

YX2045

45V_{IN}, 45V_{OUT} Synchronous Buck CC/CV Controller

PRODUCT INTRODUCTION

The YX2045 is a synchronous buck controller suited for driving silicon (Si) MOSFET or Gallium Nitride (GaN) power transistors in highly efficient power converters. It supports a wide input range up to 45V with maximum 98% power efficiency. The YX2045 integrates both high side and low side gate drivers with UVLO protections. It can also support non-synchronous buck operation. It provides input, output current monitoring, and current sensing output with power good reporting. It also supports adjustable dead time control for optimal turn on/off of power switches to reduce switching loss for high efficiency.

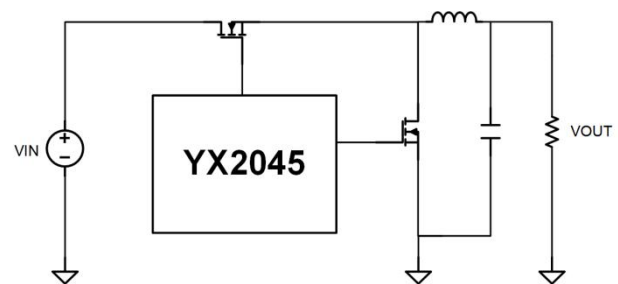
The YX2045 supports ultra-wide switching frequency range from 50KHz up to 3MHz as well as integrates frequency spread spectrum (FSS) for EMI optimization. It also features external compensation, programmable soft-start to reduce the inrush current during start up.

FEATURES

- Wide VIN: 2.7V to 45V, Wide VOUT: 2V to 45V
- Up to 98% power efficiency
- Ultra-wide switching frequency: 50KHz to 3MHz
- CC/CV regulation capability
- 5V driver voltage for Si FETs or GaN FETs
- Gate driver: 0.6Ω pull-down, 1.2Ω pull-up resistance
- Drive supply rail UVLO protection
- Adjustable dead time control
- Frequency spread spectrum (FSS)
- Integrated high accuracy (±1%) 1.8V VREF
- 32-Lead side-wettable QFN Package

APPLICATIONS

- Buck DC-DC regulator
- Consumer, Industrial and Automotive
- USB-C PD and charger



Simplified Circuit Diagram