



Highly Integrated 2.5A Backup Power Manager Simplifies Li-Ion Battery Backup Systems

MILPITAS, CA – June 3, 2015 – Linear Technology Corporation introduces the [LTC4040](#), a complete lithium battery backup power management system for 3.5V to 5V supply rails that must be kept active during a main power failure. Batteries provide considerably more energy than supercapacitors, making them superior for applications which require backup for extended periods of time. The LTC4040 uses an on-chip bidirectional synchronous converter to provide high efficiency battery charging as well as high current, high efficiency backup power. When external power is available, the device operates as a step-down battery charger for single-cell Li-Ion or LiFePO₄ batteries while giving preference to the system load. When the input supply drops below the adjustable Power-Fail Input (PFI) threshold the LTC4040 operates as a step-up regulator capable of delivering up to 2.5A to the system output from the backup battery. During a power fail event, the device's PowerPath™ control provides reverse blocking and a seamless switchover between input power and backup power. Typical applications for the LTC4040 include fleet and asset tracking, automotive GPS data loggers, automotive telematics systems, toll collection systems, security systems, communications systems, industrial backup and USB-powered devices.

The LTC4040 also includes optional overvoltage protection (OVP) which protects the IC from input voltages greater than 60V with an external FET. Its adjustable input current limit function enables operation from a current limited source while prioritizing system load current over battery charge current. An external disconnect switch isolates the primary input supply from the system during backup. The LTC4040's 2.5A battery charger provides eight selectable charge voltages optimized for Li-Ion and LiFePO₄ batteries. The device also includes input current monitoring, an input power loss indicator and a system power loss indicator.

The LTC4040 is housed in a low profile (0.75mm) 24-pin 4mm x 5mm QFN package with backside metal pad for excellent thermal performance. The device operates from –40°C to

125°C, in both E and I grades. The LTC4040 is in stock, and 1,000-piece pricing starts at \$2.90 each for the E grade. For more information, visit www.linear.com/product/LTC4040

Photo Caption: 2.5A Backup Power Manager


Summary of Features: LTC4040

- Step-Up Backup Supply & Step-Down Battery Charger
- 6.5A Switch for 2.5A Boost Backup from 3.2V Battery
- Input Current Limit Prioritizes Load Over Charge Current
- Input Disconnect Switch Isolates Input During Backup
- Automatic Seamless Switch-Over to Backup Mode
- Input Power Loss Indicator
- System Power Loss Indicator
- Pin-Selectable Battery: Li-Ion (3.95V/4.0V/4.05V/4.1V) or LiFePO₄ (3.45V/3.5V/3.55V/3.6V)
- Optional OVP Circuitry Protects Device to >60V
- Low Profile (0.75mm) 24-Lead 4mm × 5mm QFN 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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