

YX20146 – 100V_{IN},100V_{OUT} Synchronous Buck CC/CV Controller

1 Features

- Wide V_{IN}: 4V to 100V, Wide V_{OUT}: 2V to 100V
- Up to 98% power efficiency
- Ultra-wide switching frequency: 50KHz to 3MHz
- Programmable output current limits, with load current sensing at ISMON
- CC/CV regulation capability
- 6V driver voltage for Si FETs
- Gate driver: 0.6Ω pull-down, 1.2Ω pull-up resistance
- Drive supply rail UVLO protection
- Frequency spread spectrum (FSS)
- Optional external clock synchronization (SYNCl)
- External compensation with user-programmable soft-start
- Integrated high accuracy (±1%) 1.8V VREF
- Power good reporting
- 24-Lead QFN Package (4mm x 4mm)

2 Applications

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

3 Description

The YX20146 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 100V with maximum 98% power efficiency. The YX20146 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.

The YX20146 supports an 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 startup.

The YX20146 is available in a 4mm x 4mm 24-lead QFN package.

[Ordering Information](#) appears at page2 of datasheet.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX20146CAHAW	24L QFN	4mm x 4mm

5 Typical Application for Buck converter & Power Efficiency

