Battery bidirectional current detection circuit

Systems such as laptop computers and other devices that have internal charge circuitry require a precise bi-directional current-sense amplifier to monitor accurately the battery"s current regardless of polarity. The MAX4377 (a dual low-cost current-sense) can be used to produce a bi-directional current monitor. Figure 1.

This paper shows a circuit configuration of the bidirectional current sensor, and the principle of the bidirectional current detection of the sensor is analyzed. The validity of this analysis is ...

The low-side bidirectional current-shunt monitor solution illustrated in the following image can accurately measure currents from -4A to 4A, and the design parameters can easily be ...

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Bidirectional Power Directing Switches (CSD88539ND) TI Designs High Efficiency, Versatile Bidirectional Power Converter for Energy Storage and DC Home Solutions TI Designs Design Features The TIDA-00476 TI Design consists of a single DC-DC o Single Bidirectional Power Stage Functions as Both power stage, which can work as a synchronous buck Synchronous ...

In many battery-current monitoring applications, bidirectional current sensing is required to measure both charge and discharge currents in the battery. This application note describes how to connect two unidirectional current-output, ...

This low-power, low-side, bidirectional current sensing method uses two nano-power, zero-drift amplifiers (LPV821) and one micro-power comparator with an integrated, precision reference ...

Battery monitoring and over-current detection circuit Figure 1. Typical monitoring and Over-current detection circuit in a BMS Typical monitoring circuits consist of a shunt resistor in series with the system load. The voltage drop across this shunt resistor in indicative of the load current. The signal from the shunt resistor gets amplified and converted to digital signal before being fed to ...

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