



5V, 2.5A USB, 35V Input Buck Regulator with Cable Drop Compensation

MILPITAS, CA – October 9, 2014 – Linear Technology Corporation announces the [LT3697](#), a 35V input capable step-down switching regulator (with 60V transient protection) designed to power 5V USB applications. The LT3697 delivers precise 5V regulation at 2.5A to a remote USB port using programmable cable drop compensation to accurately correct the voltage drop from a long connecting cable regardless of variations in load current. The 5V output accuracy at the USB port is $\pm 1.0\%$ over the -40°C to 125°C temperature range. The LT3697 utilizes an accurate and programmable output current limit, a power good indicator and an output current monitor pin to improve system reliability and safety. This also allows the user to implement latching or auto-retry functionality, which can eliminate the need for a USB switch IC. An internal high efficiency switch delivers 90% efficiency and can be programmed to switch at 2MHz, keeping switching noise out of critical frequency bands such as AM radio. The combination of its 16-lead thermally enhanced MSOP package and high switching frequency ensures that external inductors and capacitors are small, providing a compact, thermally efficient footprint.

The LT3697 utilizes a high efficiency power switch with the necessary oscillator, control, and cable compensation circuitry integrated into a single die. Internal cable compensation is programmable to accommodate the length and gauge of the cable, and dual input feedback allows an additional level of protection during fault conditions, further protecting USB devices. Other features include an FLT flag, short-circuit and thermal protection.

The LT3697EMSE is packaged in a thermally enhanced MSOP-16 package and is priced at \$2.75 each. An industrial temperature version, the LT3697IMSE, is tested and guaranteed to operate from a -40°C to 125°C operating junction temperature and is priced at \$3.03. All pricing is for 1,000 piece quantities and both versions are available from stock. For more information, visit www.linear.com/product/LT3697

Photo Caption: 35V (60V Transient) Input Capable, USB 5V 2.5A Output 2.2MHz Buck with Cable Drop Compensation


Summary of Features: LT3697

- Accurate 5V Output
- Programmable Cable Drop Compensation
- Programmable Output Current Limit
- Adjustable Output from 5.0V to 6.1V
- Dual Input Feedback Permits Regulation on Output of USB Switch
- Active Load Reduces Output Overshoot
- FLT Flag Indicates Overcurrent on the USB Output
- 1.5ms FLT Flag Delay Filters Hot Plug Events
- USB Output Current Monitor
- Wide Input Range: Operation from 5V to 35V, Withstands Input Transients to 60V
- 2.5A Maximum Output Current
- Survives Output Short to GND and Car Battery
- Adjustable Switching Frequency: 300kHz to 2.2MHz
- Synchronizable from 300kHz to 2.2MHz
- Small, Thermally Enhanced 16-Lead MSOP Package

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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