

YX80105 – 100V_{IN}, 100V_{OUT} Synchronous Buck LED Driver

1 Features

- **P2P to YX8065 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 YX80105 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 105V with maximum 98% power efficiency. The YX80105 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.

The YX80105 supports ultra-wide switching frequency range from 50KHz up to 2MHz as well as integrates frequency spread spectrum (FSS) for EMI optimization. It also features external compensation, programmable soft-start and fault reporting.

The YX80105 is available in 32-lead QFN package.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX80105CAJBE	32L QFN	5mm × 5mm

5 Typical Application for Buck LED Driver & Power Efficiency

