G2542

6-Channels 40V White LED Driver with Boost Regulator

Features

- **Wide 2.7V to 5.5V Input Supply Range**
- **600KHz Fixed Frequency**
- **40V/2A, 0.2Ω n-channel MOSFET**
- **Maximum Programmable LED Channel Current 30mA**
- **Current accuracy ±3% and current balance ±2%**
- **100Hz~25kHz PWM Dimming**
- **PWM to DC Dimming**
- **Protection**
  - **Input Under-Voltage Protection**
  - **Over Current Protection**
  - **Over Voltage Protection**
  - **Thermal Protection**
- **RoHs Compliant**
- **TQFN4X4-20 Package**

Applications

- **UMPC and Notebook Computer Backlight**

Ordering Information

ORDER NUMBER	TEMP. RANGE	PACKAGE (Green)	PACKING
G2542R91U	2542	-40°C to +85°C	TQFN4X4-20

Note:R9: TQFN4X4-20
1: Bonding Code
U: Tape & Reel

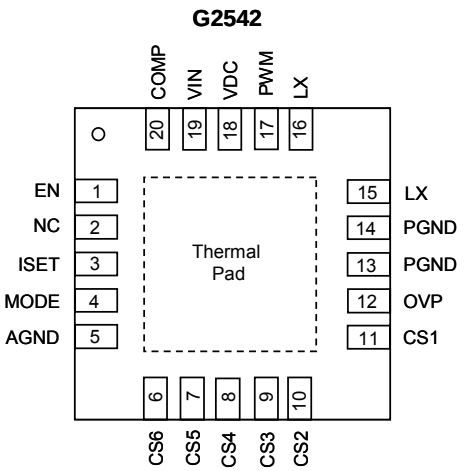
General Description

The G2542 is a high-efficiency 6-channel white LED driver. It is designed for LCD panel that employs an LED array as the lighting source. An integrated switch current mode boost controller drives six strings in parallel and supports up to 10 pieces of LEDs per string.

The G2542 automatically regulated supply voltage for the LED light bars without the need to calculate the output for different LED types. It also integrates a 40V n-channel MOSFET that provides high output power. The 6-channel current driver is ideal for constant current driving, and well matched less than 3%. To set the maximum driving current, the ISET pin is used to determine reference current. Each channel of the current drivers is set to 800 times of this reference current. A PWM pin can be used to perform PWM dimming from the range of 100Hz to 25kHz.

The MODE pin in G2542 is used to set the dimming mode. If MODE pin set to floating, the dimming mode is in the PWM mode, the current driver ON/OFF is synchronized with the PWM signal. If Mode pin set to AGND, PWM and ILED current is set at PWM duty multiplied by ISET current when PWM duty ≥ 25%. If the PWM duty <25%, the ILED current is fixed at 0.25xISET, and the dimming duty is 4 x PWM duty. If MODE set to VDC, the dimming mode operated in the Pure DC mode, the current-source outputs are DC dimming and the PWM duty cycle modulates the amplitude of the currents. Open LED-string automatically disable the channel from entering over voltage protection.

Pin Configuration



TQFN4X4-20

Note: Recommend connecting the Thermal Pad to the Ground for excellent power dissipation.

Typical Application Circuit

