

## 4-channel LED driver, including a built-in DC-DC converter, for LCD TV backlight Backlight LED Driver AN37010A

### ■ Overview

AN37010A is a 4-channel LED driver IC with built-in step-up DC-DC converter, for LCD TV backlight. It is possible to drive series-connected LEDs up to the voltage of 180 V applied to each channel. Inputting PWM duty pulse for every channel externally supports the local dimming control.

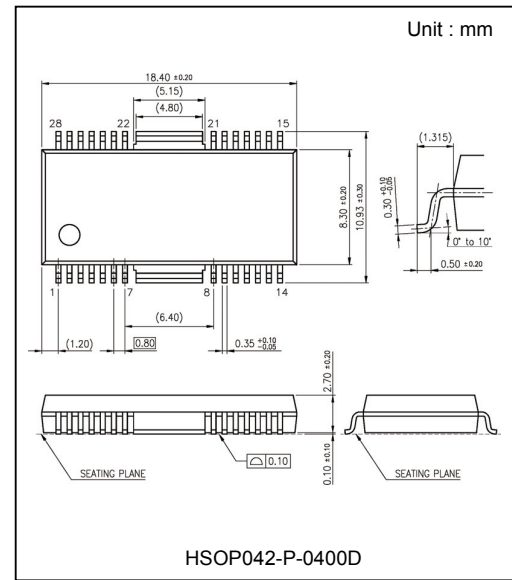
Moreover, since the maximum LED current value of each 4-channel can be adjusted by external applied voltage, either normal mode or backlight scan mode can be used by selecting the maximum LED peak current value.

### ■ Feature

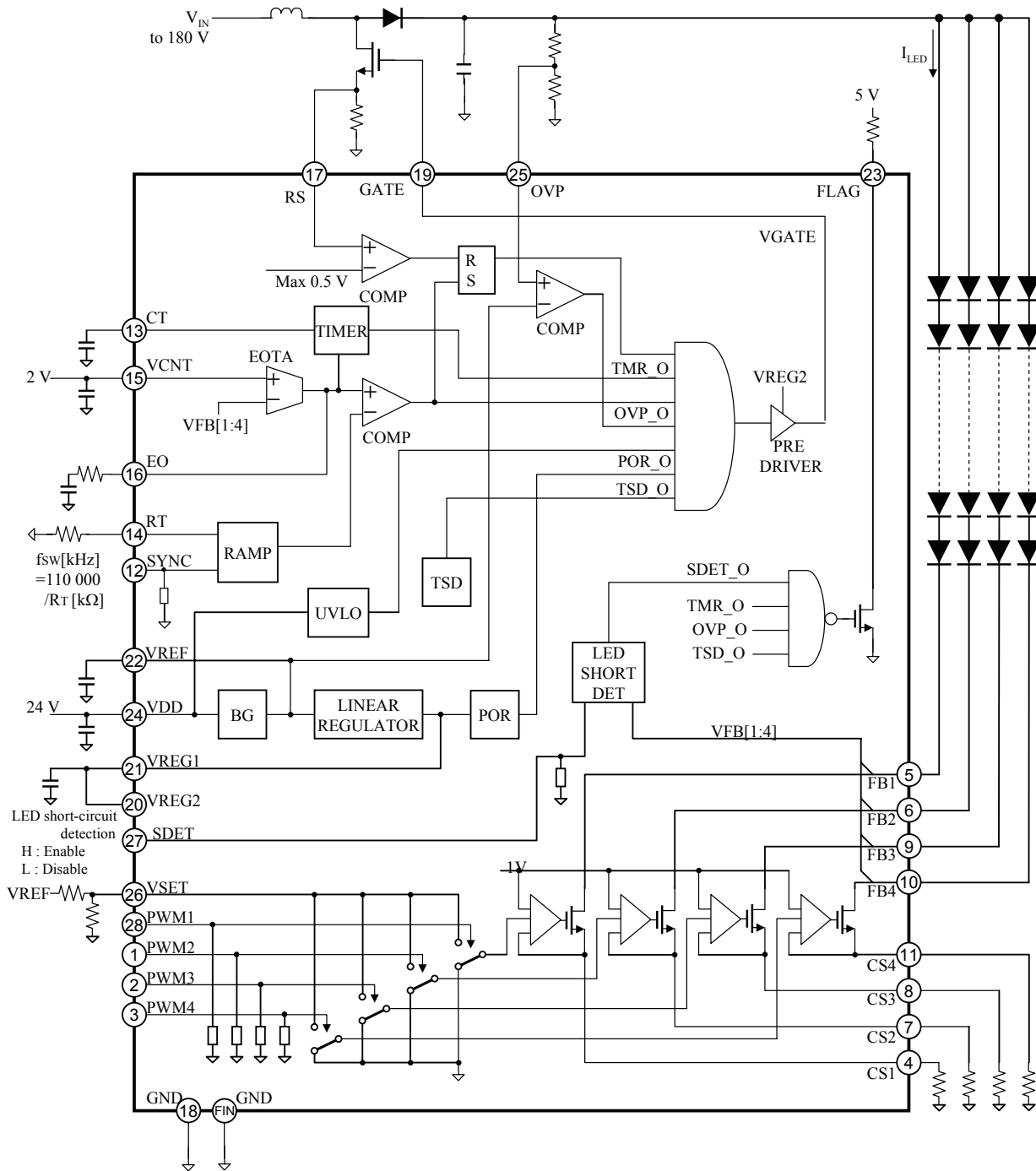
- LED driver IC with 4-channel constant current output
- Integrated 185V, 2Ω (typ.) MOSFETs for LED Driver Stages
- LED drive current range of each channel : 10 mA to 200 mA
- Dimming control by individual PWM Dimming for each channel
- Setting the common peak current value for all channels by external applied voltage
- Built-in various protection functions
  - Thermal shutdown protection
  - Over-voltage protection
  - Over-current protection
  - LED abnormal detection etc.
- Built-in 5 V regulator for internal circuits of IC
- The switching frequency of DC-DC converter is synchronized with an external signal

### ■ Applications

LED Backlighting for LCD-TV sets and LCD monitors



## Block Diagram



- Notes)
- This application circuit is an example. The operation of mass production set is not guaranteed. Perform enough evaluation and verification on the design of mass production set.
  - This block diagram is for explaining functions. Part of the block diagram may be omitted, or it may be simplified.