AXP2101 Single Cell NVDC PMU(SWcharge) with E-gauge

1 Features

- 3.9V–5.5V Input Operating Range and Support single Cell Battery

- Battery fuel gauge: E gauge 3.0

- Support TWSI(Two Wire Serial Interface) and RSB(Reduced Serial Bus)

- Support high efficiency 1uH inductor buck mode switch charger(customization), 85%@5V-3.8V-1A, Ichg can be up to 1.5A

- Single input to support USB input

- High battery discharge efficiency with 50 mOhm

- High integration includes all MOSFETS, current sensing and loop compensation

- Power off current <40uA（BATFET off，RTCLDO output on）

- 4 DCDCs

  DCDC1:1.5~3.4V, IMAX=2A

  DCDC2: 0.5~1.2V, 1.22~1.54V, IMAX=2A

  DCDC3: 0.5~1.2V, 1.22~1.54V, IMAX=2A

  DCDC4: 0.5~1.2V, 1.22~1.84V, IMAX=1.5A

- 11 LDOs

  RTCLDO1/2: 1.8V/2.5V/3V/3.3V, 30mA;

  Support RTCLDO1 supplied by backup battery (button battery)

  ALDO1~4: analog LDO, 0.5~3.5V, 0.1V/step, IMAX=300mA

  BLDO1/2: analog LDO,0.5~3.5V, 0.1V/step, IMAX=300mA

  CPUSLDO: for CPUs, 0.5~1.4V, IMAX=30mA

  DLDO1/2: analog LDO or power switch, 0.5~3.3V/ 0.5~1.4V, IMAX=300mA

- startup sequence and default voltage of DCDC/LDO setting

- Protection

  Input Over-Voltage Protection

  Battery Thermistor Sense Hot/Cold to suspend Charging

  Programmable Safety Timer for Charger

  Die Thermal Balance for Charger

  Thermal Shutdown

  DCDC Over-Voltage/Under-Voltage Protection

2 Applications

- SDV, CDR, IPC, smart doorbell, smart speaker

3 Description

AXP2101 is a highly integrated power management IC (PMIC) targeting at single cell Li-battery (Li-ion or Li-polymer) applications that require multi-channel power outputs. It provides an easy and flexible power management solution for multi-core processors to meet the complex and accurate requirements of power control.

AXP2101 supports switch charge which function should be customized. Besides, it supports 15 channel power outputs which include 4 channel DCDCs and 11 channel LDOs. To ensure the security and stability of the system, AXP2101 provides multiple channels 14-bit ADC for voltage/temperature monitor and integrates protection circuits such as over-voltage protection (OVP), over-current protection (OCP) and over-temperature protection (OTP). Moreover, AXP2101 features a unique E-Gauge™ (Fuel Gauge) system, making power gauge easy and exact.

AXP2101 supports TWSI and RSB for system to dynamically adjust output voltages, charge current and configure interrupt condition.

Device Information

Part Number	Package	Body Size
AXP2101	QFN-40	5mm * 5mm

Simplified Application Diagram