

闪光灯驱动芯片

Description

The CP2159 is a dual LED flash driver that provides a high level of adjustability within a small solution size. The CP2159 utilizes a 2MHz or 4MHz fixed-frequency synchronous boost converter to provide power to the dual 1.5-A constant current LED sources. The total LED current the CP2159 boost can deliver is 1.5A (ILED1+ILED2). The dual 128 level current sources provide the flexibility to adjust the current ratios between LED1 and LED2 with each driver capable of delivering a maximum of 1.5A (ex: ILED1=1.5A and ILED2=OFF, ILED1=OFF and ILED2=1.5A, or a current configuration with a current less than 1.5A, ILED1=950mA and ILED2=250mA). An adaptive regulation method ensures the current sources remain in regulation and maximizes efficiency. Features of the CP2159 are controlled via an I2C-compatible interface. These features include: hardware flash and hardware torch pins (STROBE and TORCH/TEMP), a TX interrupt, and an NTC thermistor monitor. The device offers independently programmable currents in each output leg to drive the LEDs in a Flash or Movie Mode (Torch) condition. The 2-MHz or 4-MHz switching frequency options, overvoltage protection (OVP), and adjustable current limit allow for the use of tiny, low-profile inductors and (10- μ F) ceramic capacitors. The device operates over a -40°C to 85°C ambient temperature range.

Features:

- Dual High-Side Current Sources Allow for grounded Cathode LED Operation
- Independent LED Current Source Programmability
- Accurate and Programmable LED Current from 1.4mA to 1.5A
- Optimized Flash LED Current During Low Battery Conditions (IVFM)
- >85% Efficiency in Torch Mode (@ 100mA) and Flash Mode (@ 1A to 1.5A)
- Small Solution Size
- Hardware Strobe Enable (STROBE)
- Synchronization Input for RF Power Amplifier Pulse Events (TX)
- Hardware Torch Enable (TORCH/TEMP)
- Remote NTC Monitoring (TORCH/TEMP)
- 400-kHz I2C-Compatible Interface
- Available in 12-Pin 1.66mm x 1.26mm CSP Package

Applications

- Camera Phone LED Flash
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Typical Application

