

Advanced PMU for Atmel SAMA5D3 Series & SAM9 Series Processors

FEATURES

- Three Step-Down DC/DC Converters
- Four Low-Dropout Linear Regulators
- Integrated *ActivePath™* Charger
- I²C™ Serial Interface
- Advanced Enable/Disable Sequencing Controller
- Minimal External Components
- Tiny 5x5mm TQFN55-40 Package
 - 0.75mm Package Height
 - Pb-Free and RoHS Compliant

GENERAL DESCRIPTION

The ACT8945A is a complete, cost effective, highly-efficient *ActivePMU™* power management solution, optimized for the unique power, voltage-sequencing, and control requirements of the Atmel SAMA5D3 series: SAMA5D[31/33/34/35/36], and Atmel SAM9 series: SAM9G[15/25/35/45/46], SAM9X[25/35], SAM9M[10/11], SAM9N[11/12] processors. It is ideal for a wide range of high performance portable handheld applications such as human-machine interfaces, control

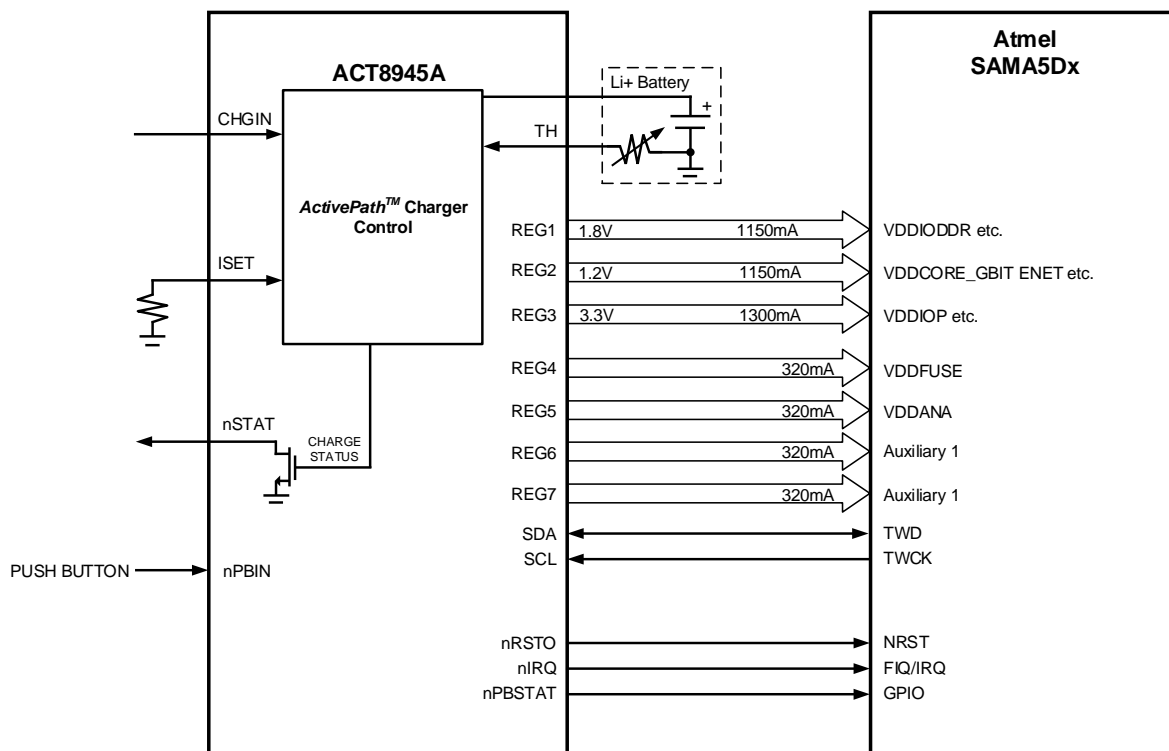
panels, smart grid infrastructures, network gateways, M2M systems, 2D barcode scanners, barcode printers, machine vision equipment, as well as home and commercial building automations, POS terminals, medical devices and white goods. This device integrates the *ActivePath™* complete battery charging and management system with seven power supply channels.

This device features three step-down DC/DC converters and four low-noise, low-dropout linear regulators, along with a complete battery charging solution featuring the advanced *ActivePath™* system-power selection function.

The three DC/DC converters utilize a high-efficiency, fixed-frequency (2MHz), current-mode PWM control architecture that requires a minimum number of external components. Two DC/DCs are capable of supplying up to 1100mA of output current, while the third supports up to 1200mA. All four low-dropout linear regulators are high-performance, low-noise regulators that supply up to 320mA of output current.

The ACT8945A is available in a compact, Pb-Free and RoHS-compliant TQFN55-40 package.

TYPICAL APPLICATION DIAGRAM



PRODUCT OPTIONS

Block	Function	Output Voltage	Capability
REG1	Step-Down DC/DC	0.6V to 3.9V	1150mA
REG2	Step-Down DC/DC	0.6V to 3.9V	1150mA
REG3	Step-Down DC/DC	0.6V to 3.9V	1200mA
REG4	LDO	0.6V to 3.9V	320mA
REG5	LDO	0.6V to 3.9V	320mA
REG6	LDO	0.6V to 3.9V	320mA
REG7	LDO	0.6V to 3.9V	320mA

FUNCTIONAL BLOCK DIAGRAM

