

## YX82105 – 100V<sub>IN</sub>, 100V<sub>OUT</sub>, Synchronous Buck-Boost LED Driver

### 1 Features

- **P2P to YX8265 to upgrade to 100V**
- Support driving GaN and Silicon MOSFET
- Wide VIN range: 3.5V to 100V
- Wide VOUT range: 0 to 100V
- Regulation Loops: CC2,FB2
- CC/CV regulation with PG
- High LED current accuracy ( $\pm 3\%$ )
- 5V Gate Drive Voltage
- External Clock Sync & Internal Clock OUTPUT
- Frequency spread spectrum (FSS)
- output current sense ISMON2
- Integrated high accuracy ( $\pm 1\%$ ) 1.8V VREF
- Open LED and short LED protection
- Digital state machine for diagnostics and fault reporting
- Up to 98% Power efficiency
- Ultra-wide switching frequency: 50KHz to 2MHz
- Gate driver: 0.6 $\Omega$  pull-down, 1.2 $\Omega$  pull-up
- 32-Lead QFN Package

### 2 Applications

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

### 3 Description

The YX82105 is a synchronous buck-boost 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 and output ranges up to 100V with seamless transitions between buck, buck-boost and boost mode. 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 YX82105 supports ultra-wide switching frequency range from 50KHz up to 2MHz and integrates frequency spread spectrum (FSS) for EMI optimization. It also features external compensation, programmable soft-start and fault reporting.

The YX82105 is available in 32-lead QFN package.

### 4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX82105CAJBE	32L QFN	5mm × 5mm

### 5 Typical Application for Buck-Boost LED Driver & Power Efficiency

