

New LinkSwitch-4 Switcher ICs from Power Integrations Pass US DoE-6 and European CoC Efficiency Rules

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Adaptive base and emitter switched drive technology enables safe use of low-cost bipolar junction transistor switches

SAN JOSE, Calif.--(BUSINESS WIRE)-- Power Integrations (Nasdaq:**POWI**), the leader in high-voltage integrated circuits for energy-efficient power conversion, today announced the **LinkSwitch™-4** family of CV/CC primary-side regulated (PSR) switcher ICs. The **LinkSwitch-4** product family features an advanced adaptive base and emitter switched drive scheme for bipolar junction transistor switches (BJTs) that substantially improves power conversion efficiency and eliminates reliability concerns due to secondary breakdown. The new family of devices targets chargers and adapters required to meet stringent new efficiency rules from the US Department of Energy (DoE) and European Code of Conduct (CoC), both of which are scheduled to come into force in January 2016. The new DoE rules, known as DoE-6, require efficiency compliance measurements to be taken at the end of the charger USB cable; LinkSwitch-4 exceeds the requirements while using a low-complexity Schottky diode secondary, even for high-current 1.5 A and 2 A smartphone chargers.

LinkSwitch-4 ICs incorporate a multimode PWM/PFM controller with a quasi-resonant switching strategy to maximize the efficiency, meet <30 mW no-load and at the same time maintain fast transient response. A high operating frequency of up to 65 kHz enables transformer size to be minimized, and the minimum peak current is fixed to improve transient load response. Devices compensate for a number of factors including: transformer inductance tolerances; input line voltage variations; cable voltage drop; and external component temperature variations. Very accurate IC parameter tolerances are maintained using proprietary trimming technology.

Comments Mike Matthews, Power Integrations' vice president of product development: "The **LinkSwitch-4** controller's adaptive base and emitter switched drive scheme boosts switching performance and delivers higher efficiency than is possible using existing BJT or MOSFET switchers. The technique also eliminates secondary breakdown associated with BJTs and reduces sensitivity to variation in current gain, allowing use of very low cost BJTs. The adaptive base-emitter switched drive technology not only provides design and manufacturing flexibility in the choice of BJT transistors by dynamically optimizing BJT switching characteristics but also dramatically improves the reliability of BJTs based solutions."

Suitable for chargers for cell/cordless phones, PDAs, MP3 and other portable audio devices, adapters, and more, **LinkSwitch-4** ICs are available in SOT-23-6 and SO-8 packages. Devices cost \$0.16 to \$0.25 in 10,000-piece quantities. The datasheet can be downloaded now from Power Integrations' website at <http://ac-dc.power.com/products/linkswitch-family/linkswitch-4>.

About Power Integrations

Power Integrations, Inc. is a leading innovator in semiconductor technologies for high-voltage power conversion. The company's products are key building blocks in the clean-power ecosystem, enabling the generation of renewable energy as well as the efficient transmission and consumption of power in applications ranging from milliwatts to megawatts. For more information please visit www.power.com.

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