

Parameters Subject to Change Without Notice

DESCRIPTION

JW[®]3302 is a multi-cell battery stack monitoring and protection IC that includes a 12-bit ADC for battery voltage and temperature sense, a 12-bit ADC for charge/discharge current sense.

JW3302 provides passive balance function for each cell and allows at most 3 consecutive cells being discharged simultaneously.

JW3302 has two ADC operation modes: fast mode and filtering mode. The fast mode enables conversion time as fast as 1280 μ s, while the filtering mode provides better than 80dB rejection at frequencies above 50Hz.

JW3302 communicates with external control unit via SPI interface. More JW3302 can operate in series to monitor long string battery.

JW3302 integrates complete protection function including over/under voltage, over/under thermal, over charge/discharge current, short and open wire.

JW3302 supports both low-power mode and standby mode to achieve high efficiency with low power when charge/discharge current is minor.

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FEATURES

- 8V \leq Input voltage \leq 60V operation, 75V transient
- Monitor 14 series cell battery and support series operation
- 12-BIT $\Delta\Sigma$ ADC samples battery voltage and accuracy is $5V/2^{12}=1.22mV$
- Provide filtering mode
- 4 channels thermal sense and accuracy is $5V/2^{12}=1.22mV$
- Battery over/under voltage protection
- Battery over/under temperature protection
- Open wire connection detection
- 14 cells passive balance
- On-chip passive cell balancing switches
- Provide off-chip passive balancing
- 12-BIT $\Delta\Sigma$ ADC senses charge/discharge current and accuracy is $400mV/2^{12}=97\mu V$
- Independent discharge control by the \overline{CTLD} control pin
- Over Charge/Discharge current protection
- Charge/Discharge Short protection
- Reliable SPI communication (mode3)
- 3.3V and 5.0V LDO output for external application
- External protection N-MOSFETs
- Low power consumption
 - During operation 1mA typ.
 - During low-power 130 μ A typ.
 - During standby 80 μ A typ.
- LQFP-48 package

APPLICATIONS

- Electric Bicycles, Motorcycles.
- Backup Battery Systems
- Hybrid Electric Vehicle