



## 8-Channels LED Driver

### Features

- 8 Channels
- 4.2V to 24V Input Supply
- 48V Maximum Output Voltage
- Channel Full current Programmable up to 30mA
- Current Matching 1.5%
- Highest Vf String Detection for Regulation
- High Accuracy Digital Dimming by PWM Pin
- Automatic Connect/Disconnect LED
- 1MHz Switching Frequency
- Power sequence free for EN, PWM and VIN
- Protections:
  - ◆ Open LED Protection (OLP)
  - ◆ Over Current Protection (OCP)
  - ◆ Over Voltage Lockout (OVP)
  - ◆ Over Temperature Protection (OTP)
- TQFN4X4-24 & TSSOP-20 (FD) Package
- RoHS Compliant

### Applications

- Notebook Display LED Backlighting
- LCD Monitor LED Backlighting
- LCD TV LED Backlighting
- Automotive Display Backlighting

### General Description

The G5968B is an integrated power LED backlight driver that controls 8 channels of LED current for LCD backlight applications such as notebook computer and LCD monitor. The G5968B is a current mode boost converter integrated with 48V/2.5A power switch drivers the LED array. The G5968B's 8 channels of voltage controlled current sinks with current matching within 1.5%, which 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 G5968B monitors the total highest LED forward voltage string and uses its feedback signal for output regulation.

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

The G5968B features extensive protection functions that include OLP, OCP, OVP and OTP. It is available in a TQFN4X4-24 & TSSOP-20 (FD) package.

### Ordering Information

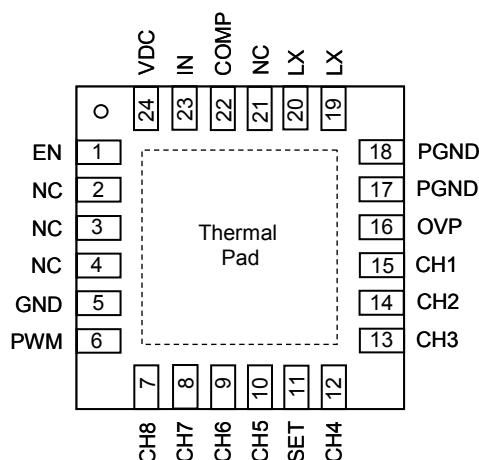
ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G5968BR51U	5968	-40°C to +85°C	TQFN4X4-24
G5968BF21U	G5968	-40°C to +85°C	TSSOP-20 (FD)

Note: R5: TQFN4X4-24 F2: TSSOP-20 (FD)

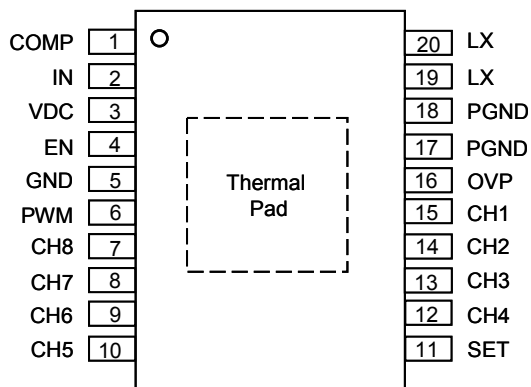
1: Bonding Code

U: Tape & Reel

### Pin Configuration



**G5968B TQFN4X4-24**



**G5968B TSSOP-20 (FD)**

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

## 8-Channels LED Driver

### Features

- 8 Channels
- 2.7V to 24V Input Supply
- 48V Maximum Output Voltage
- Channel Full current Programmable up to 30mA
- Current Matching 1.5%
- Highest Vf String Detection for Regulation
- High Accuracy Digital Dimming by PWM Pin
- Automatic Connect/Disconnect LED
- 1MHz Switching Frequency
- Power sequence free for EN,PWM and VIN
- Protections:
  - Open LED Protection (OLP)
  - Over Current Protection (OCP)
  - Over Voltage Lockout (OVP)
  - Over Temperature Protection (OTP)
- TQFN4X4-24 & TSSOP-20 (FD) Package
- RoHS Compliant

### Applications

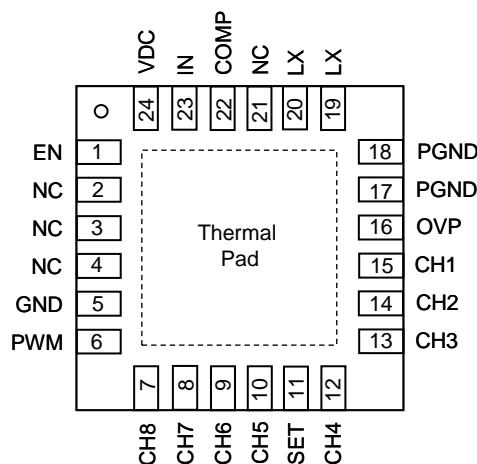
- Notebook Display LED Backlighting
- LCD Monitor LED Backlighting
- LCD TV LED Backlighting
- Automotive Display Backlighting

### Ordering Information

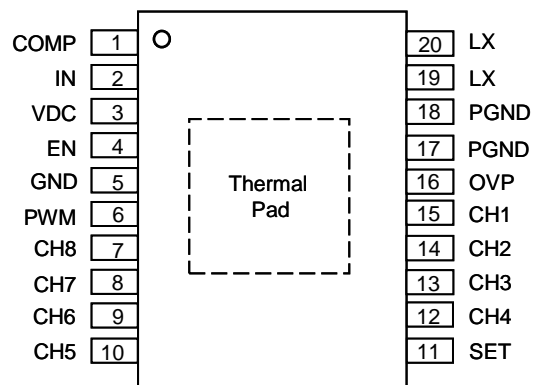
ORDER NUMBER	MARKING	TEMP. RANGE	PACKAGE (Green)
G5968LR51U	5968L	-40°C to +85°C	TQFN4X4-24
G5968LF21U	5968L	-40°C to +85°C	TSSOP-20 (FD)

Note: R5: TQFN4X4-24 F2: TSSOP-20 (FD)  
 1: Bonding Code  
 U: Tape & Reel

### Pin Configuration



**G5968L TQFN4X4-24**



**G5968L TSSOP-20 (FD)**

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

### General Description

The G5968L is an integrated power LED backlight driver that controls 8 channels of LED current for LCD backlight applications such as notebook computer and LCD monitor. The G5968L is a current mode boost converter integrated with 48V/2.5A power switch drivers the LED array. The G5968L's 8 channels of voltage controlled current sinks with current matching within 1.5%, which 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 G5968L monitors the total highest LED forward voltage string and uses its feedback signal for output regulation.

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

The G5968L features extensive protection functions that include OLP, OCP, OVP and OTP. It is available in a TQFN4X4-24 & TSSOP-20 (FD) package.