



Figure 1 One application for buck-boost converters is battery-to-battery charging (a), but designers face a far more common problem: how to power a 3.3V handheld electronic system from one lithium-ion cell (b). Automotive-LED drivers (c) and LED-flash units in a cell phone (d) also involve design challenges. Buck-boost converters work well when you need a rectified ac waveform as your input power (e).