INTEGRATED SILICON SOLUTION, INC.

Full Function LED Driver IC For Automotive Interior Lighting

150mA Linear LED Driver with Push-Button Input Combined with Courtesy Signal

MILPITAS, Calif., May 31, 2016 -- Integrated Silicon Solution, Inc., a leader in advanced memory and analog IC solutions, today announced a single chip solution for automotive interior lighting. The IS32LT3175 is a feature-rich AEC-Q100 (Automotive Electronics Council) certified linear LED driver enabling reduced BOM count for low-cost and compact designs. The IS32LT3175 integrates a single channel LED driver with a programmable 150mA current source, push-button control, courtesy signal input and integrated programmable fade-in/fade-out lighting control. The device is designed for use in LED-based map lights, dome lights, door lights and other automotive lighting applications.

The IS32LT3175 integrates all functions, eliminating the need for a microcontroller and several discrete components. Individual resistors are all that is required to adjust the LED current from 10 to 150mA as well as the fade up/down ramp speed; there is no software programming required. The LED driver can be controlled by either a momentary contact switch or a courtesy signal input. An integrated debounce and latch circuit conditions the switch input so a single press of the mechanical switch does not appear like multiple presses.

Key features and benefits of the IS32LT3175 include:

- **Reduced BOM:** LED driver with theatrical dimming in one small 8 pin SOP package resulting in 65% less components requiring less printed circuit board area.
- **Linear LED Driver:** Low-noise, low-EMI, linear current source adjustable from 10~150 mA into one or more LEDs.
- **Switch Input:** Integrates switch debounce and latching logic to enable use of low cost momentary contact switch. The switch On/Off state is held during start-stop operation when voltage drops below 6V for a short period of time.
- **Local or Remote:** Can be controlled remotely by the automobile's microcontroller or locally with a momentary contact switch. The local switch has priority over the remote microcontroller providing the user with direct control of the LED lamp.
- **No Microcontroller:** Advanced LED performance can be adjusted with simple resistors, eliminating the need for a microcontroller.
- **AEC-Q100:** Meets stress testing specifications making it suitable for use in the harsh automotive environment with guaranteed operation from –40°C to +125°C.

The Automotive Lighting market is projected to grow at a CAGR of 7.22% from 2016 to 2021 and reach USD 29.53 billion by 2021 according to market reports. LED is the fastest growing technology in automotive lighting market since it is energy efficient, lightweight and compact. These attributes are responsible for the fast growth and increased adoption in autos worldwide. "IS32LT3175 is a feature rich

LED Driver which is robust and easy to design with," said Ven Shan, VP of Analog Products at ISSI. "This unique product is precisely what premier auto makers are looking for in their Map lights, Dome lights and other interior LED lighting designs to replace bulky incandescent bulbs for improved light efficiency and sleek designs."

The device also integrates protection features, such as open and short LED fault detection, thermal rollback and thermal shut down to increase system longevity and reliability. The LED current remains at the configured level as long as the junction die temperature of the IC remains below 145°C (typical). If the die temperature exceeds this threshold, the output current of the device will begin to reduce at a rate of 3%/°C. The device will enter thermal shutdown if the die temperature exceeds 175°C.

Tools and support

Engineers can quickly and easily evaluate the performance of the IS32LT3175 with an evaluation board (EVB). Contact ISSI for details on how to obtain.

Packaging and Pricing

The IS32LT3175 is available in either of two options depending on the polarity of the incoming courtesy signal. The IS32LT3175P is for applications requiring a "positive going" courtesy signal, while the IS32LT3175N is meant for interfacing with "negative going" courtesy signals. Both versions are offered in a RoHS-compliant thermally enhanced SOP-8EP package. Pricing for both the IS32LT3175P and IS32LT3175N is $0.50 per unit in 10,000 unit quantities. IC samples and evaluation boards can be ordered through ISSI's global sales team and worldwide distribution partners.

About Integrated Silicon Solution, Inc.

ISSI is a fabless semiconductor company that designs and markets high performance integrated circuits for the following key markets: (i) automotive, (ii) communications, (iii) industrial, medical, and Military, and (iv) digital consumer. The Company's primary products are high speed and low power SRAM and low, medium, and high density DRAM. The Company also designs and markets NOR flash products and high performance analog and mixed signal integrated circuits. ISSI is headquartered in Silicon Valley with worldwide offices in Taiwan, Japan, Singapore, China, Europe, Hong Kong, India and Korea. Visit our web site at http://www.issi.com/

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