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60V, 3A (I_{OUT}), 2MHz Step-Down DC/DC Converter Needs Only 2.7 μ A of Quiescent Current

MILPITAS, CA – June 5, 2013 – Linear Technology Corporation announces the [LT3995](#), a 3A, 60V step-down switching regulator, requiring only 2.7 μ A of quiescent current. The LT3995's 4.3V to 60V input voltage range makes it ideal for automotive, commercial vehicle, avionic and industrial applications. Its internal 4.7A switch can deliver up to 3A of continuous output current to voltages as low as 1.2V. The LT3995's Burst Mode[®] operation offers ultralow quiescent current, making it well suited for applications such as automotive or industrial systems, which demand always-on operation and optimum battery life.

The unique design of the LT3995 ensures a minimum dropout voltage of only 500mV even when the input voltage drops below the programmed output voltage, suitable for applications subjected to scenarios such as automotive cold-crank. Switching frequency is user-programmable from 200kHz to 2MHz, and synchronizable from 250kHz to 2MHz, enabling the designer to optimize efficiency while avoiding critical noise-sensitive frequency bands. The combination of its 16-lead thermally enhanced MSOP package and high switching frequency keeps external inductors and capacitors small, providing a highly compact, thermally efficient footprint.

The LT3995 utilizes a high efficiency 4.7A, 85mOhm switch, with the boost diode, oscillator, control and logic circuitry integrated into a single die. Low ripple Burst Mode operation maintains high efficiency at low output currents while keeping output ripple below

15mV_{P-P}. Special design techniques and a new high voltage process enable efficiencies up to 90% over a wide input voltage range, while the LT3995's current mode topology assures fast transient response and excellent loop stability. Other features include a power good flag, soft-start capability and thermal protection.

The LT3995EMSE is packaged in a thermally enhanced MSOP-16, priced starting at \$3.55 each for 1,000 piece quantities. The LT3995IMSE is tested and guaranteed to operate from a -40°C to 125°C operating junction temperature and is priced at \$3.91 each in 1,000 piece quantities. The LT3995HMSE is tested and guaranteed to operate from a -40°C to 150°C operating junction temperature, priced at \$4.16 each in 1,000 piece quantities. All versions are available from stock. For more information, visit www.linear.com/product/LT3995.


Photo Caption: 60V, 3A(I_{OUT}), 2MHz Step-Down DC/DC Converter with I_Q = 2.7 μ A

Summary of Features: LT3995

- Ultralow Quiescent Current: 2.7 μ A I_Q at 12V_{IN} to 3.3V_{OUT}
- Low Ripple Burst Mode[®] Operation Output Ripple < 15mV_{P-P}
- Wide Input Range: Operation from 4.3V to 60V
- 3A Maximum Output Current
- Excellent Start-Up & Dropout Performance
- Adjustable Switching Frequency: 200kHz to 2MHz
- Synchronizable Between 250kHz to 2MHz
- Accurate Programmable Undervoltage Lockout
- Low Shutdown Current: I_Q = 700nA
- Power Good Flag
- Soft-Start Capability
- Thermal Shutdown Protection
- Current Limit Foldback with SS Override
- Saturating Switch Design: 85m Ω on Resistance
- Small, Thermally Enhanced 16-Lead MSOP 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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