YX21652 – 55V_{IN}, 60V_{OUT} Synchronous Boost Converter with CC/CV

1 Features

- Integrated Two 8.3mΩ VDMOS Power FETs
- Compact system design for up to 5A current
- Wide V_{IN}: 4V to 55V, Wide V_{OUT}: 6V to 60V
- Up to 96% power efficiency
- Ultra-wide switching frequency: 50KHz to 3MHz
- Programmable output current limits, with load current sensing at ISMON
- CC/CV regulation capability
- Drive supply rail UVLO protection
- Adjustable dead time: 40ns/80ns
- Frequency spread spectrum (FSS)
- External compensation with user programmable soft-start
- Integrated high accuracy (±1%) 1.8V VREF
- Power good reporting
- 47-Lead QFN Package (6mmx6mm)

2 Applications

- Boost DC-DC regulator
- Consumer, Industrial and Automotive

3 Description

The YX21652 is a highly efficient power synchronous boost converter with fully-integrated high-side and low-side 8.3mΩ VDMOS Power MOSFETs. It supports a wide input range up to 55V with maximum 96% power efficiency. The YX21652 integrates dead time control and VCC UVLO protections, supporting load current up to 5A and external compensation for different applications. It provides accurate input, output current monitoring, and current sensing output with power good reporting. The YX21652 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. The YX21652 is available in 6mmx6mm 47-lead QFN package, with large exposed pad for thermal dissipation.

Ordering Information appears at page2 of datasheet.

4 Device Information

PART NUMBER	PACKAGE	BODY SIZE (NOM)
YX21652CALBT	47L QFN	6mm × 6mm

5 Typical Application for Boost converter & Power Efficiency