TAIWAN SEMICONDUCTOR

NEWS RELEASE

Taiwan Semiconductor's LED Driver Offers Single Solution for Automotive Applications

AEC-Q100 qualified high-brightness LED driver handles wide input voltages (4.2-42V), supports multiple topologies and operating modes, wide programmable frequency operation with spread spectrum clock

Brea, CA.— July 28, 2020 —Taiwan Semiconductor, a global supplier of discrete power electronics devices, LED drivers, analog ICs and ESD protection devices, announces the introduction of the TS19501 single channel, dimmable LED driver targeting high-brightness automotive applications. Due to the device's highly integrated design, this single IC is well suited for virtually every automotive LED application: high and low beam headlights; daytime running lights; turn indicators; position indicator lights; fog lights; ATV and four-wheel drive high-brightness lamps. The IC is also offered in a version ideal for a wide range of non-automotive DC-input LED lighting applications.

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The TS19501 offers designers a number of benefits and improvements over competing devices:

- **4.2V – 42V input voltage**. One device handles many applications
- **Wide Operating Temperature**. -40C to +125C
- **Low side current sensing**. Better performance over a wide range of external conditions
- **Spread spectrum clock**. Lowers EMI/RFI and facilitates regulatory compliance
- **Supports multiple topologies**. One device for boost, buck-boost and SEPIC topologies
- **Supports multiple operating modes**. One device for DCM, BCM or CCM
- **PWM and analog dimming**. Works with microcontroller or analog circuits
- **70kHz to 700 KHz adjustable frequency**. No compromise in selecting frequency
- **MSOP-10EP package**. Smaller package with fewer leads and external components

"The lighting market including automotive lighting is moving toward replacing halogen and incandescent lighting with high efficiency LEDs," reported Sam Wang, Vice President, TSC Products. "The need for highly integrated LED drivers which save assembly time and cost and afford designers maximum design flexibility is critical as electrification of transportation continues."

The TS19501, while not the first driver to address this growing market, does provide designers with more flexibility, lower pin count and typically lower external parts count than competing devices. Design resources include an online video, 44-page designers guide and designer worksheet.

Click here for complete product specifications.

Lead Time: **Samples in-stock @ Digikey**

About Taiwan Semiconductor (TSC).

Recognized for more than 40 years for its core competence in discrete power rectifiers, Taiwan Semiconductor's expanded product portfolio provides a complete solution from one source: including trench Schottky's, MOSFETs, power transistors, LED driver ICs, analog ICs and ESD protection devices. A global enterprise with 2,000 over employees, TSC's production facilities in China and Taiwan are fully compliant with current automotive and environmental standards such as IATF16949, ISO9001 and ISO14001. Taiwan Semiconductor products are used in a vast array of applications in the electronics industry including automotive, computer, consumer, industrial, telecom and photovoltaic. Through strategic expansion of innovative manufacturing capabilities and its focus on pioneering efficient semiconductor solutions, TSC is the right choice for a successful and lasting business relationship.

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