Boost WLED Driver for Backlights

Features

- 5V to 24 V Input Supply Voltage
- Boost Converter
  - Automatically Adjusting Output Voltage
  - 1.0MHz Switching Frequency
  - Integrated 2.0A 40V NFET
  - Internal Loop Compensation and Soft Start
  - Over Current Protection
  - Over Voltage Protection
  - Over 90% High Efficiency
- Six Channel Current Sink
  - Maximum 30mA Current Sink
  - 3% Current Matching and Accuracy
  - 100:1 PWM Brightness Dimming Range
- Open/Short LED protection
- Thermal Shutdown
- Small 16-pin 3mmx3mm TQFN package

Applications

- Notebook Displays LED Backlighting
- LCD Monitor LED Backlighting

General Description

The G5966 is a 6-channel boost WLED driver for backlight applications. It features a high-performance boost converter, six channel current sink with 3% current matching and accuracy, and PWM brightness dimming control.

The boost converter automatically provides the regulated output voltage for the WLED backlight without the need to calculate the output for different LED types. The switching frequency is 1MHz. It also integrates a 40V NFET that provides high output power.

The 6-channel current sink is ideal for constant current driving, and, well matched less than 3% (typical). To set the maximum driving current, the ISET pin is used to determine reference current. Each channel of the current sink is set to 1000 times of this reference current. A PWM pin can be used for PWM dimming.

The G5966 provides many protection schemes to avoid any abnormal operation. Over current protection is designed to protect internal NFET. It also provides over voltage and over temperature protection. The G5966 can detect open or short LED and offer protections.

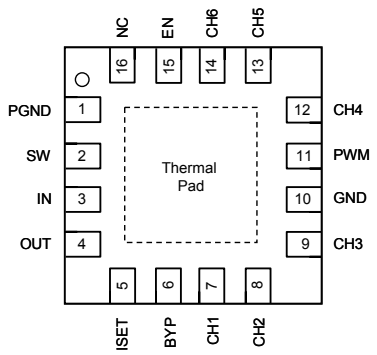
The G5966 is available in a 16-pin 3x3mm TQFN package.

Ordering Information

ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G5966R41U	5966	-40°C to 85°C	TQFN3X3-16

Note: R4: TQFN3X3-16
1: Bonding Code
U: Tape & Reel

Pin Configuration



G5966 TQFN3X3-16

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

Typical Application Circuit

