x line of high-side linear drivers provides designers with enhanced thermal optimization and fault reporting capabilities.

Differentiated by channel count, output current, and fault features to meet a range of application needs as mentioned in the table below. They are available in configurations with either a single 450mA channel or three 150mA channels, with output current configured by an external resistor. Drivers, such as the IS32LT3151A/C and IS32LT3153A/B/E include single LED short detection and support analog current adjustment for LED thermal management via an external NTC resistor or enable dual brightness levels using an external FET switch. The IS32LT3151B/D/E and IS32LT3152A/B drivers limit some features to prioritize compact packaging and cost-saving objectives.

Based on a high-side output topology, these drivers allow LED output strings to share common ground, reducing wiring and simplifying harness design. For high power applications, optional thermal shunt/sharing resistors can be added to offload heat from the driver, reducing thermal stress when driving high-brightness LEDs.

All devices include open/short fault detection at the LED string level and can be configured for “one-fail-all-OFF” behavior upon fault detection. Fault conditions are reported through a shared open-drain FAULTB pin, providing system designers with the flexibility to define fault response based on application requirements. All drivers in the family are designed and qualified to AEC-Q100 standards for reliable operation in harsh automotive environments. Additionally, the IS32LT3151C/D, IS32LT3152B, and IS32LT3153B are designed in accordance with ISO 26262 ASIL-B safety requirements.

“The IS32LT315x family was designed to cover all the essentials thermal management, current adjustment, and safety compliance without forcing any compromises,” said Lyn Zastrow, VP of Marketing and Sales at Lumissil Microsystems. “This product family enables smarter designs without tradeoffs.”

All devices support a wide operating voltage range from 4.5V to 40V and are AEC-Q100 qualified for temperature grade 1 (-40°C to 125°C), with junction temperature ratings up to 150°C. The IS32LT3151B/D/E are available in compact SOP8-EP packages, while the other variants come in eTSSOP packages with 14-, 16-, or 20-pin options.

Availability and pricing

To enhance electrical and thermal characteristics, the IS32LT315x family is available with copper (Cu) wire bonding. For IC, evaluation board samples, or general inquiries, please contact your Lumissil sales representative.

Parts table:

Part Number	IS32LT3151A/C	IS32LT3151B/D/E	IS32LT3152A/B	IS32LT3153A/B/E
Channel Qty	1	1	3	3
Current/CH	450mA	450mA	150mA	150mA
Analog dimming (ICTRL)	YES	N/A	N/A	YES
Single-LED short detection	YES	N/A	N/A	YES
ASIL-B	3151C only	3151D only	3152B only	3153B only
Package	eTSSOP14	SOP8-EP	eTSSOP16	eTSSOP20

About Lumissil Microsystems

Lumissil Microsystems specializing 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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IS32LT315X Family of High-Side Linear LED Drivers

- ▲ Optional Thermal Shunt per Channel
- ▲ Individual PWM Dimming & Global Analog Current Adjust
- ▲ Shared Fault Flag
- ▲ AEC-Q100 & ASIL-B

