



40V, 400mA (I_{OUT}), 2.2MHz Triple Output Step-Down DC/DC Converter with 60V Transient Protection

MILPITAS, CA – April 1, 2014 – Linear Technology Corporation announces the [LT3667](#), a 400mA, 40V step-down switching regulator with dual LDO outputs packaged in a 3mm x 5mm QFN or MSOP-16E. The LT3667 offers a highly compact, triple output solution for automotive and industrial applications. The LT3667 operates from a V_{IN} range of 4.3V to 40V with transient protection to 60V, making it ideal for load-dump and cold-crank conditions found in automotive applications. Its internal 600mA internal switch delivers up to 400mA, which is distributed to the combined loads of the primary output and both of the LDOs. The primary switching channel delivers outputs as low as 1.2V, whereas each LDO can deliver outputs as low as 0.8V. For example, a common application will have the switcher delivering 200mA at 5V, with one LDO delivering 100mA at 2.5V and the second delivering 100mA at 1.8V.

The LT3667 requires only 50 μ A of quiescent current when all three channels are in regulation, making it ideal for always-on automotive applications. The LT3667's switching frequency is user programmable from 250kHz to 2.2MHz, enabling the designer to optimize efficiency while avoiding critical noise-sensitive frequency bands. Each integrated LDO has an accurate programmable current limit up to 200mA, offering an additional level of reliability. Although the LDOs can be powered by independent inputs, powering them from the primary switching output ensures both high efficiency and low noise. The combination of its 3mm x 5mm QFN-24 package (or thermally enhanced MSOP-16E) and high switching frequency, which keeps external capacitors and inductor small, provides a compact, thermally efficient footprint.

The LT3667's main switcher utilizes a high efficiency 600mA switch with the necessary oscillator, control, logic circuitry and LDOs integrated into a single die. Special design techniques enable high efficiency over a wide input voltage range while its current-mode topology enables fast transient response and excellent loop stability. Other features include power indicators, synchronization capability, reverse-battery protection, current and thermal limiting and programmable undervoltage lockout.

The LT3667EUDD is offered in a 3mm x 5mm 24-lead QFN package, and the LT3667EMSE is offered in a thermally enhanced 16-lead MSOP package. Both are priced at \$2.55 each. The LT3667IUDD and the LT3667IMSE are tested and guaranteed to operate from -40°C to 125°C operating junction temperature and are both priced at \$2.81 each. A high temperature version, the LT3667HUDD, is tested and guaranteed to operate from -40°C to 150°C operating junction temperature, priced at \$3.06 each. All prices are for 1,000-piece quantities and all versions of the LT3667 are available from stock. For more information, visit www.linear.com/product/LT3667

Photo Caption: 40V, 400mA (I_{OUT}), Triple Output DC/DC Converter


Summary of Features: LT3667

- Triple Output Supply from a Single Input Requires Only One Inductor
- $I_Q = 50\mu A$ at 12V_{IN} to 5V, 3.3V & 2.5V with No Load
- Buck Regulator:
 - o Low Ripple (<15mV_{P-P}) Burst Mode® Operation
 - o 400mA Output with Internal Power Switch
 - o 4.3V to 40V Input Operation Range (60V Max)
- Dual Low Dropout Linear Regulators
 - o 200mA Outputs with Programmable Current Limit
 - o 1.6V to 45V Input Range
 - o Fault Protected to $\pm 45V$
- Adjustable 250kHz to 2.2MHz Switching Frequency
- Synchronizable Between 300kHz & 2.2MHz
- Programmable Undervoltage Lockout

- Power Good Indicators
- Available in Thermally Enhanced 16-Lead MSOP
& 24-Lead 3mm × 5mm QFN Packages

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
alan@ezwire.com
Tel: +44-1-252-629937