

YX8045

45V_{IN}, 45V_{OUT} Synchronous Buck LED Driver

PRODUCT INTRODUCTION

The YX8045 is a synchronous buck LED driver suited for driving silicon (Si) MOSFET or Gallium Nitride (GaN) power transistors in highly efficient DC-DC power converters. It supports a wide input range up to 45V with maximum 98% power efficiency. The YX8045 integrates both high side and low side gate drivers with UVLO protections for both drive rails. It can also support non-synchronous buck operation. It provides programmable input current limiting and accurate LED current regulation. The LED open and short detection features protecting device from external fault condition. It also supports adjustable dead time control for optimal turn on/off of power switches to reduce switching loss for high efficiency.

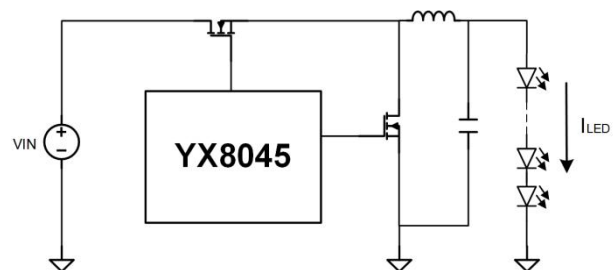
The YX8045 supports ultra-wide switching frequency range from 50KHz up to 3MHz as well as integrates frequency spread spectrum (FSS) for EMI optimization. It also features external compensation, programmable soft-start and fault reporting. The YX8045 is available in 32-lead QFN package.

FEATURES

- Up to 98% power efficiency
- Wide input and output voltage range up to 45V
- Ultra-wide switching frequency: 50KHz to 3MHz
- 5V driver voltage for Si FETs or GaN FETs
- High LED current accuracy ($\pm 3\%$)
- Support both PWM Dimming (2000:1) and Analog Dimming
- Drive supply rail UVLO protection
- Adjustable dead time control
- Frequency spread spectrum (FSS)
- Integrated high accuracy ($\pm 1\%$) 1.8V VREF
- Open LED and short LED protection
- 32-Lead side-wettable QFN Package

APPLICATIONS

- High power LED drivers
- Vehicle head lights/tail lights
- Consumer, Industrial and Automotive



Simplified Circuit Diagram