

36V/24V/19V High Efficiency Step-Up LED Driver with PWM Control

Features

- Wide output range: up to 10 series LEDs
- Integrated 40V high current switch (800mA limit)
- High efficiency PWM converter (up to 90%)
- Low 200mV feedback voltage
- High accuracy across full load range
- V_{IN} range: 2.7V to 5.5V
- LED open-circuit (OVP) protection
 - KTD2531: 36V
 - KTD2531B: 24V
 - KTD2531C: 19V
- High switching frequency
 - KTD2531: 900kHz
 - KTD2531B/C: 1.1MHz
- PWM dimming frequency: 100Hz to 200kHz
- Simple, small solution size
- Integrated Soft-start
- Shutdown Current less than 1 μ A
- Small TSOT23-6 Package
- RoHS and Green compliant
- -40°C to +85°C Temperature Range

Brief Description

The KTD2531 is a versatile constant current LED driver with a high efficiency DC-DC step up “boost” converter architecture. The low-side power MOSFET is integrated in the device, minimizing the total number of external components. Unique technology and high 800mA current limit allow KTD2531 to drive up to 36V output (10 LEDs in series), up to 24V using KTD2531B (6 LEDs in series) or up to 19V using KTD2531C (5 LEDs in series). Alternatively, KTD2531 can deliver 160mA total current with 3 series LEDs per string. It can also maximize the current capability while achieving high conversion efficiency. The optimized 0.9MHz and 1.1MHz switching frequencies result in small external component size. The driver allows a wide range of PWM dimming frequencies through the EN pin.

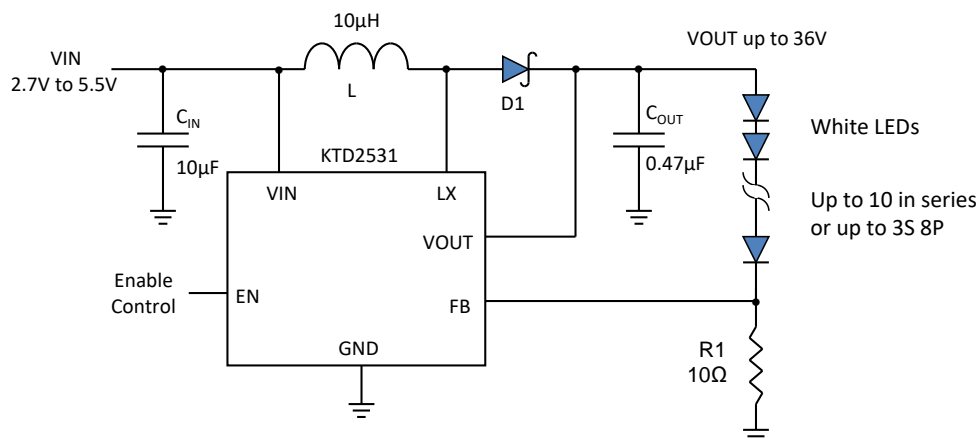
Various protection features are built into the KTD2531, including cycle-by-cycle input current limit protection, LED open-circuit (output over voltage) protection and thermal shutdown protection. The leakage current in shutdown mode is less than 1 μ A.

The KTD2531 is available in a RoHS compliant 6-lead TSOT23 package.

Applications

- LED backlighting
- Mobile Phones
- Handheld Devices
- Digital Photo Frames
- Automotive Navigation

Typical Application



Ordering Information

Part Number	OVP Threshold (nominal)	Marking ¹	Operating Temperature	Package
KTD2531EHD-TR	36V	FBYYZ	-40°C to +85°C	TSOT23-6
KTD2531BEHD-TR	24V	__YYZ	-40°C to +85°C	TSOT23-6
KTD2531CEHD-TR	19V	__YYZ	-40°C to +85°C	TSOT23-6

1. "YYZ" is the date code and assembly code.

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