

NEWS RELEASE

Power Integrations Releases InnoSwitch3-PD Reference Design for Ultra-Compact USB Type C, PD + PPS Adapter

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DER-937 leverages highly integrated boost PFC and GaN flyback switcher ICs to implement 100 W USB PD charger using only 117 components

SAN JOSE, Calif.--(BUSINESS WIRE)-- **Power Integrations** (Nasdaq: **POWI**), the leader in high-voltage integrated circuits for energy-efficient power conversion, today published a new reference design that describes a USB Power Delivery (PD) charger with exceptional performance and very low component count. Based around Power Integrations' new **InnoSwitch™3-PD** PowiGaN™ flyback switcher and **HiperPFS™-4** PFC controller ICs, the **DER-937** report contains the power supply specification, schematic, PCB layout, bill of materials, detailed magnetics specifications and performance data of a power factor corrected (PFC) 100 W USB PD 3.0 + Programmable Power Supply (PPS) charger using only 117 components.

Power Integrations' DER-937 leverages highly integrated boost PFC and GaN flyback switcher ICs to implement 100 W USB PD charger using only 117 components. (Graphic: Business Wire)

Aditya Kulkarni, senior product marketing engineer at Power Integrations, said: "This USB PD charger design reaches

efficiency levels in excess of 93%, including input, PFC and flyback stages. Its no-load performance is also excellent – the circuit requires less than 40 mW no-load input power at 230 VAC. BOM count is approximately half that of conventional designs, saving space, reducing design time and simplifying component sourcing for high-volume manufacture of slim, ultra-compact OEM and aftermarket chargers."

DER-937 uses two recently introduced ICs from Power Integrations. The InnoSwitch3-PD INN3870C off-line quasi-

resonant flyback switcher combines a USB Type C and USB PD controller, high-voltage PowiGaN gallium-nitride switch, synchronous rectification and FluxLink™ feedback. The HiperPFS-4 PFS7628C PFC controller IC, available with an integrated Qspeed™ low-reverse-recovery-charge (Qrr) boost diode, delivers greater than 98% efficiency across the full load range.

Availability & Resources

DER-937 is available to download on the Power Integrations website at [power.com/der-937](https://www.power.com/der-937).

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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Media Contact

Nina Hurd

Power Integrations

(408) 414-8785

nina.hurd@power.com

Press Agency Contact

Nick Foot

BWW Communications

+44-1491-636 393

nick.foot@bwwcomms.com

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