The LTC3675 is a highly integrated general-purpose power management solution for high power single cell Lithium-Ion/Polymer systems. The device features seven independent rails plus LED driver, with I2C control, flexible sequencing and fault monitoring in a compact 28mm² QFN package. The device’s seven channels include four high current, high efficiency step-down regulators, a high current/high efficiency buck-boost regulator and one always-on 25mA LDO.

Features
- Four Monolithic Synchronous Buck DC/DCs (1A/1A/500mA/500mA)
- Adjacent Buck DC/DCs Can Be Paralleled to Deliver Up to 2× Current with a Single Inductor
- Independent 1A Buck-Boost and 1A Boost DC/DCs
- Dual String I2C-Controlled LED Driver
- Always-On 25mA LDO
- I2C Programmable Output Voltage, Operating Mode and Switch Node Slew Rate for All DC/DCs
- I2C Read Back of DC/DC, LED Driver, Fault Status
- I2C Programmable VIN and Die Temperature Warnings
- Maskable Interrupts to Report DC/DC Errors, Input Undervoltage and Die Temperature Warnings
- Pushbutton ON/OFF/RESET
- Low Quiescent Current: 16µA (All DC/DCs Off)
- Thermally Enhanced, 4mm × 7mm × 0.75mm 44-Lead QFN Package

Applications
- High Power (5W to 10W) Single Cell Li-Ion/Polymer Applications
- Portable Industrial Applications, Handy Terminals, Portable Instruments
- Multioutput Low Voltage Power Supplies
4 Configurable Sync Buck Regulators
Adjacent Bucks Can Be Paralleled to Deliver Up to 2× Current with a Single Inductor.

500mA Buck Regulators, Efficiency vs Load

High Voltage Boost Regulator, Efficiency vs Load

1A Sync Boost Regulator
For High Efficiency 5V I/O Rails.

1A Sync Buck-Boost Regulator
Typically For High Efficiency 3.3V Rails.

40V Dual String LED Driver
Can Regulate Up to 25mA of Current Through Two LED Strings with Up to 10 LEDs Each. Also Configurable as a High Voltage Boost Converter Up to 40V Output.

Always-On LDO
For Keep-Alive or RTC Rails.

Pushbutton Control
ON/OFF/RESET Control and a Power-On Reset Output Provide Flexible and Reliable Power-Up Sequencing.

Swiching Regulator Slew Rate Control
Reduces Radiated EMI and Conducted Supply Noise While Maintaining High Efficiency.

I2C Control
Programmable DC/DC Enables, Output Voltages, Switch Slew Rates, Operating Modes, Alarm Levels for Low VIN and High Die Temperature, Plus LED Driver's LED Enable, 60dB Brightness Control and Up/Down Gradation.

www.linear.com/3675 • 1-800-4-LINEAR