

# IS32LT3952

## CONSTANT-CURRENT 1.5-AMPERE PWM DIMMABLE BUCK REGULATOR LED DRIVER

Advance Information  
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### GENERAL DESCRIPTION

The IS32LT3952 is a DC-to-DC switching converter, which integrate an N-channel MOSFET to operate in a buck configuration. The device supply a wide input voltage between 5V and 40V and provides a constant current of up to 1.5A for driving a single LED or multiple series connected LEDs.

The external resistor,  $R_{SET}$ , is used to adjust LED output current, which allowing the output voltage to be automatically adjusted for a variety of LED configurations.

The IS32LT3952 operates in a fixed frequency mode during switching. There is an external resistor connected between the VCC and TON pins used to configure the on-time (switching frequency).

A logic input PWM signal to the enable (EN) pin is applied to adjust the LED current. The brightness of LED is proportional to the duty cycle of the PWM signal.

True average output current operation is achieved with fast transient response by using cycle-by-cycle, controlled on-time method.

IS32LT3952 is available in an SOP-8-EP package with an exposed pad for enhanced thermal dissipation. It operates from 5V to 40V over the temperature range of -40°C to +125°C.

### FEATURES

- Wide input voltage supply from 5V to 40V
- True average output current control
- 1.5A maximum output over operating temperature range
- Cycle-by-cycle current limit
- Integrated MOSFET switch
- Dimming via direct logic input or power supply voltage
- Internal control loop compensation
- Under-voltage lockout (UVLO) and thermal shutdown protection
- 1 $\mu$ A low power shutdown
- Robust protection against:
  - Pin-to-GND short
  - Component open/short faults
  - Adjacent pin-to-pin short
- Automotive AEC-Q100 Qualified (Pending)

### APPLICATIONS

- Automotive and avionic lighting
- Dimmable interior lights
- Daytime running lights
- Turn/stop lights
- Front and rear fog lights
- Map light

### TYPICAL APPLICATION CIRCUIT

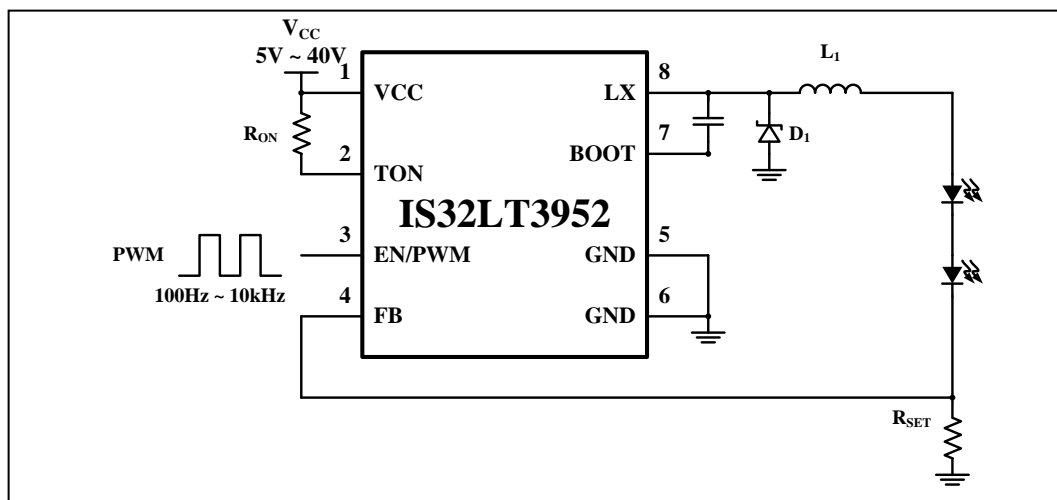


Figure 1 Typical Application Circuit

**Note:** Both GND pins must be connected to ground simultaneously.