

Digital control IC shrink footprint by 40-50 percent and extend battery life



International Rectifier today announced the introduction of the IR3588 CHiL digital control IC and IR3552 and IR3548 single- and dual-phase PowIRstage devices, delivering the industry's smallest solutions that meet Intel's VR12.6 specifications for 15W and 25W Ultrabook laptop computers that significantly extend battery life.

IR's IR3588 and optimized single-phase and dual-phase IR3552 and IR3548 PowIRstage devices reduce footprint by more than 50 percent compared to leading monolithic solutions and offer a 40 percent smaller footprint compared to alternative reference designs. Additionally, the IR solutions extend battery life as a result of the IR3588's low quiescent current while offering lower operating current and sleep state power of less than 1mW, which exceeds Intel's VR12.6 Ultrabook power specifications. Battery life is further enhanced with IR's Regenerative Braking technique which returns energy to the battery that is normally lost when waking a laptop computer from a sleep state.

The IR3588 matched with the dual-phase IR3548 is optimized for high performance Ultrabooks up to 25W while the IR3588 paired with the single-phase IR3552 is designed for standard Ultrabooks up to 15W.

"IR designed these new power management solutions to meet Intel's specifications for Ultrabooks and to achieve a dramatically smaller footprint compared to alternative solutions while significantly extending battery life. Moreover, a new GUI

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with enhanced design tools simplifies and speeds up the design process," said Deepak Savadatti, Vice President and General Manager, IR's Enterprise Power Business Unit.

The IR3588 maintains full digital flexibility and telemetry and offers true-off capability for PS4. The device also offers clean ultrafast DVID Up and Down performance, lossless input current telemetry and supports up to 1.5MHz per phase.

The new PowIRstage devices integrate a low quiescent synchronous buck gate driver, and synchronous MOSFETs and Schottky diode into a compact PQFN package. The devices have an input range of 4.5V-16V and can be operated up to 1.5MHz, and true-off capability enabling the driver to shut off to minimize quiescent current.

The dual-phase IR3548 PowIRstage device supports up to 30A per phase and delivers up to 95 percent efficiency at 7.2Vnom to 1.8Vnom in a 6mm x 8mm PQFN package. The single-phase IR3552 supports up to 40A and offers 94 percent efficiency at 12Vnom to 1.8Vnom. in a 4mm x 6mm PQFN package.

More information is available on the International Rectifier website at www.irf.com
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