Features

- **DC to DC Step Down 1.2 A, 0.9V (Dynamically Adjustable to 0.87V/1.1V/1.2V)**
- **DC to DC step Down 1.2 A, 1.2V (Dynamically Adjustable to 1.0V/1.1V/1.3V) or 1.75V (Dynamically Adjustable 1.65V/1.70V/1.80V)**
- **DC to DC Step Down 1.2 A, 1.8V (Dynamically Adjustable to 1.70V/1.75V/1.85V) or 2.5V (Dynamically Adjustable 2.3V/2.4V/2.6V)**
- **DC to DC Step Up/Down 520 mA, 3.3V (Dynamically Adjustable to 3.0V/3.1V/3.4V)**
- **Dual Battery Chargers: Li+ Precharge, Fast Charge, Top-up Charge, 4.1V (or Adjustable), Processor Tuned Algorithms**
  - **USB Trickle Charge: Precharge Flat Battery from USB Pre-enumeration, then Auto-wake of Processor at 3.8V Battery Level**
  - **Battery Charge Select: 25 mA to 500 mA**
  - **Real-time Charge Inhibit: Allows Charge Suspend (e.g. During TX Slots)**
- **Supply Monitor of Four Power Sources: Thermistors, Temperature, DC/DC Rails, all Supplied with Out-of-regulation Threshold Detection**
- **SIM Interface: SIM / USIM, 1.8V / 3.0V Standards, Integrated TX and RX Data FIFO**
- **SPI Control Interface: Up to 13 MHz; Tuned for SA1110/PXA250/PXA255 1.2 MHz SPI, 128 8-bit Registers**
- **Power on Reset: For SA1110/PXA250/PXA255 Architectures plus Additional Sequenced System Level Resets**
- **Voltage and Temperature Supervision**
- **Calibrated Voltage Reference**
- **8-bit ADC with 5-input Multiplexer**
- **Integrated Oscillator, Start-up and Self-protection Circuitry**
- **Off Power: 60 µA with External “Button Select” for Restart**
- **Applications Include: PDAs, PCMCIA Cards, SMART Phones, Pocket PCs, 3G Applications, Intel® XScale™ Powered Applications**

Description

The AT73C203 device provides an integrated solution to portable and handheld applications built around microprocessors requiring “smart” power management functions, such as PDAs, Palmtop computers, point-of-sales terminals, 3G modems, etc.

Its compact package outline and small size of external components make the AT73C203 suitable for PCMCIA card power management as well.

The AT73C203 integrates a power switch controller that, when connected to an external power switch, may be used for automatically selecting one of four possible power sources:

- Internal battery
- External battery
- Plugtop power supply unit 5V (PSU)
- PC Host USB supply

The power switch output (VDD-PSU line) is connected directly to external auxiliary components such as a radio or any other “current hungry” module.

The AT73C203 is also equipped with four digital rails from VDD-PSU to supply a baseband chip, a reset generator for the baseband chip, and a SPI interface to control the AT73C203 via an internal register set. The USIM interface allows the application processor to communicate with and control a USIM card. Charge control enables the application processor to charge the battery from the PSU or USB. A state machine can also determine whether to charge the internal battery through USB at start-up. Additionally, hardware monitoring gives information to the application processor when a voltage drop occurs (programmed via internal registers).

Power Management

AT73C203 Power Management IC for Datacom Platforms

Summary

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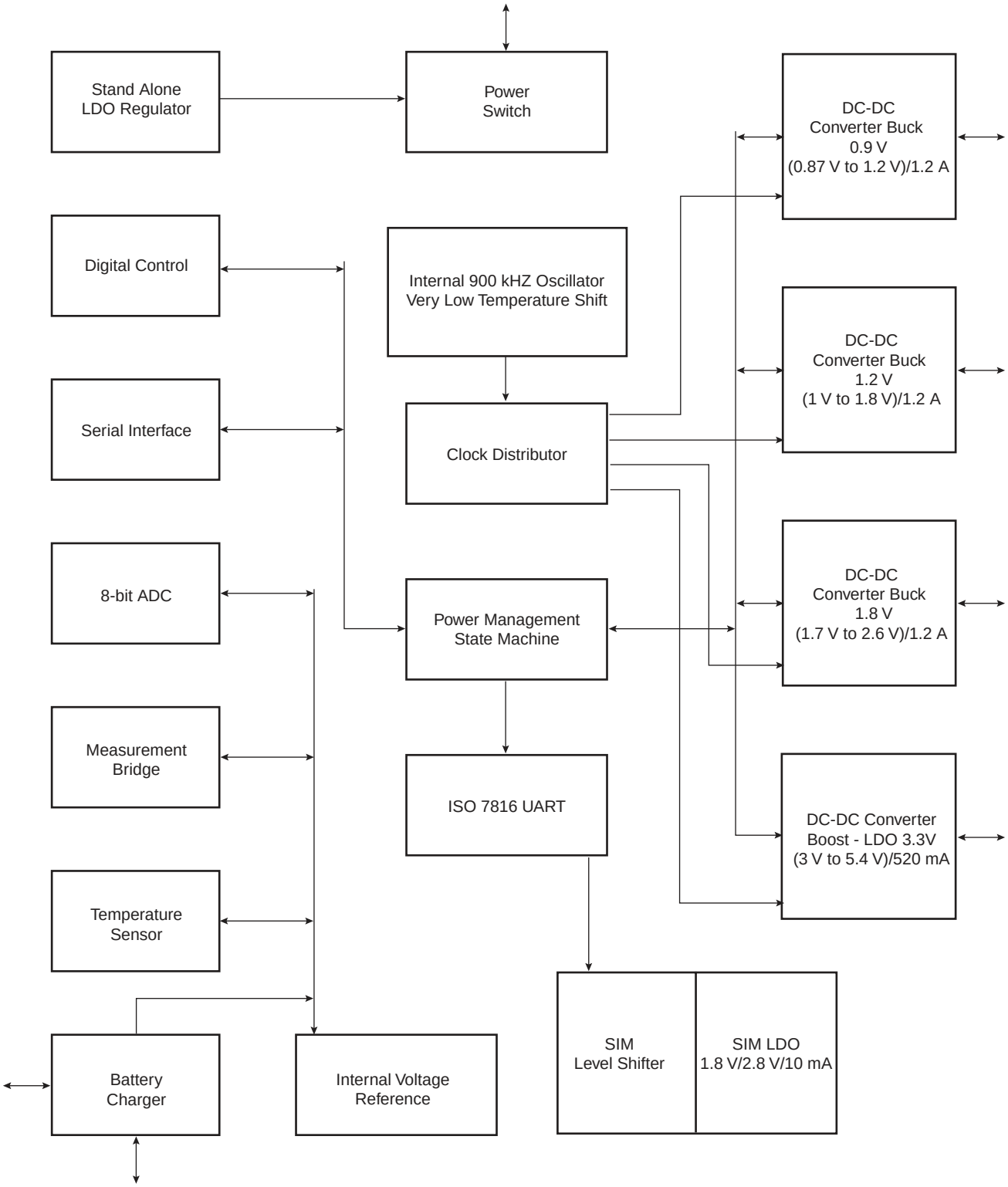
Note: This is a summary document. A complete document is available on our Web site at www.atmel.com.

Functional Diagram

Figure 1. AT73C203 Functional Diagram



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