YX81105 – 100V$_{IN}$, 100V$_{OUT}$ Synchronous Boost LED Driver

1 Features

- **P2P to YX8165 to upgrade to 100V**
- Wide input voltage：3.5V to 100V
- Wide output voltage：0 to 100V
- Up to 98% power efficiency
- output current sense ISMON2
- Ultra-wide switching frequency: 50KHz to 2MHz
- Programmable input and output current limits 5
- V driver voltage for Si FETs or GaN FETs
- High LED current accuracy (±3%)
- Support both PWM Dimming (2000:1) and Analog Dimming
- Drive supply rail UVLO protection
- Frequency spread spectrum (FSS)
- External compensation with user programmable soft-start
- Integrated high accuracy (±1%) 1.8V VREF
- Open LED and short LED protection
- Digital state machine for diagnostics and fault reporting
- 32-Lead QFN Package

2 Applications

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

3 Description

The YX81105 is a synchronous boost LED driver suited for driving silicon (Si) MOSFET or Gallium Nitride (GaN) power transistors for highly efficient LED application. It supports a wide output range up to 100V with maximum 98% power efficiency. It provides programmable output current limiting and accurate LED current regulation. The LED open and short detection features protect device from external fault condition. The YX81105 integrates both high side and low side gate drivers with UVLO protections for both drive rails, which support both synchronous and non-synchronous boost LED driver. The programmable compensation and soft-start functions provide flexible design.

The YX81105 supports ultra-wide switching frequency range from 50KHz up to 2MHz and integrates frequency spread spectrum (FSS) and fault reporting.

The YX81105 is available in 32-lead QFN package.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX81105CAJBE	32L QFN	5mm × 5mm

5 Typical Application for Boost LED Driver & Power Efficiency