

NEWS RELEASE

Power Integrations' HiperLCS-2 Chipset Boosts LLC Converter Efficiency, Slashes Component Count by 40 Percent

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Surface-mount LLC chipset delivers 250 W with over 98 percent efficiency and no heatsink; no-load consumption is less than 50 mW

HOUSTON--(BUSINESS WIRE)-- **APEC 2022 – Power Integrations** (Nasdaq: **POWI**), the leader in high-voltage integrated circuits for energy-efficient power conversion, today announced the energy-saving **HiperLCS™-2** chipset, a new IC family that dramatically simplifies the design and manufacture of LLC resonant power converters. The new dual-chip solution features an isolation device with a high-bandwidth LLC controller, synchronous rectification driver and FluxLink™ isolated control link, alongside a separate half-bridge power device utilizing Power Integrations' unique 600 V FREDFETs with lossless current sensing and high- and low-side drivers. Both devices are housed in low-profile InSOP™-24 packages. This highly integrated, energy-efficient architecture eliminates heatsinks and reduces component count by up to 40 percent compared to discrete designs.

Power Integrations' HiperLCS-2 Chipset Boosts LLC Converter Efficiency, Slashes Component Count by 40% (Graphic: Business Wire)

Edward Ong, senior product marketing manager at Power Integrations said: "Resonant

converters using separate controllers and discrete MOSFETs can be incredibly bulky and are notoriously difficult to manufacture due to their complexity and high component count. We have applied our advanced FREDFETs and magneto-inductive FluxLink technology to the LLC topology, yielding 98 percent efficiency and reducing component count by 40 percent, while eliminating bulky heatsinks and unreliable optocouplers. This enables designers to create compact adapters and open-frame power supplies for TVs, monitors with USB PD ports, all-in-one PCs, game consoles and battery chargers for power tools and e-bikes."

Resonant converters are typically used wherever an application demands a level of efficiency unachievable with single-switch topologies such as flyback converters. The HiperLCS-2 chipset leverages Power Integrations' high-speed FluxLink feedback mechanism to avoid the compromises normally associated with the LLC topology, permitting designers to quickly and consistently implement designs with high performance, wide operating range and low component count.

Power supply designs based on the new HiperLCS-2 can achieve no-load input power of less than 50 mW at 400 VDC input and provide a continuously regulated output, easily complying with the world's most stringent no-load and standby efficiency regulations. HiperLCS-2 devices operate at high efficiency across the load range with dissipation so low that direct heat transfer through the FR4 PCB is all that is required, eliminating heatsinks in adapter designs up to 220 W continuous output with up to 170 percent peak power capability. All HiperLCS-2 family members feature self-powered start-up and provide the start-up bias for a PFC stage using the company's HiperPFS™ ICs. Secondary-side sensing provides less than one percent regulation accuracy across line and load range and across production variations. The use of Power Integrations' FluxLink technology for safety-isolated high-speed digital feedback control provides much faster transient response and far superior long-term reliability compared to optocouplers.

Availability & Resources

A reference design, **DER-672**, is available to download for designers who want to evaluate HiperLCS-2 ICs. Pricing for the HiperLCS-2 starts at \$3.20 per chipset in 10,000 unit quantities. For further information, please contact a Power Integrations sales representative.

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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