

# 4 Strings High Current White LED Driver with Boost Controller

## DESCRIPTION

The EUP2998 is a high power and high efficiency boost controller with 4-channel current sinker which is ideal for large LCD backlighting applications.

EUP2998 uses current mode, fixed frequency architecture which can clamp the inductor peak current each cycle. The switching frequency is programmable by an external frequency setting resistor. It drives an external MOSFET to boost up the output voltage to maximum value of 90V from a 8V to 35V input supply. The EUP2998 regulates the current in each LED string to the programmed value set by an external current setting resistor. The EUP2998 current matching can achieve  $\pm 1.5\%$ .

A  $3\mu\text{A}$  shutdown current and 0.4V (ILED@100mA) feedback voltage will greatly improve efficiency and reduce power dissipation.

The device supports both direct pulse width modulation (PWM) brightness dimming and PWM to Analog dimming. When use PWM dimming signal to adjust the LEDs brightness, a direct PWM LED current and analog LED current will be obtained set by the external circuits connected to LPF.

The EUP2998 integrated multiple protect functions, such as LED Open, LED Short, Inductor Short, Schottky Diode Short, CHx Short to Vout, Output Over Voltage, Over thermal, Input Over Current, and Under Voltage Lockout (UVLO), these protection will prevent the LCD backlight from damage.

EUP2998 is available in TSSOP16-EP and SOP-16 packages.

## FEATURES

- 8.5V gate driver
- 4 strings in parallel and up to 25 LEDs per string
- Up to 240mA drive capability for each string
- Supports both Analog and Direct PWM Dimming
- Built in convert for converting external PWM signal to analog dimming signal
- Output voltage up to 90V
- Boost Switching frequency can be programmed by external resistor
- Wide Input voltage range 8V to 35V
- Better than 1.5% LED Current Regulation Accuracy Between Strings
- Multiple Fault Protections
  - Current Limit protection
  - Output Short circuit detection
  - Over-temperature protection
  - Output Over-voltage protection
- LED current turn off in shutdown mode
- Support multiple-IC parallel operation
- Thermal Enhanced TSSOP-16L and SOP-16 Packages
- RoHS Compliant and 100% Lead (Pb)-Free Halogen-Free

## APPLICATIONS

- Desktop LCD Flat Panel Displays
- Flat Panel Video Displays
- LCD TVs and Monitors

## Typical Application Circuit

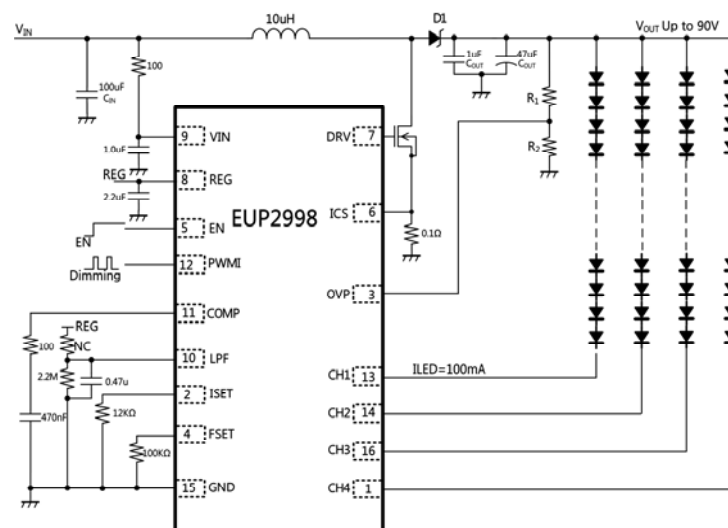


Figure 1. Typical Application Circuits