

Multi-Cell Li-Ion Battery Manager

ISL94212

The ISL94212 is a Multi-cell Li-ion battery manager IC that supervises up to 12 series connected cells. The part performs accurate monitoring, cell balancing and extensive system diagnostics functions. Three cell balancing modes are provided: manual mode, timed mode and an auto-balance mode which terminates balancing functions when a (host microcontroller specified) charge transfer value has been met.

The ISL94212 communicates to a host microcontroller via an SPI interface and to other ISL94212s using a robust, proprietary, two-wire Daisy Chain system.

The ISL94212 is offered in a 64 Ld TQFP package and is specified over an industrial temperature range of -40°C to +85°C.

Applications

- Hybrid, electric vehicle battery packs
- Battery backup systems
- E-Moto; E-Bike

Features

- Up to 12-cell voltage monitors, support Li-Ion CoO₂, Li-Ion Mn₂O₄, and Li-Ion FePO₄ chemistries
- Cell voltage measurement accuracy ±10mV
- Cell voltage scan rate of 19.5µs per cell (234µs to scan 12 cells)
- Up to four external temperature inputs
- Robust Daisy Chain communications system
- Integrated system diagnostics for all key internal functions
- Hardwired and communications based fault notification
- Integrated watchdog shuts down device if communication is lost
- 7µA shutdown current: Enable = V_{SS}
- 2Mbps SPI

Related Literature

- Evaluation board application note: ISL94212EVZ

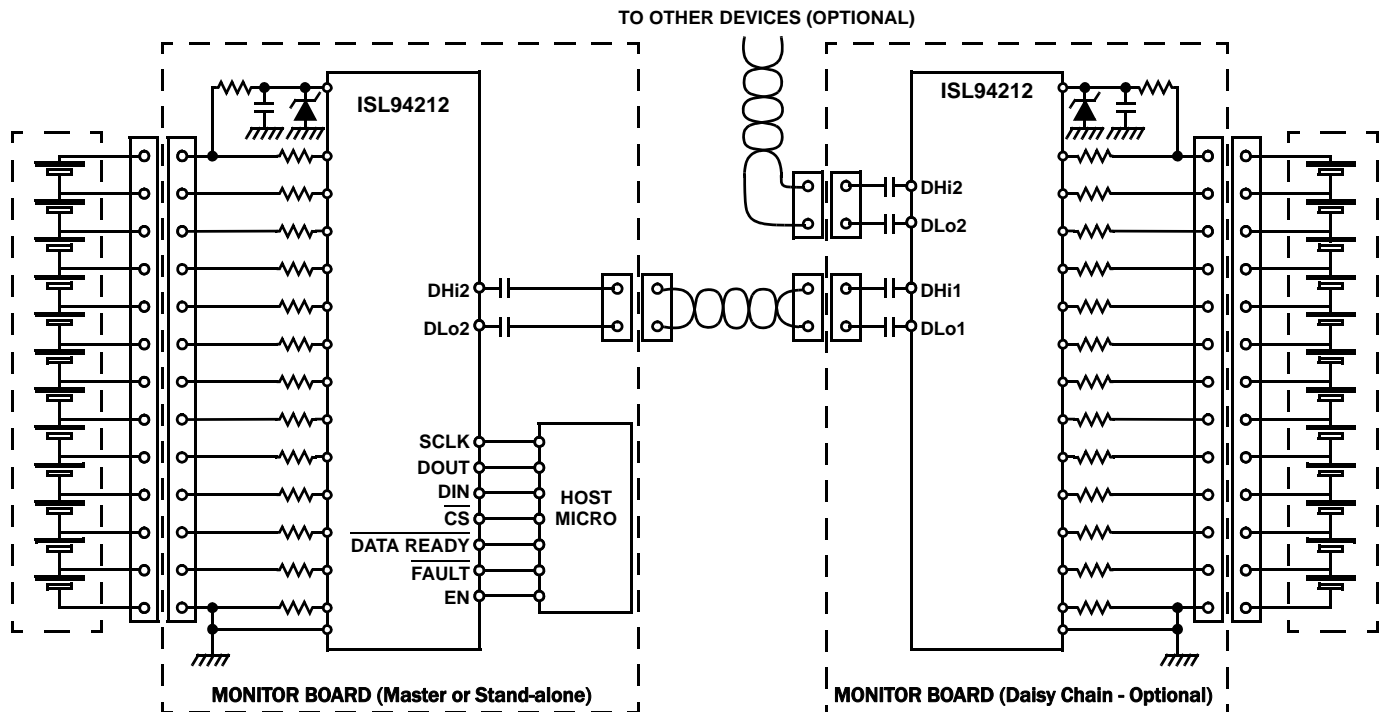


FIGURE 1. TYPICAL APPLICATION

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