

NEWS RELEASE

Power Integrations Extends Flyback Topology to Enable 440 W, Offering Simpler Alternatives to Resonant Power Designs

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New TOPSwitchGaN ICs more than double power output, reducing system cost, complexity, and design time

SAN ANTONIO--(BUSINESS WIRE)-- APEC 2026 – **Power Integrations** (NASDAQ: **POWI**), the leader in high-voltage integrated circuits for energy-efficient power conversion, today introduced a breakthrough in flyback topology extending the power range of flyback converters to 440 W—well beyond the limits that traditionally required more complex resonant and LLC topologies. The new **TOPSwitchGaN™** flyback IC family unites the company's groundbreaking **PowiGaN™** technology with its iconic **TOPSwitch™** IC architecture, reducing complexity, eliminating heat sinks in many cases, shortening design time, improving manufacturability, and lowering total system cost.

The new TOPSwitchGaN™ flyback IC family extends the power range of flyback converters to 440 W—well beyond the limits that traditionally required more complex resonant and LLC topologies.

“This is more than a product evolution—it’s a fundamental shift in how engineers can approach power supply design,”

said Silvestro Fimiani, director of product marketing at Power Integrations. “For decades, designers have had to move to resonant topologies like LLC as power levels increased. With TOPSwitchGaN, we’re pushing flyback into a power range previously not possible, allowing engineers to achieve high efficiency and performance with a far simpler architecture.”

TOPSwitchGaN ICs provide 92 percent efficiency across the load range—from 10 percent to 100 percent load—and easily beat European Energy-related Products (ErP) regulations at less than 50 mW power consumption for standby and off modes. The device does this without the need for synchronous rectification. They are ideal for high-end

appliances, e-bike chargers, and industrial applications.

PowiGaN switches deliver much lower RDS(ON) than silicon. This results in reduced conduction losses which dramatically increase the power capability of flyback converters. These new devices incorporate 800 V PowiGaN switches, which provide excellent surge withstand capabilities and low switching losses, meaning that they can operate at switching frequencies of up to 150 kHz to minimize transformer size.

No-load consumption is well below 50 mW at 230 VAC including line sense, and up to 210 mW of output power is available for 300 mW input at 230 VAC to run housekeeping functions when units are in standby mode.

Fimiani continued: “As the first device to combine offline switchers into small packages—and with billions of units sold since 1994—the TOPSwitch name stands for innovation in power conversion. Engineers rely on TOPSwitch for its efficiency and ease of use, and now those benefits are available for an even wider range of designs. TOPSwitchGaN expands the power range of the flyback architecture to 440 W—previously unheard of using a flyback architecture—expanding the use of flybacks into applications previously requiring more complex topologies.”

The new ICs are available in two styles. For ultra-slim designs, low-profile eSOP™-12 surface-mount packaging enables 135 W (85–265 VAC) to be delivered without a heat sink for applications such as appliances. The vertical orientation of the eSIP™-7 package minimizes PCB footprint and has a thermal impedance equivalent to a TO-220-packaged part. By mounting a metal heat sink using a simple clip, the extended power range is achieved for applications including power tools, e-bikes, and garage openers. Because TOPSwitchGaN ICs are pin-to-pin compatible with **TinySwitch™-5** off-line switcher ICs, designers can use the same methodology for applications spanning 10 W up to 440 W.

Availability & Resources

Pricing for TOPSwitchGaN starts at \$1.00 for 10,000-unit quantities. The following reference design materials are available:

- **DER-1079** – this kit uses TOP7074K to deliver a 60 W, wide-range isolated flyback PSU for appliances;
- **DER-1019** – this kit details a 356 W highline (89 V / 4 A) isolated flyback industrial PSU, based on TOP7078E;
- **RDK-1018** – this e-bike charger kit is a 168 W wide-range isolated flyback design using TOP7075E.

For further information, contact a Power Integrations sales representative or one of the company's authorized worldwide distributors—**DigiKey**, **Newark**, **Mouser** and **RS Components**, or visit **power.com**.

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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