

Fully Customizable LED Controller IC for Animated Lighting Applications

18-Channel LED Driver with Integrated MCU and Memory Facilitates Unique Lighting Animations

MILPITAS, Calif., July 22, 2024 -- Lumissil Microsystems has expanded its automotive and industrial LED lighting portfolio with the introduction of the IS31/IS32CS8979 family of intelligent programmable LED controller ICs. These new controllers enable lighting engineers to create customized dynamic LED lighting animations tailored to their system requirements. They feature integrated non-volatile memory to store animation sequences and LED parameters, essential for dynamic lighting effects such as color transitions, pulsing, fading, and animated patterns.

The IS31/32CS8979 are 18-channel LED controllers designed to operate without an external microcontroller, thereby reducing the PCB footprint and overall system cost. Pre-programmed light animation sequences can be triggered by external signals detected on any of its 9 GPIO pins. Each LED channel supports a maximum output current of 60mA and has a voltage tolerance of up to 40V. The LED channels can be combined to achieve higher LED currents, and LEDs can be connected in long strings for a combined LED forward voltage of up to 40V per channel. Further, multiple IS31/32CS8979 controllers can be cascaded to support up to 15 additional LED drivers with synchronization limited by the code space. The capabilities of supporting long LED strings and combining channels for a higher output current results in a high-luminance output from this linear LED controller.

Animation sequences can be stored in 64KB of ECC protected e-Flash memory and executed by the integrated MCU with DSP functionality. The MCU, with 2KB of ECC protected SRAM controls the 18-channel LED driver section to perform complex color space conversions, brightness transitions and color pattern animations. The IS31/IS32CS8979 also supports in-system-programming as well as in-system calibration to facilitate field updates.

"The release of the IS31/IS32CS8979 family is a significant step towards broadening our smart multi-channel LED driver portfolio," said Ven Shan, Vice President of Marketing at Lumissil Microsystems. "LED lighting has become prevalent in automotive and consumer/industrial applications, where users expect engaging, personalized lighting for enhanced safety and comfort. The IS31/IS32CS8979 family delivers compact, cost-effective animated lighting solutions tailored to specific requirements, eliminating the need for multiple LED drivers and local microcontrollers."

The IS31CS8979 is targeted at industrial consumer applications while the IS32CS8979 is targeted at the automotive exterior/interior lighting markets. Both controllers feature an 18-channel LED driver, e-Flash, SRAM and MCU/DSP all integrated within a single 40-pin QFN package.

The IS31/IS32CS8979 are supported with evaluation boards, software tools and GUIs (Graphical User Interfaces) to facilitate the development of animation sequences, fine-tuning of lighting effects, and adjustments to color gradients, timing, light transitions, and more.

Availability

The IS31/IS32CS8979 are available now in mass production quantities. The industrial/commercial IS31CS8979 is offered in a QFN-40 package, priced at \$1.48 in 1k quantities. The automotive IS32CS8979 can be supplied with PPAP in accordance with AEC-Q100 and comes in a wettable flank WFQFN-40 package, priced at \$1.59 in 1k quantities.

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, and Korea.

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Automotive

Industrial

IS31/IS32CS8979
Smart 18-Channel LED
Controller IC for Light Animation

- ▲ 18 LED channels each capable of 60mA @ 40V for high brightness
- ▲ MCU with DSP and memory for accurate LED color mixing algorithms
- ▲ Cascadable to support multiple LED channels with synchronization



