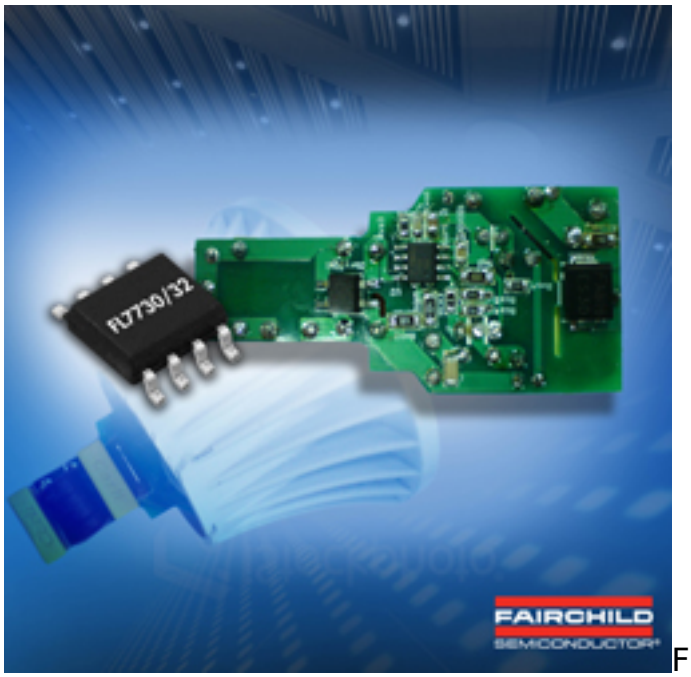
LED Driver is Compatible with Traditional TRIAC Dimming, Analog Dimming and Non-Dimming Lamp Designs



Fairchild Semiconductor introduced the FL7730 single-stage primary side regulation (PSR) controller with power factor correction (PFC), TRIAC and analog dimming compatibility, as well as the FL7732 for non-dimming applications. The FL7730 is an active PFC controller for single-stage flyback topology application. The device supports both TRIAC and analog dimming. Implemented with the company's unique analog sensing technology, the device is asserted to achieve TRIAC dimming control without flicker over the full range of 0 to 100 percent light output. The FL7730 and FL7732 combine primary-side regulation and a single-stage PFC topology to minimize total bill-of-material (BOM) count, such as an input electrolytic capacitor and feedback circuitry, therefore allowing for a more compact, longer life, and lower system cost design. Both devices feature constant on-time control with an internal error amplifier and low bandwidth compensator. Precise Constant Current accuracy/control (±5 percent) regulates accurate output current, independent of input and output voltage.

Operating frequency is proportionally adjusted by output voltage in both devices to guarantee DCM operation with optimized PF/THD and simpler design. Excellent PF (?0.9), low total harmonic distortion (THD) (Class C) and power efficiency of up to 85 percent for the FL7730 – greater than 85 percent for the FL7732 in non-dimming applications – allows these devices to meet worldwide energy saving regulations.

Fairchild offers a total solution portfolio for low- (<20W), mid- (20W to 50W) and high- (>50W) LED driver applications. Our highly integrated PWM and PFC controller solutions reduce component BOM counts to enable smaller lamp sizes and eliminate design complexities, while improving overall lighting efficiency. Fairchild's extensive

product portfolio ranges from discrete devices to integrated solutions that contain PFC controllers, high voltage gate drivers and MOSFETs. With a commitment to energy savings and meeting the most stringent regulations, Fairchild has developed innovative products that maximize performance while reducing board space, design complexity and system costs. In addition, Fairchild's Global Power ResourceSM Center comprised of online tools, FAEs and regional centers staffed by power engineers, is the industry standard for customer design support.

Fairchild Semiconductors
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