

# Monolithic Dual Tracking 3A Step-Down Switching Regulator

## FEATURES

- **Wide Input Range:**
  - Operation from 3V to 60V
- **Independent Supply, Shutdown, Soft-Start, UVLO, Programmable Current Limit and Programmable Power Good for Each 3A Regulator**
- **Die Temperature Monitor**
- **Adjustable/Synchronizable Fixed Frequency Operation from 250kHz to 2MHz with Synchronized Clock Output**
- **Independent Synchronized Switching Frequencies Optimize Component Size**
- **Antiphase Switching**
- **Outputs Can Be Paralleled**
- Flexible Output Voltage Tracking
- Low Dropout: 95% Maximum Duty Cycle
- 5mm × 5mm QFN Package
- FMEA Compliant 38-Pin Exposed Pad TSSOP Package

## APPLICATIONS

- Automotive Supplies
- Distributed Supply Regulation

## DESCRIPTION

The LT<sup>®</sup>3992 is a dual current mode PWM step-down DC/DC converter with two internal 4.6A switches. Independent input voltage, shutdown, feedback, soft-start, UVLO current limit and comparator pins for each channel simplify complex power supply tracking and sequencing requirements.

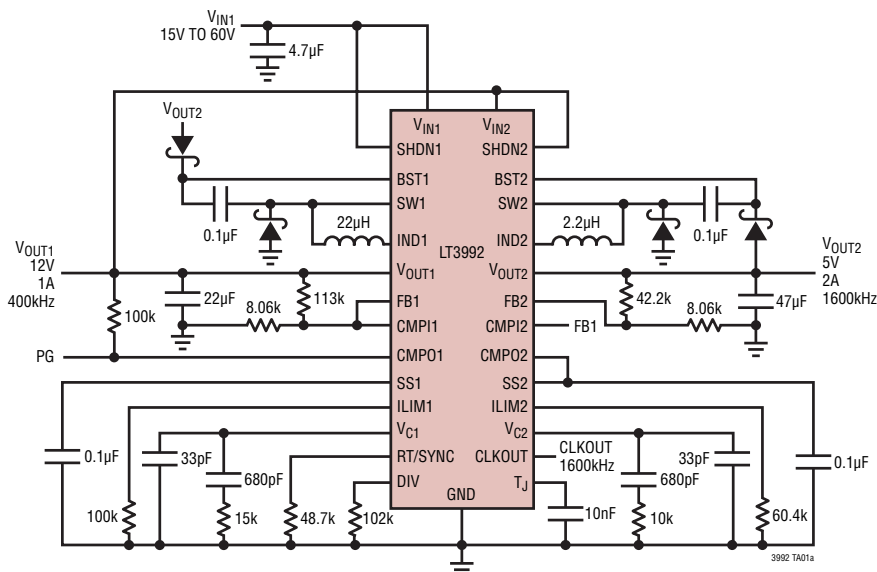
To optimize efficiency and component size, both converters have a programmable maximum current limit and are synchronized to either a common external clock input, or a resistor settable fixed 250kHz to 2MHz internal oscillator. A frequency divider is provided for channel 1 to further optimize component size. At all frequencies, a 180° phase relationship between channels is maintained, reducing voltage ripple and component size. A clock output is available for synchronizing multiple regulators.

Minimum input to output voltage ratios are improved by allowing the switch to stay on through multiple clock cycles only switching off when the boost capacitor needs recharging. Independent channel operation can be programmed using the SHDN pin. Disabling both converters reduces the total quiescent current to <10μA.

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## TYPICAL APPLICATION

12V and 5V 2-Stage Multi-Frequency Step-Down Converter



Independent Synchronized  
Switching Frequencies Extend  
Full Frequency Input Range

