



100V, 1A, Synchronous Step-Down Regulator Needs Only 7 μ A of Quiescent Current

MILPITAS, CA – September 3, 2015 – Linear Technology Corporation announces the [LT8631](#), a 1A, 100V input capable synchronous step-down switching regulator. Synchronous rectification delivers efficiency as high as 90% while Burst Mode® operation keeps quiescent current under 7 μ A in no-load standby conditions. Its 3V to 100V input voltage range makes it ideal for 48V automotive systems, dual battery transportation, industrial and 36V to 72V telecom applications. Its internal high efficiency switches deliver up to 1A of continuous output current to voltages as low as 0.8V. The LT8631's Burst Mode operation offers ultralow quiescent current, making it well suited for applications such as automotive “always-on” systems, which need to extend operating battery life. The LT8631's unique design maintains a minimum dropout voltage, enabling it to operate with duty cycles up to 99%. Its resistor programmable 100kHz to 1MHz frequency range and synchronization capability enable optimization between efficiency and external component size. The LT8631's 20-lead TSSOP package with high voltage lead spacing ensures a compact, thermally efficient footprint for high voltage applications.

The LT8631 utilizes internal top and bottom high efficiency power switches with the necessary 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 10mV_{P-P}. Special design techniques enable high efficiency over a wide input voltage range, and the LT8631's current mode topology enables fast transient response and

excellent loop stability. Other features include robust short-circuit protection, a power good flag, output voltage tracking and thermal protection.

The LT8631EFE is offered in a thermally enhanced TSSOP-20 package. An industrial temperature version, the LT8631IFE, is tested and guaranteed to operate from a -40°C to 125°C operating junction temperature. A high temperature version, the LT8631HFE, is tested and guaranteed to operate from a -40°C to 150°C operating junction temperature. Pricing starts at \$3.60 each in 1,000 piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LT8631.

Photo Caption: 100V, 1A (I_{OUT}), Synchronous Step-Down Switching Regulator

Summary of Features: LT8631

- Ultrawide Input Voltage Range: 3V to 100V
- Output Voltage Range: 0.8V to 60V
- Internal Synchronous Switches
- Low Ripple Burst Mode[®] Operation:
 - o 16 μ A I_{Q} at 12V_{IN} to 5V_{OUT} Output Ripple <10mV_{P-P}
 - o 7 μ A I_{Q} at 48V_{IN} to 5V_{OUT} Output Ripple <10mV_{P-P}
- Low Dropout: 99% Maximum Duty Cycle
- Peak Current Mode Control
- Fixed Frequency Operation: 100kHz to 1MHz
- Synchronization Input
- Programmable Undervoltage Lockout
- Power Good Flag
- Flexible Output Voltage Tracking
- Short-Circuit Protection
- Low Shutdown Current: 5 μ A
- Tolerates Pin Open/Short Faults
- Thermally Enhanced 20-Lead TSSOP with High Voltage Lead Spacing

The USA list pricing shown is for budgetary use only. International prices 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

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