



Dual Channel Step-down LED Driver

GENERAL DESCRIPTION

The SM8207 is a dual step-down LED Driver, which has very wide-input operating voltage from 8V to 48V. The device is designed to operate in critical conduction mode (CrM) control scheme (average inductor current control method) optimized to drive high current LEDs. Thus highly efficient and accurate LED current regulation can be achieved. In CrM, the switching frequency will vary with line, load, inductance and switching loss, the current of the inductor starts at zero each switching cycle. So, external power MOSFET can significantly be reduced the peak spike voltage. A external sense resistor (R_{SN}) sets the peak inductor current, which is regulated at 600mV(Typically), under this operating mode results in an average current which is equal to half of the peak switching current.

The dimming of the two LED strings can be controlled via the single PWM pin. The SM8207 also provides a FAULT output to notice external monitor system, When has any abnormal event happen in a fault condition. The SM8207 offer the following protection functions: LED open protection, LED short-circuit protection, IC junction over-temperature shutdown and under voltage lockout (UVLO).

FEATURES

- Wide input operating voltage range from 8V to 48V
- Low current sense threshold of 600mV
- Integrated PWM dimming
- > 90% efficiency
- Application from a few mA to more than 1A output
- LED string from one to hundreds
- Critical conduction mode (CRM)
- LED short-circuit protection (SCP)
- LED open-voltage protection (OVP)
- Junction over-temperature shutdown protection
- Input under-voltage protection (UVLO)
- Cycle-by-cycle current limit
- Providing SOP-16 standard Package

APPLICATIONS

- Backlight for LED TV
- High power LED drivers
- Signage and decorative LED lighting
- Automotive or Industrial

TYPICAL APPLICATION CIRCUIT

