

Press Release

S-8205A/B Series Applications-Optimized-Battery-Protection Circuits

The introduction of Li-ion-battery-protection IC for 4- or 5 cell battery packs dedicated to power tools and medical applications is now covering the range up to 24V. These voltage ranges were until now protectable using stackable protection IC with high effort in external circuitry. The S-8205A/B series with 2V..24V supply voltage and absolute maximum rating of 28V provides this protection as single IC with minimal external circuitry.

A frequently requested feature is a Pin Disconnect Detection. When a disrupted connection between protection IC and battery pack is detected, the state of the CO-pin will disable further charging and enhancing of the safety of Li-ion batteries. The discharge of that battery pack is still possible.

All contained voltage detectors are of high precision between 15mV and 100mV depending on the function. Overcharge detection voltage is 3.55V..4.4V with 25mV accuracy. Overdischarge detection voltage is 2.0V..3.2V with 80mV accuracy. Discharge overcurrent detection voltage is 0.05V..0.3V with 15mV accuracy and charge overcurrent detection voltage is -0.05V..-0.3V with 30mV accuracy. The detection voltage in short circuit case is 0.5V..1.0V with 100mV accuracy.

The delay times for the Overcharge- Overdischarge- and Charge-/Discharge-Overcurrent detection can be set with external capacitors. The delay time for the case of short circuit is internally fixed.

The pins CTLC and CTLD permit external control of charge and discharge. To protect the battery pack from over temperature damage a temperature sensor switch IC or for less ambitious applications a PTC connected to the CTLC pin can perform the task.

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