Analog, Mixed Signal and Power Management

Freescale's Leading Edge PMIC Solution
Designed for Intel's Upcoming "Oak Trail" Platform

Applications

- Netbooks

- Tablet PCs

- Embedded Devices

Provides superior integration for ultra-mobile applications and embedded designs

Innovation and Flexibility

Freescale's highly integrated PMIC is designed to support the power requirements in ultra-mobile netbook, tablets designs, and embedded devices. It has five switching power supplies running at frequencies from 1.0 to 4.0MHz, 14 highly efficient LDOs, and one 3.3V power switch. It incorporates a 22-channel analog-to-digital converter (ADC), real-time-clock (RTC), eight GPIOs and eight GPOs.

The PMIC is fully configurable and controllable through its SPI interface and is designed to provide CPU power requirements and control as an integral part of Freescale's power management solution for ultra-mobile platforms.
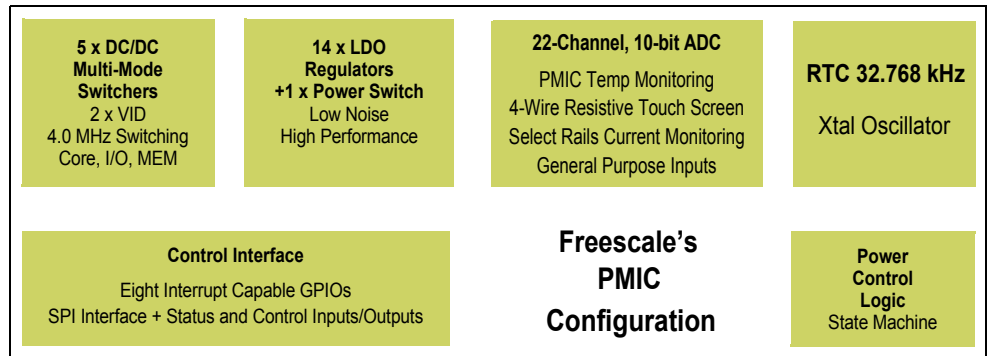
Optimum partitioning, high feature integration, and state-of-the-art technology enable Freescale to support cost-effective ultra-mobile platforms by reducing component count and board area. The Freescale solution also allows ease of system design, resulting in faster time to market.

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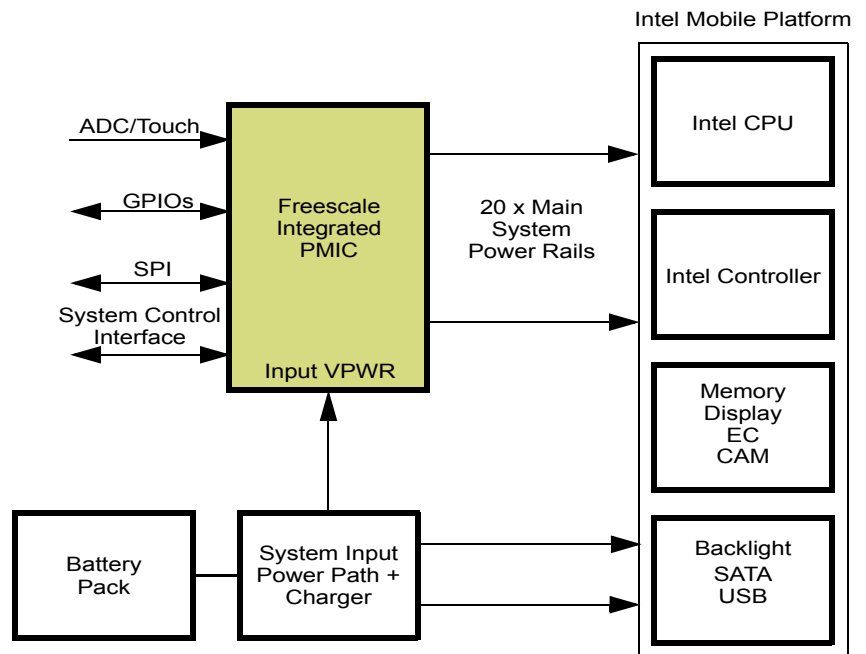
Features

- Main system power management integrated in a single chip

- 20 fully programmable power supplies for ultra-mobile platform support

- High efficiency multi-mode power conversion, ensuring extended battery life

- Extensive protection features and complete fault reporting for best-in-class overall system reliability

- Internal compensation

- Five buck DC/DC regulators

- 14 low dropout (LDO) regulators

- One configurable LDO/switch regulator for SDIO card support

- 3.3V load switch for platform support

- SPI interface (12.5MHz/25MHz operation)

- Coin cell backup battery charger

- Low power 32.786kHz XTAL oscillator

- Real time clock (RTC)

- 22-channel (32 capable) 10-bit ADC for internal and external sensing with touch screen interface

- Various control and status reporting I/Os

- Eight interrupt capable GPIOs and eight GPOs

- Interrupt and reset controller. All interrupt signals can be masked.

- Operating temperature of -40 to +85°C

Freescale Power Management Functional Blocks

|			
5 x DC/DC Multi-Mode Switchers 2 x VID 4.0 MHz Switching Core, I/O, MEM	**14 x LDO Regulators +1 x Power Switch** Low Noise High Performance	**22-Channel, 10-bit ADC** PMIC Temp Monitoring 4-Wire Resistive Touch Screen Select Rails Current Monitoring General Purpose Inputs	**RTC 32.768 kHz** Xtal Oscillator
Control Interface Eight Interrupt Capable GPIOs SPI Interface + Status and Control Inputs/Outputs		**Freescale's PMIC Configuration**	**Power Control Logic** State Machine

Orderable Part Numbers

Part Number	Temperature Range (T_A)	Package
SC900844JVK/R2	-40°C to 85°C	338- MAPBGA

Development Tools	
Kit Part Number	**Description**
KITINTOAKPMMEVBE	Evaluation Board is available upon request

Documentation	
Document Number	**Title**
SC900844	Data Sheet
SG1002	Analog and power management device comparison Selector Guide
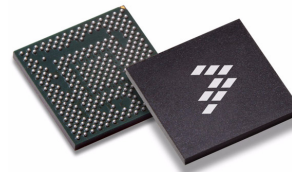
98ASA10841D
338 pin MAPBGA
11 mm X 11 mm

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