



20V, 2.5A (I_{OUT}) Synchronous Step-Down Regulator Features Input & Output Current Limiting & Current Monitoring

MILPITAS, CA – July 19, 2012 – The [LTC3626](#) is a high efficiency, 3MHz synchronous buck regulator that offers both input and output current limiting and monitoring. It incorporates a unique constant frequency/controlled on-time, current-mode architecture that delivers up to 2.5A of continuous output current at output voltages as low as 0.6V from a 3mm x 4mm QFN package. Its current-mode operation offers excellent line and load transient response even with high step-down ratios. The LTC3626 operates from an input voltage range of 3.6V to 20V, making it suitable for a wide range of applications, including dual/multiple-cell Li-Ion battery stacks and 5V to 18V intermediate bus systems. Its average input current and output current limiting are pin-programmable, making it well suited for applications such as USB power. The LTC3626's switching frequency is user programmable and synchronizable from 500kHz to 3MHz, enabling the use of tiny, low cost capacitors and inductors.

The LTC3626 uses internal switches with $R_{DS(ON)}$ of only 115mOhms and 70mOhms to deliver efficiencies as high as 95%. Its unique control architecture enables it to achieve duty cycles as low as 5%, while maintaining switching frequencies up to 2.25MHz, making it ideal for high step-down ratio applications, such as 12V_{IN} to 1.2V_{OUT} conversions. Burst Mode[®] operation is used to maximize light load efficiency, requiring only 300μA (at no load), important for applications demanding maximum battery run time. For applications requiring the lowest possible noise, the LTC3626 can be configured to run in forced continuous mode, for minimum

noise and potential RF interference. Furthermore, an internal die temperature monitor provides a voltage proportional to temperature which can be programmed to limit maximum die temperatures. Additional features include a power good voltage monitor, output voltage tracking capability and short circuit protection.

The LTC3626EUDC is available in a 3mm x 4mm QFN-20. Pricing starts at \$3.45 each in 1,000-piece quantities. An industrial grade version, the LTC3626IUDC offers guaranteed performance over the -40°C to 125°C operating junction temperature range, priced at \$3.97 each in 1,000-piece quantities. Both versions are available from stock. For more information, visit www.linear.com/product/LTC3626


Photo Caption: The LTC3626 Delivers up to 2.5A Output Current

Summary of Features: LTC3626

- 3.6V to 20V Input Voltage Range
- Wide Output Voltage Range of 0.6V to 97% V_{IN} Optimized for 0.6V to 6V
- Low $R_{DS(ON)}$ Integrated Switches Provide Up to 95% Efficiency
- Up to 2.5A Output Current
- Average Input & Output Current Monitoring
- Programmable Average Input/Output Current Limit
- Die Temperature Monitor & Programmable Limit
- Adjustable Switching Frequency: 500kHz to 3MHz
- External Frequency Synchronization
- Current-Mode Operation for Excellent Line & Load Transient Response
- 0.6V Reference with 1% Accuracy over Temperature
- User Selectable Burst Mode® or Forced Continuous Operation
- Short-Circuit Protected
- Output Voltage Tracking Capability
- Power Good Status Output
- Available in Small, Thermally Enhanced, 20-Lead (3mm x 4mm) QFN 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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