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Power Management news from ST

September 2016

New three output isolated flyback converter for smart meter and powerline systems

The STEVAL-ISA175V1 evaluation board implements an isolated flyback topology designed to supply the STCOMET smart meter and powerline communication systems. Based on the energy-saving VIPER26HD offline high-voltage converter, the board provides a triple output voltage and operates across an extended 90 to 440 VAC mains input voltage range. The board can be used in a stand-alone configuration or with the dedicated STCOMET development kit and the PCB layout is specifically designed to fit inside a real meter. Read more

New 1200 V SiC MOSFET increases reliability and efficiency of energy-conscious applications

Thanks to the very small $R_{DS(on)}$ variation even at high temperatures (at 200 °C it's only 30% higher than at 25 °C), ST's new SCT50N120 SiC MOSFET brings increased efficiency and reliability to a broad range of energy-conscious applications such as solar inverters, high-efficiency power supplies and lighting. Housed in the proprietary HiP247™ package, it also features the highest temperature rating of 200 °C, while maintaining compatibility with the industry-standard TO-247 package outline. Read more

Evaluate our new EnFilm™ thin-film battery solutions with embedded NFC smart charger and power management

The new NFC power management board kit (EFL1-NFC-PMB) includes a 25 mW NFC contactless smart charger and an EnFilm™ ultra-low current consumption power management solution on a single EFL700A39 footprint-sized board that is only 1 inch². This complete solution is based on the M24LR04 Dynamic NFC/RFID tag IC for NFC control and on the new STBC15A nano-current power management and battery protection. It offers a new and innovative solution for a fast evaluation and an easy wireless charge of EnFilm™ lithium thin-film batteries. Read more

Build an ultra-low consumption 1 W power supply with VIPerPlus

The STEVAL-ISA178V1 evaluation board exploits the robustness and advanced PWM current-mode control of the VIPER01, 800 V rugged high-voltage converter in buck configuration delivering 5 V and 0.2 A. The integrated high-voltage start-up and sense-FET, error amplifier, and oscillator with jitter minimizes the number of external components, resulting in a small size SMPS with minimal BOM, high efficiency and low standby consumption. It is ideal for low-power applications in home appliances, building, lighting, and motion control, as well as small industrial and consumer applications. Read more

New buck converter for a wide mains range features zero-power mode

Developed for general-purpose applications, the STEVAL-ISA179V1 evaluation board implements a buck converter for a wide mains range based on the new VIPer0P off-line high-voltage converter featuring zero-power mode. Meeting the most stringent energy-saving standards, it has very low consumption and operates in pulse frequency modulation under light load. The board features a single-layer design, small size, minimal BOM, high efficiency and low standby consumption. Read more

Ultra-tiny low-dropout regulator in breakthrough bumpless chip-scale package

The LDBL20 is a powerful 200 mA LDO in a tiny 0.47 x 0.47 mm innovative ST STAMP™ chip-scale package. The input voltage can range from 1.5 to 5.5 V, with 200 mV typical dropout. Rejection

(PSRR) of 80 dB at 100 Hz and 50 dB at 100 kHz simplifies filtering over a wide frequency range to provide a stable rail for low-power circuitry in battery-operated applications. Quiescent current of 20 µA no-load, 100 µA full-load, and 0.3 µA in standby help maximize efficiency under all operating conditions. Read more

Recent blog posts

VIPer01: Big Features for Small Switched-Mode Power Supplies

Small connected home appliances, smart lights, and motion controllers become popular when they find a solution to one of their greatest challenges : offering maximum performance while maintaining the lowest power consumption possible. This is where the new VIPer01 high-voltage converter comes in because it enables the creation of efficient, simple, and practical Switched-Mode Power Supplies (SMPS) with a 5 V output. Furthermore, because it is a member of the VIPerPlus family of products it comes with all the features necessary to ensure its reliability, and robustness. Read more

VIPerPlus: Biting the Competition with a Family of High-Voltage Converters Made for All Designs

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ST's VIPerPlus series of high-voltage converters combines an 800 V avalanche-rugged power MOSFET with a pulse width-modulator, and targets a wide variety of power supply circuits found in home appliances, home automation, power adapters, consumer products and automobiles, among others. Many features differentiate these families from their competitors and we will highlight three of them in this post: the avalanche-rugged design certified to up to 800 V, the Zero-Power mode, and the quasi-resonant operation. Read more

E-presentation

Explore ST's VIPerPlus portfolio of high-voltage converters

Combining an 800 V avalanche-rugged MOSFET with a leading-edge PWM controller, ST's VIPerPlus series of high-voltage converters is the perfect solution to make an SMPS with few components and a simple feedback. Thanks to the extremely low standby consumption (less than 4 mW at 265 V_{AC}) and high efficiency over a wide load range, they enable SMPS designs meeting the most demanding energy-saving regulations. Watch now