



38V Input Synchronous Boost Controller Operates at 150°C with up to 98% Efficiency

MILPITAS, CA – November 7, 2016 – Linear Technology Corporation announces the H-grade versions of the [LTC3786](#), a synchronous step-up DC/DC controller with guaranteed operation for junction temperatures up to 150°C. The LTC3786 replaces the boost diode with an N-channel MOSFET for higher efficiency and reduced power loss. This controller can produce 24V at 5A output from a 12V input with up to 98% efficiency, ideal for automotive, industrial, and medical applications.

The LTC3786 operates from an input voltage ranging from 4.5V to 38V during start-up, maintains operation down to 2.5V after start-up and can regulate an output voltage as high as 60V. Its low 55µA quiescent current helps extend the run time in battery powered applications when in standby mode. The powerful 1.2 Ohm onboard N-channel MOSFET gate drivers are capable of slewing large MOSFET gates quickly, minimizing transition losses and allowing for up to a 10A output current. It has adjustable cycle-by-cycle current limit protection and uses either a sense resistor or monitors the voltage drop across the inductor (DCR) for current sensing.

In applications where the input voltage may exceed the regulated output voltage, the LTC3786 is able to keep the synchronous MOSFET on continuously so that the output voltage follows the input voltage with minimal power loss. The LTC3786 has a phase-lockable frequency from 75kHz to 850kHz or a selectable fixed frequency from 50kHz to 900kHz.

The LTC3786H is available in a thermally enhanced MSOP-16 package and a 3mm x 3mm QFN-16. The 1,000-piece price starts at \$3.35 each and is available from stock. For more information, visit www.linear.com/product/LTC3786.

Photo Caption: Synchronous Step-Up DC/DC Controller


Summary of Features: LTC3786H

- -40°C to 150°C Guaranteed Operating Junction Temperature
- Up to 98% Efficiency
- Up to a 60V Output Voltage
- Wide V_{IN} Ranging from 4.5V to 38V, Maintains Operation Down to 2.5V After Start-Up
- Low 55 μ A Quiescent Current Extends the Run Time in Battery Powered Applications
- Powerful 1.2 Ohm Gate Drivers
- 100% Duty Cycle Capability for Synchronous MOSFET
- Phase Lockable Frequency from 75kHz to 850kHz
- Programmable Fixed Frequency from 50kHz to 900kHz
- R_{SENSE} or Inductor DCR Current Sensing
- Power Good Output

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

 , LT, LTC, LTM, Linear Technology, the Linear logo, and μ Module are registered trademarks of Linear Technology Corp. All other trademarks are the property of their respective owners.

Press Contacts:

North America / Worldwide

John Hamburger, Director Marketing
Communications
jhamburger@linear.com
Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager
ddickinson@linear.com
Tel: 408-432-1900 ext 2233

UK & Nordic

Alan Timmins
a.timmins@ntlworld.com
Tel: +44-1-252-629937