

4-Channels HB-LED Driver with High Voltage DC-DC Controller

Features

- 4 Channels
- Drive 20mA to 150mA Each Channel
- 100Hz to 25kHz Dimming Frequency
- Current Mode Boost Controller
- 10V to 30V Input Supply
- 50kHz to 2MHz Programmable Switching Frequency
- External Switching Frequency Synchronization
- Current Matching 2%
- Highest Vf String Detection for Regulation
- Protections:
 - Open LED Protection (OLP)
 - Short LED Protection (SLP)
 - Switch Over Current Protection (OCP)
 - Output Over Voltage Protection (OVP)
 - Over Temperature Protection (OTP)
- TSSOP-20 (FD) Package
- RoHS Compliant

General Description

The G5994 is an integrated HB-LED backlight driver that controls 4 channels of LED current for LCD backlight applications such as LCD TV and LCD monitor. The G5994 is capable for driving 20mA to 150mA white LEDs. The G5994's 4 channels of voltage controlled current sinks with 2% current matching compensate for the non-uniformity effect of forward voltage variance in the LED stacks. To minimize the voltage headroom and power loss in the typical multi-strings operation, the G5994 monitors the total highest LED forward voltage string and uses its feedback signal for output regulation.

A SETI pin is used for programming maximum LED current. A high contrast ratio true PWM dimming can be achieved by driving DIM pin with a PWM signal. LED current is proportional to the DIM pin duty.

The G5994 features extensive protection functions that include OLP, SLP, OCP, OVP and OTP. It is available in a TSSOP-20 (FD) package.

Applications

- LCD TV LED Backlighting
- LCD Monitor LED Backlighting

Ordering Information

| ORDER NUMBER | MARKING | TEMP. RANGE | PACKAGE (Green) |
|--------------|---------|----------------|-----------------|
| G5994F21U | G5994 | -40°C to +85°C | TSSOP-20 (FD) |

Note: F2: TSSOP-20 (FD)

1: Bonding Code

U: Tape & Reel

Pin Configuration

