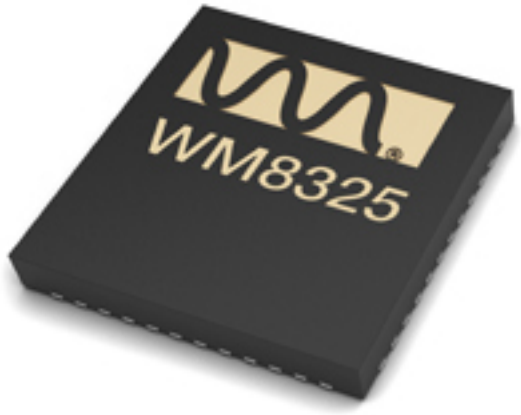
Ultra-High Current Monolithic Power Management IC



Wolfson Microelectronics plc today announced the introduction of the highly innovative WM8325 power management subsystem, the world's highest current monolithic power management IC (PMIC), which delivers a cost-effective, flexible solution for portable multimedia applications including smartbooks, tablets, e-books, media players and smartphones.

The WM8325 features four programmable DC-DC converters, including one which is capable of delivering up to 2.5A; and eleven LDO regulators, four of which are low-noise for supplying sensitive analog subsystems. Its optimized QFN package is designed to improve thermal performance and reduce parasitic components, enabling low-cost four-layer printed circuit board (PCB) manufacturing.

The package allows large PCB tracks for all high current paths, which improves transient performance. All this in conjunction with its low thermal resistance (24°C/W), lower electrical resistance, and improved DC-DC technology, ensures that the WM8325 delivers greater than 5% improvement in efficiency (at 1A) when compared with previous generations of PMIC DC-DC converters.

Also incorporated into the WM8325 is an on-chip regulator, which provides power for "always-on" PMIC functions such as register map and the real-time clock, as well as offering autonomous backup battery switchover. A 12-bit auxiliary ADC also supports a wide range of applications for both internal and external analog sampling, such as voltage detection and temperature measurement. Its one-time programmable (OTP) non-volatile memory delivers a highly flexible solution which also helps reduce time-to-market.

Its crystal oscillator and internal RC oscillator both generate all clock signals for autonomous system start-up and processor clocking, while a secure real-time clock (SRTC) and alarm function is included, capable of waking up the system from low-power modes. To maximize battery life, highly-granular power management enables each function in the WM8325 subsystem to be independently powered down through a control interface or alternatively through register and OTP-

configurable GPIOs.

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