

YX22105 – 100V_{IN}, 100V_{OUT}, Synchronous Buck-Boost CC/CV Controller

1 Features

- **P2P to YX2265 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,FB1,FB2
- CC/CV regulation with PG
- 5V Gate Drive Voltage
- External Clock Sync & Internal Clock OUTPUT
- Frequency Spread Spectrum (FSS)
- output current sense ISMON2
- Support Bidirectional Operation & LED Driver
- Up to 98% Power efficiency
- Ultra-wide switching frequency: 50KHz to 2MHz
- Gate driver: 0.5Ω pull-down, 1Ω pull-up
- 32-Lead QFN (5mmx5mm)
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2 Applications

- Buck-Boost DC-DC supplies
- Automotive infotainment
- Solar energy MPPT optimizer/controller

3 Description

The YX22105 is a buck-boost controller suited for driving silicon MOSFET or Gallium Nitride (GaN) power transistors in highly efficient power converters. It supports wide input and output range up to 100V with seamless transitions between buck, buck-boost and boost modes. It also supports Bidirectional operation & LED Driver. The YX22105 integrates both high side and low side gate drivers with UVLO protections. It provides programmable inductor peak current limit and output current limit functions with output instant current monitoring capability through ISMON. The CC/CV regulation capability allows it to be fitting in battery charging systems.

The YX22105 supports ultra-wide switching frequency range from 50KHz up to 2MHz and integrates frequency spread spectrum (FSS) for EMI optimization. Optional external clock synchronization function facilitates the parallel operation. It also features external compensation, programmable soft-start to reduce the inrush current during start up.

The YX22105 is available in 5mmx5mm 32-lead QFN package.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX22105CAJBE	32L QFN	5mm × 5mm

5 Typical Application circuit for Buck-Boost Converter & Power efficiency

