



140V, 400mA Step-Down Converter with Only 12 μ A Quiescent Current

MILPITAS, CA – February 5, 2015 – Linear Technology announces the [LTC7138](#), a 140V input-capable high efficiency buck converter that delivers up to 400mA of continuous output current. It operates from an input voltage range of 4V to 140V, making it ideal for a wide range of telecom, industrial, avionic and automotive applications. The LTC7138 utilizes a programmable hysteretic mode design to optimize efficiency over a broad range of output currents. It utilizes an internal 1.8 Ohm power MOSFET for robust, high efficiency operation. A user-programmable output current limit can set output current from 100mA to 400mA as required by the particular application. The LTC7138 can be programmed with fixed output voltages of 1.8V, 3.3V or 5V, or a resistor divider can be used to program outputs from 0.8V to V_{IN} . The LTC7138's thermally enhanced MSOP offers additional pin spacing required for high voltage inputs. The combination of its MSOP and only four tiny externals provides a highly compact solution footprint for a wide array of applications.

The LTC7138 draws only 12 μ A at no load while maintaining output voltage regulation, making it ideal for always-on battery-powered applications. Due to the inherent stability of the converter, no external compensation is required thereby simplifying design and minimizing the solution footprint. Additionally, features include a precise 0.8V $\pm 1\%$ feedback voltage reference, 100% duty cycle dropout operation and, internal or external soft-start, and a feedback comparator output which enables multiple LTC7138s to be connected in parallel for higher current applications.

Pricing for the LTC7138EMSE, starts at \$3.80 each. An industrial temperature version, the LTC7138IMSE, is guaranteed to operate from a -40°C to 125°C operating junction temperature and is priced at \$4.18 each. Furthermore, an automotive temperature version, the LTC7138HMSE, is specified to operate from a -40°C to 150°C operating junction temperature and is priced at \$4.43 each. Finally, a high reliability version, the LTC7138MPMSE, is tested and guaranteed to operate from a -55°C to 150°C operating junction temperature and is priced at \$11.29 each. All pricing is for 1,000-piece quantities and all versions are available from stock. For more information, visit www.linear.com/product/LTC7138

Photo Caption: 140V, 400mA Buck Converter with Adjustable Output Current Limit


Summary of Features: LTC7138

- Wide Operating Input Voltage Range: 4V to 140V
- Internal Low Resistance Power MOSFET
- Inherently Stable: No Compensation Required
- Adjustable 100mA to 400mA Maximum Output Current
- Low Dropout Operation: 100% Duty Cycle
- Low Quiescent Current: 12 μ A
- Wide Output Range: 0.8V to V_{IN}
- $0.8\text{V} \pm 1\%$ Feedback Voltage Reference
- Precise RUN Pin Threshold
- Internal or External Soft-Start
- Programmable 1.8V, 3.3V, 5V or Adjustable Output
- Few External Components Required
- Programmable Input Overvoltage Lockout
- Thermally Enhanced High Voltage 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, µModule® subsystems, and wireless sensor network products. For more information, visit www.linear.com

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