Product Brief
DA9034 Audio and Power subsystem for advanced applications processors

General Description

The DA9034 is a complete and highly integrated analog baseband solution. Designed to support advanced applications processors, the DA9034 provides all power management and audio functions for advanced handset/PDA/PNA designs.

Connecting directly to the battery the DA9034 provides stable, low noise supplies for all core voltage domains, with additional regulators for supplying peripheral ICs.

All supplies are fed using high performance low dropout (LDO) voltage regulators using Dialog's patented Smart Mirror ™ technology (patent pending) offering very low quiescent current consumption and high power supply rejection performance. Smart Mirror ™ regulators remove the need for a low power mode, simplifying power control.

Two high efficiency DC-DC buck converters provide high current, low voltage supplies to the processor core and memory. The main converter features Dynamic Voltage Management (DVM) with programmable voltage and slew rate control.

The DA9034 also provides a range of other functions including battery charger, touchscreen interface and programmable LED drivers to enable a complete system to be realized without requiring additional external IC's.

Complementing the power management function is a full audio subsystem containing a voice codec and HiFi stereo DAC. The codec's are supported by a range of analog interfaces including loudspeaker and headphone drivers.

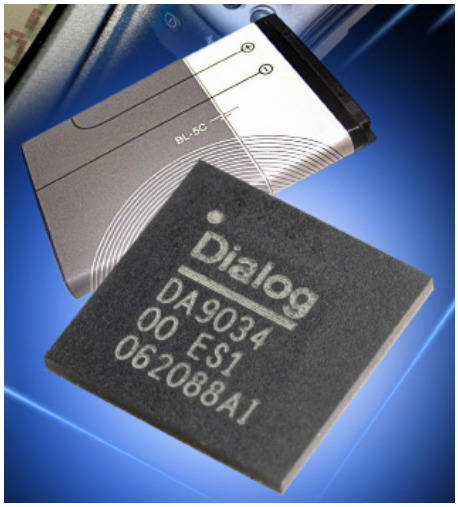
Ancillary functions include programmable white LED and general purpose LED drivers, vibrator driver and support for USB interfacing (VBUS generation monitoring and control). Also included is full time battery supervision with over/under voltage, over current and thermal protection.

Features

- Dedicated support for Marvell® PXA3xx solutions
- Complete power management and audio solution on one IC
- Connects directly to the battery, includes multimode battery charger(Single cell Lithium)

Functions

- 17 high performance LDO regulators and 2 high efficiency DC-DC buck converters, with dynamic voltage management
- Processor core converter has 1.4A supply capability.
- Touchscreen interface
- Audio subsystem with voice codec and HiFi stereo DAC
- 19 high performance low dropout programmable regulators



Target Applications

- Cellular Telephones
- Personal Digital Assistants
- Personal Navigators

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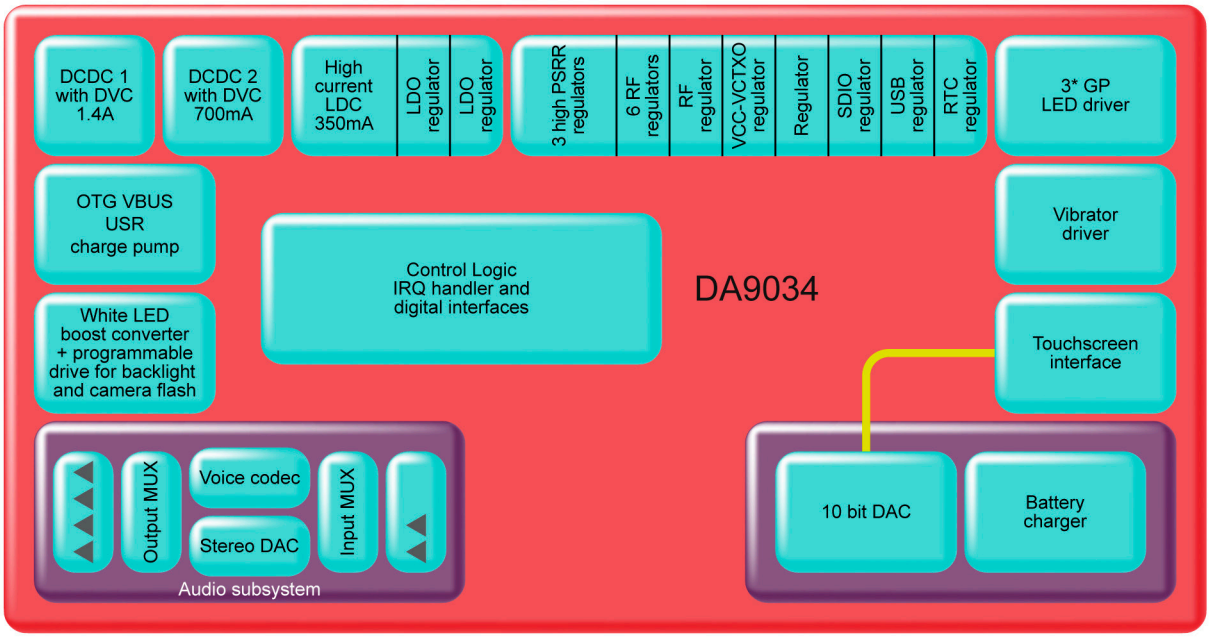
Over View



Voltage Regulator Section Highlights

- High efficiency buck converters with Dynamic Voltage Management 1.4A/700mA
- High power supply rejection, typically 80dB @ 1kHz
- Dynamic biasing for high efficiency and low quiescent consumption
- Over current and thermal protected outputs

Battery Charger Section Highlights

- Autonomous operation for precharge function
- Fast linear (CV/CC) and pulse charging modes
- Set and forget operation or full manual control

Audio Section Highlights

- Voice codec with programmable filtering and 8/16/32KHz sampling
- 24bit DAC supporting 8 to 48KHz sample rates
- Low distortion 50mW 16Ω headphone driver, 32Ω earpiece driver and 500mW 8Ω loudspeaker driver with volume and anti pop control

Other Features

- Programmable white LED drivers with boost converter
- Programmable standard LED and vibrator driver
- USB VBUS generator and bus monitoring

Application Support

- Evaluation kit with Windows GUI based driver
- 3rd party development system (BSquare)
- WinCE/Linux/Winmobile drivers under development

Package

- 196BGA 8*8*1mm, 0.5mm pitch

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