

Power Integrations and Cypress Announce Reference Design for USB-PD Compliant Fast Chargers

Collaboration delivers proven interoperability, high efficiency and compact footprint for rapid charging of mobile devices

San Jose – February 23, 2016 – Power Integrations (Nasdaq: [POWI](#)), the leader in high-voltage integrated circuits for energy-efficient power conversion, in association with Cypress Semiconductor Corp. (Nasdaq: [CY](#)), the market’s leading USB innovator, today announced a joint reference design describing a 20-watt, USB-PD compliant AC-DC power converter targeted at chargers for smart mobile devices. The design, titled [DER-533](#), pairs the EZ-PD™ CCG2 USB Type-C port controller from Cypress with Power Integrations’ [InnoSwitch™-CP](#) off-line CV/CC flyback switcher IC, enabling designers to produce a standards-compliant power adapter that is fast, compact and highly energy-efficient.

Comments Shyam Dujari, director of marketing for Power Integrations: “USB-PD will be the flexible power delivery vehicle for the next generation of mobile devices; it provides a unifying architecture for power and data within a slim, reversible and robust connector.”

Added Ganesh Subramaniam, senior director of the USB product line at Cypress: “Charger ubiquity and Type-C adoption will lead to USB-PD being implemented rapidly in power adapters for laptops, tablets and phones as the preferred technology choice for protocol-driven, fast-charging adapters.”

Cypress’ EZ-PD CCG2 USB Type-C port controller complies with the latest USB Type-C and USB-PD standards and provides a complete solution for passive Electronically Marked Cable Assembly (EMCA) cables, active EMCA cables, notebooks, power adapters, monitors, docks

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and cable adapters (dongles). EZ-PD CCG2 reduces BOM by integrating a Type-C transceiver, termination resistors and system-level ESD.

By providing a constant power output, InnoSwitch-CP allows battery-operated devices to draw up to the maximum power of the charger at any selected output voltage, optimizing charge time and cost. InnoSwitch-CP ICs use Power Integrations' innovative [FluxLink™](#) technology, eliminating the need for an optocoupler and enabling secondary-side control that delivers fast transient performance, exceptional CV/CC regulation and very low no-load power consumption. FluxLink technology also enables easy implementation of safe synchronous rectification, resulting in an extremely efficient power supply.

Commented Dujari: "We are excited to work with Cypress on this joint reference design. EZ-PD controllers deliver the most mature and comprehensive implementation of the USB specification available. They are also compact and fully programmable, so they offer design flexibility during the critical deployment phase of this important new interface technology."

Added Subramaniam: "Power Integrations' InnoSwitch AC-DC converter ICs offer the efficiency, reliability and compact footprint required by developers of fast-charging adapters for the smart mobile industry."

DER-533 implements Profile 2 of the USB-PD standard and is capable of 5V/3A and 9V/2.2A of power delivery over a standard 3A USB Type-C cable. More information on the Cypress EZ-PD CCG2 controller is available at www.cypress.com/ccg2. The design may be downloaded at <http://www.power.com/der-533>.

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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