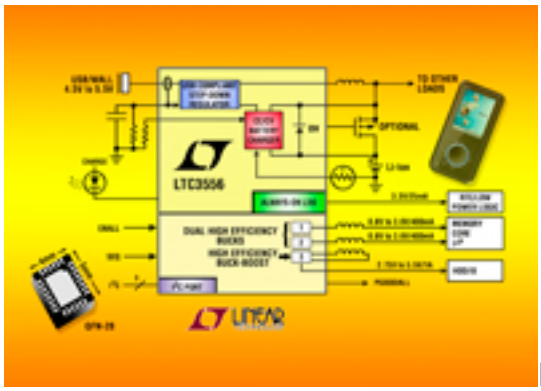
Power Management ICs Help Maximize Battery Runtime, Minimize Heat



Linear Technology Corporation introduced its LTC3556 multi-function power management devices for Li-Ion/Polymer battery applications. It integrates a switching PowerPath manager, a stand-alone battery charger, ideal diode, I2C control, a synchronous buck-boost regulator, two synchronous buck regulators plus an always-on LDO, in a 4 mm × 5 mm QFN package. The PowerPath control feature seamlessly manages power flow between multiple input sources such as a wall adapter or USB port and the Lithium battery while preferentially providing power to the system load. In addition, its "instant-ON" operation ensures system load power even with a dead or missing battery. The LTC3556's switching input stage converts nearly all of the 2.5W available from the USB port to charging current, enabling up to 700 mA from a 500 mA limited USB supply or up to 1.5A when wall powered. An internal 180 milliohm ideal diode plus optional external ideal diode controller provide a low loss power path, further minimizing heat generation and maximizing efficiency. The LTC3556's onboard synchronous buck-boost regulator can provideup to 1A continuously and is appropriate for efficiently regulating a 3.3V output voltage over the full Lithium battery voltage range, down to 2.75V input. The LTC3556's two integrated synchronous buck regulators feature 100 percent duty cycle operation and are capable of providing output currents of 400 mA each, with adjustable output voltages down to 0.8V.

Linear Technology
800-454-6327, www.linear.com [1]

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