Features

- **Eight High Performance Low Dropout Voltage Regulators (LDO)**
  - **Three Low Dropout Voltage Regulators (LDO) for Analog, Memories and Baseband Digital I/O**
  - **Two Low Dropout Voltage Regulators (LDO) High PSRR Low Noise for Radio Section**
  - **Two Low Dropout Voltage Regulators (LDO) Dual Mode High PSRR for Baseband Core Section**
- **DC to DC 5.6V Converter**
- **One 4.5V Voltage Regulator**
- **10V Supply Generator**
- **Li-Ion and Ni-Mh Battery Charge Control Interface**
- **Analog to Digital 8-bit Converter**
- **Safety Charge Timers**
- **Power On/Off And Reset Control Logic**
- **Over And Under-voltage System Shutdown**
- **Voltage Detectors With Auto Power Off**
- **On-chip Temperature Sensor**
- **NTC Programmable Current Bias**
- **Three Audio Amplifiers**
  - **0.5W on 8 Ω Audio Amplifier for Handsfree**
  - **Audio Amplifier for Earpieces**
  - **Audio Amplifier for Car Kit**
- **Two Backlight LED Drivers for Keyboard and Display**
- **Two Auxiliary Constant Current Source LED Drivers**
- **Vibrator Driver**
- **Two Power Supply Switches**
- **32 kHz Crystal Oscillator**
- **Two Digital to Analog 8-bit Converters**
- **Serial Peripheral Interface (SPI)**
- **100-Thin Fine-pitch Ball Grid Array Package (TFBGA), 9 x 9 mm**

Description

The AT73C201 is a low cost, high performance, fully integrated Battery and Power Management System for Wireless Cellular Terminals.

The AT73C201 integrates all the regulated power supplies needed to power a terminal chipset from a Lithium-Ion or Ni-Mh battery pack to Baseband ICs and Memories, Radio Transceiver, Analog, VCXO, LNA and PA bias and Sim Card in the case of GSM.

Auxiliary low Ron power supply PMOS switches are available from either the battery pack or internal regulated power supplies, providing optimum power management by turning on or off different elements of a handset. The AT73C201 also includes a vibrator motor driver, a set of LED drivers, a smart reset circuit, and a Battery Charger Switch Driver with built-in state machine for safe boot and pre-charge operation.

In addition, a set of 3 Audio Programmable Gain Amplifiers are provided for handsfree (on 8 Ω Loudspeaker), Earpiece and Car Kit easy interfacing.

The functions are supervised by a set of voltage monitors, timers and a temperature shutdown circuit connected to the internal state machine.

Voltages and on-chip temperatures are also visible from an external pin through a multiplexer for proper connection to the external Baseband ADC.

The AT73C201 is available in a 9x9mm outline, 10x10 ball matrix BGA for optimum size and performance combination. Its very low standby power dissipation and its high noise and PSRR performances make the AT73C201 ideally suitable for recent applications on 2.5G and 3G terminals.

Power Management

AT73C201 Power Supply and Battery Management IC

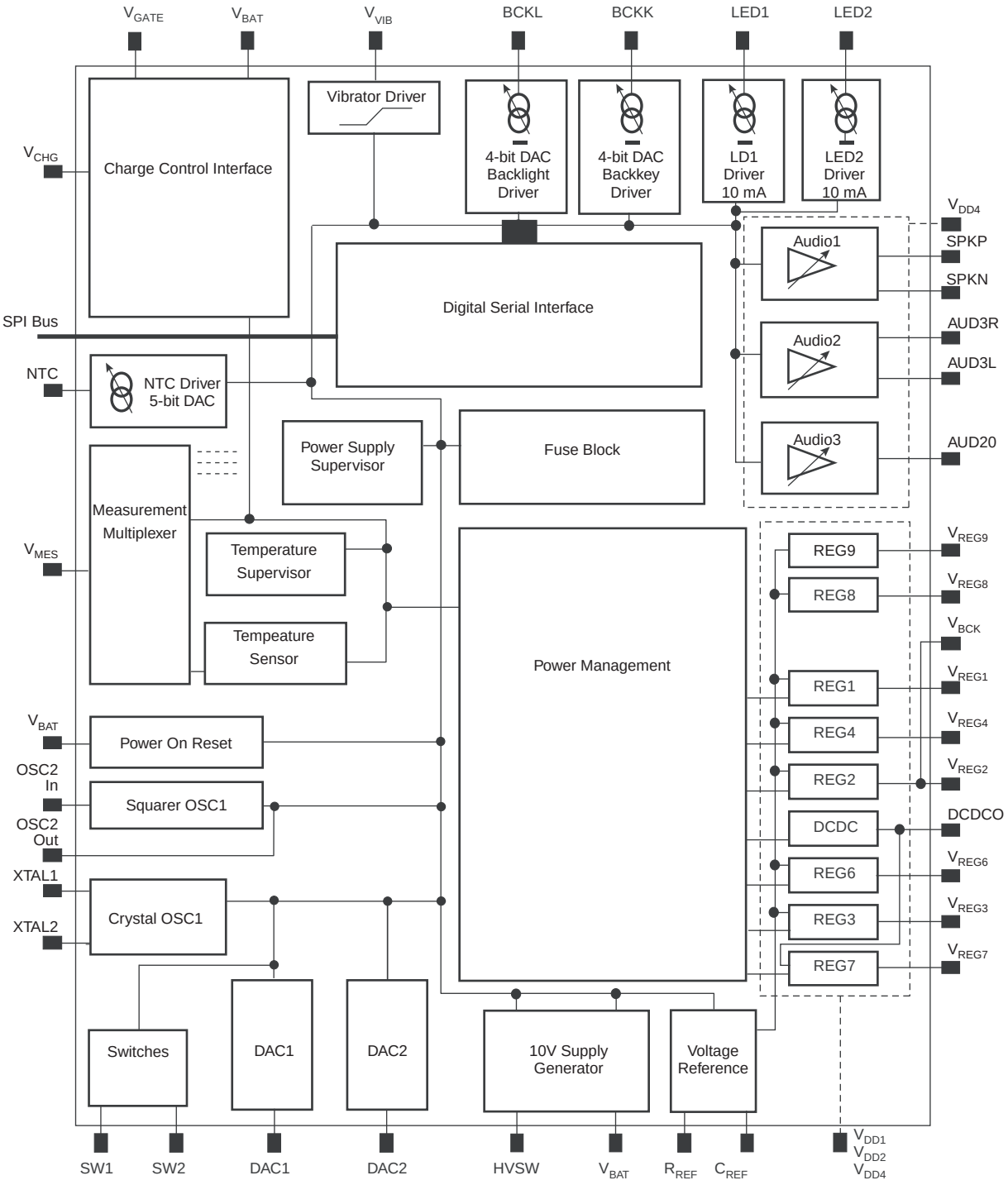
Preliminary

2741AS–PMGMT–11/03

Note: This is a summary document. A complete document is not available at this time. For more information, please contact your local Atmel sales office.

Functional Diagram

Figure 1. AT73C201 Functional Diagram



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