CW2015CHBD

Fuel Gauge IC with Low-SOC Alert

Features

- System-Side or Pack-Side Fuel Gauging
- 3% Maximum Total SOC Measurement Error
- 14-bit Sigma-Delta ADC for Temperature and Cell Voltage Measurement
- Precision Voltage Measurement
- No Offset Accumulation During Life Time
- No Full-to-Empty Battery Learning Cycles Necessary
- No Sense Resistor Required
- SOC and RRT available
- External Alarm/Interrupt for Low-Battery Warning Available
- Patented “FastCali” gas gauging algorithm
- Calibration After Quick Soft-Reset
- Ultra Low Power Consumption
  - Active mode 15μA
  - Sleep mode <1μA
- General I^2C interface
- Tiny, Lead(Pb)-Free, TDFN-8 Package

Applications

- Smartphone
- Tablet PCs
- Handheld and Portable Applications

General Description

The CW2015 is an ultra-compact, host-side/pack-side, sensing resistor free, fuel gauging system IC for Lithium-ion(Li+) based batteries in handheld and portable devices.

The CW2015 tracks Li+ battery’s operational condition and uses state-of-art algorithm to report the relative State-of-Charge (SOC) of very different battery chemistry systems (LiCoOx, polymer Li-ion, LiMnOx etc.).

The CW2015 includes a 14-bit Sigma-Delta ADC, a precision voltage reference and build-in accurate temperature sensor. The IC allows the end-user to eliminate the expensive sensing resistor which occupies large board area. And the IC also sends out the alarm signal if the battery SOC level reaches pre-programmed threshold.

Quick start function offers the possibility to make an initial estimation of the battery’s SOC, which also enables the IC to be located on system side or pack side, giving the flexibility to system maker on pack selection.

The CW2015 uses a 2-wire I^2C compatible serial interface that operates in standard (100 kHz) or fast (400 kHz) mode.

Typical Applications

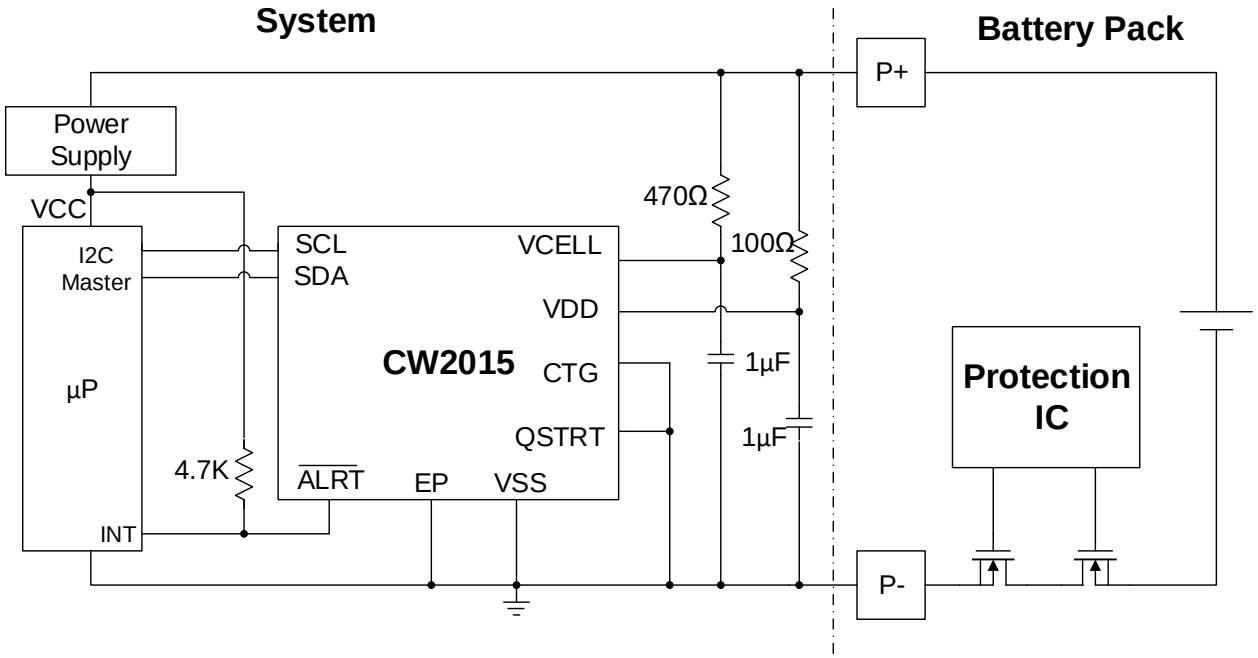

Figure 1. Typical Application for 1-Cell and System Side

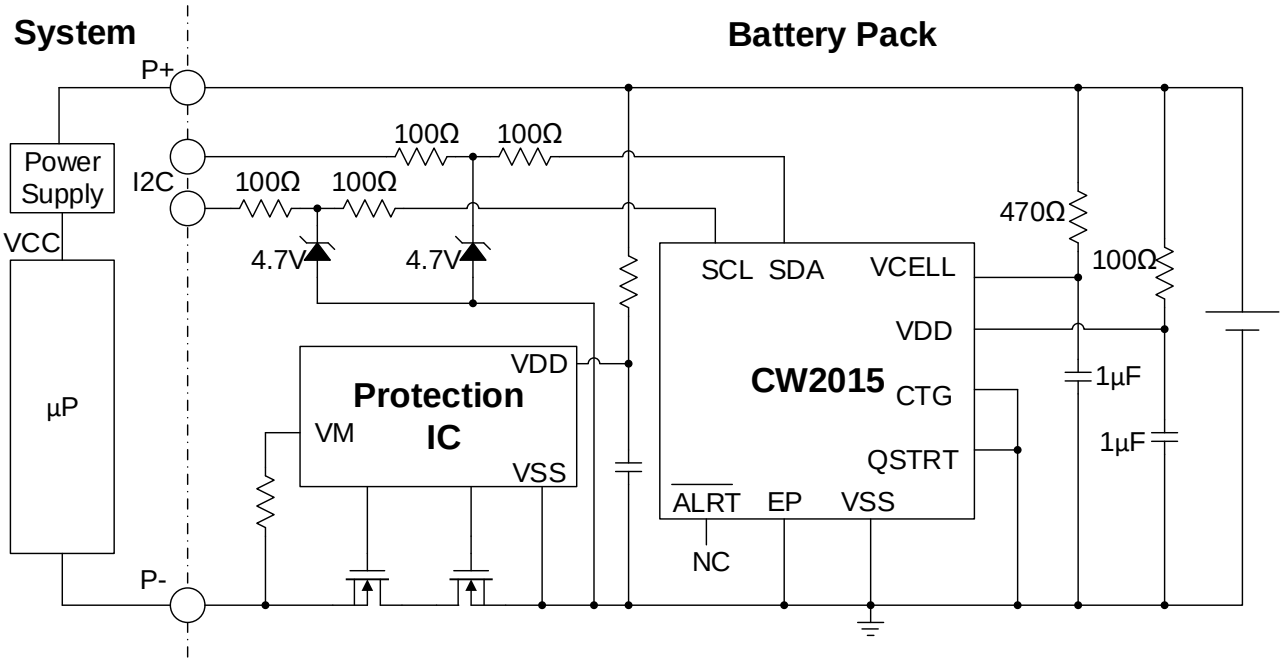

Figure 2. Typical Application for 1-Cell and Pack Side

The CW2015 can be also used in 2 or more cells connected in series, or several cells connected in parallel. Please refers to the application note or contacts support@cellwise-semi.com for details.