



60V Input, Dual 3A(I_{OUT}), 2.25MHz Step-Down DC/DC Converter

MILPITAS, CA – March 29, 2012 – Linear Technology Corporation announces the [LT3992](#), a monolithic, dual output step-down switching regulator that delivers up to 3A of continuous output current from each channel. It operates from an input voltage range of 3V to 60V, ideal for applications requiring continuous output voltage regulation through load dump and cold-crank conditions found in automotive applications. Independent input, shutdown, feedback, soft-start, current limit and comparator pins for each channel simplify complex power supply tracking/sequencing requirements. The LT3992's switching frequency is user programmable from 250kHz to 2.25MHz, enabling the designer to optimize efficiency while avoiding critical noise-sensitive frequency bands.

To optimize efficiency and component size, both internal converters have a programmable maximum current limit and are synchronized via the LT3992's internal oscillator or an external clock input. The converters run 180° out of phase to further reduce voltage ripple and external component size. Multiple regulators can be synchronized via an external clock output to provide additional voltage rails. The outputs can also be combined for high current applications, enabling the LT3992 to deliver up to 6A of continuous output current. The device's 5mm x 5mm QFN-32 or thermally enhanced TSSOP-38 packages and high switching frequency, which keep external capacitors and inductors small, provide a compact, thermally efficient footprint. The LT3992's main switcher utilizes high efficiency 3.5A, 325mV_{CESAT} switches, with the necessary oscillator, control and logic circuitry integrated into a single die.

Special design techniques enable high efficiency over a wide input voltage range and the device's current-mode topology provides fast transient response and excellent loop stability. The LT3992 offers a frequency divider on one channel, enabling it to run at frequencies 1/2, 1/4 or 1/8 of the other channel's frequency providing high step-down ratios while minimizing external component size. Enhanced short-circuit protection and die temperature monitor offer additional levels of protection. Other features include thermal shutdown and independent power good flags.

The LT3992EUH is offered in a 5mm x 5mm 32-lead QFN package and the LT3992EFE is packaged in a thermally enhanced FMEA tolerant TSSOP-38. They are priced at \$4.65 and \$5.05 each, respectively. Industrial grade versions, the LT3992IUH and LT3992IFE, are tested and guaranteed to operate from a -40°C to 125°C operating junction temperature range priced at \$5.12 and \$5.56 each, respectively. A high temperature version, the LT3992HFE is tested and guaranteed to operate from a -40°C to 150°C operating junction temperature range and is priced at \$5.81 each. All prices are for 1,000-piece quantities and all versions of the LT3992 are available from stock. For more information, visit www.linear.com/product/LT3992


Photo Caption: 60V, Dual 3A(I_{OUT}), Step-Down DC/DC Converter

Summary of Features: LT3992

- Wide Input Range: Operation from 3V to 60V
- Independent Supply, Shutdown, Soft-Start, UVLO, Programmable Current Limit & Programmable Power Good for Each 3A Regulator
- Die Temperature Monitor
- Adjustable/Synchronizable Fixed Frequency Operation from 250kHz to 2.25MHz 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 x 5mm QFN Package
- FMEA Compliant 38-Pin Exposed Pad TSSOP Package

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 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

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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