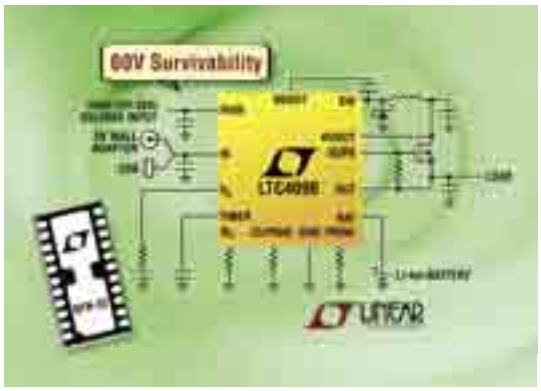
Small USB PowerPath Manager Withstands 60V Inputs



Linear Technology introduced the LTC4090, an autonomous linear PowerPath manager, ideal diode controller and stand-alone high input voltage battery charger for portable USB devices. For high efficiency charging, the switching front-end topology accommodates various inputs, including high voltage power sources up to 38V (60V max withstand capability) such as 12V regulated/unregulated AC/DC wall adapters, FireWire ports or automotive power. In addition, the IC accepts low- voltage power sources such as 5V wall adapters, USB ports and single-cell Li-Ion/Polymer batteries. The LTC4090 features linear PowerPath control that provides power to the device while charging its single-cell Lithium battery from the USB bus or a wall adapter power supply. To comply with USB current limit specifications, the device automatically reduces battery charge current as the system load current increases. To ensure that a fully charged battery remains topped off when the bus is connected, the IC directs power to the load through the USB bus rather than extracting power from the battery. Once all power sources are removed, current flows from the battery to the load through an internal 200 m? low loss ideal diode, minimizing voltage drop and power dissipation. Onboard control circuitry is provided to drive an optional external PFET to reduce the overall ideal diode impedance below 50 m? if required by the application, providing even higher efficiency operation. One thousand-piece pricing starts at $3.25 each.
Linear Technology
800-454-6327, www.linear.com [1]

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